

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

Amendment No. 2  
to  
Form S-1  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933

**Avenue Therapeutics, Inc.**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State or Other Jurisdiction of  
Incorporation or Organization)

**2834**  
(Primary Standard Industrial  
Classification Code Number)

**47-4113275**  
(I.R.S. Employer  
Identification Number)

**1111 Kane Concourse, Suite 301  
Bay Harbor Islands, Florida 33154  
(781) 652-4500**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

**Alexandra MacLean, M.D.  
Chief Executive Officer  
1111 Kane Concourse, Suite 301  
Bay Harbor Islands, Florida 33154  
(781) 652-4500**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

**Rakesh Gopalan  
David S. Wolpa  
McGuireWoods LLP  
201 N. Tryon Street, Suite 3000  
Charlotte, North Carolina 28202**

**Barry I. Grossman  
Sarah Williams  
Matthew Bernstein  
Ellenoff Grossman & Schole LLP  
1345 Avenue of the Americas  
New York, New York 10105**

**Approximate date of commencement of proposed sale to the public:** From time to time after this registration statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 check the following box:

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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 7(a)(2)(B) of the Securities Act.

**The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act or until this registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.**

## Preliminary Prospectus

Up to 20,338,983 Units, Each Consisting of (A) One Share of Common Stock, (B) One Series A Warrant to Purchase One Share of Common Stock and (C) One Series B Warrant to Purchase One Share of Common Stock

or

Up to 20,338,983 Pre-Funded Units, Each Consisting of (A) One Pre-funded Warrant to Purchase One Share of Common Stock, (B) One Series A Warrant to Purchase One Share of Common Stock and (C) One Series B Warrant to Purchase One Share of Common Stock

Up to 20,338,983 Shares of Common Stock Underlying the Series A Warrants  
 Up to 20,338,983 Shares of Common Stock Underlying the Series B Warrants  
 Up to 20,338,983 Shares of Common Stock Underlying the Pre-funded Warrants



We are offering on a best efforts basis up to 20,338,983 units, each consisting of (A) one share of our common stock, par value \$0.0001 per share (“Common Stock”), (B) one Series A warrant to purchase one share of our Common Stock (the “Series A warrants”) and (C) one Series B warrant to purchase one share of our Common Stock (the “Series B warrants”) and, together with the Series A warrants, “warrants”), at an assumed offering price of \$0.59 per unit (which is the last reported sale price of our Common Stock on The Nasdaq Capital Market on October 19, 2023). Each warrant will have an exercise price of \$ (100% of the public offering price per unit) per share of Common Stock and will be exercisable immediately. The Series A warrants will expire five years from the date of issuance, and the Series B warrants will expire 18 months from the date of issuance.

We are also offering to those purchasers, if any, whose purchase of units in this offering would otherwise result in such purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding shares of Common Stock immediately following the consummation of this offering, the opportunity to purchase, if any such purchaser so chooses, pre-funded units in lieu of units that would otherwise result in such purchaser’s beneficial ownership exceeding 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding shares of Common Stock. Each pre-funded unit consists of (A) one pre-funded warrant to purchase one share of Common Stock, (B) one Series A warrant to purchase one share of our Common Stock and (C) one Series B warrant to purchase one share of our Common Stock. The purchase price of each pre-funded unit will be equal to the price per unit being sold to the public in this offering, minus \$0.0001, and the exercise price of each pre-funded warrant included in the pre-funded units will be \$0.0001 per share. The pre-funded warrants included in the pre-funded units will be immediately exercisable (subject to the beneficial ownership cap) and may be exercised at any time until all of the pre-funded warrants are exercised in full. The Series A warrant included in the pre-funded unit is in the same form as the Series A warrant included in the unit, and the Series B warrant included in the pre-funded unit is in the same form as the Series B warrant included in the unit.

For each pre-funded unit we sell, the number of units including a share of Common Stock we are offering will be decreased on a one-for-one basis. The units and the pre-funded units will not be issued or certificated. The shares of Common Stock or pre-funded warrants and the accompanying warrants can only be purchased together in this offering, but the securities contained in the units or pre-funded units will be immediately separable upon issuance and will be issued separately. The shares of Common Stock issuable from time to time upon exercise of the warrants and the pre-funded warrants are also being offered by this prospectus.

The units will be offered at a fixed price and are expected to be issued in a single closing. The offer will terminate on November 14, 2023, unless completed sooner or unless we decide to terminate the offering (which we may do at any time in our discretion) prior to that date. We expect this offering to be completed not later than two business days following the commencement of sales in this offering (after the effective date of the registration statement of which this prospectus forms a part), and we will deliver all securities to be issued in connection with this offering delivery versus payment/ receipt versus payment upon receipt by us of investor funds. Accordingly, neither we nor the placement agents (as defined below) have made any arrangements to place investor funds in an escrow account or trust account since the placement agents will not receive investor funds in connection with the sale of the securities offered hereunder.

We have engaged Maxim Group LLC and Lake Street Capital Markets, LLC (the “placement agents”) to act as our placement agents in connection with this offering. The placement agents have agreed to use their reasonable best efforts to arrange for the sale of the securities offered by this prospectus. The placement agents are not purchasing or selling any of the securities we are offering, and the placement agents are not required to arrange the purchase or sale of any specific number or dollar amount of securities. We have agreed to pay to the placement agents the placement agent fees set forth in the table below, which assumes that we sell all of the securities offered by this prospectus. We will bear all costs associated with the offering. See “Plan of Distribution” beginning on page 36 of this prospectus for more information regarding these arrangements.

Our Common Stock is quoted for trading under the symbol “ATXI” on The Nasdaq Capital Market. On October 19, 2023, the closing price of our Common Stock was \$0.59 per share. The actual public offering price per unit or pre-funded unit, as the case may be, in this offering will be determined between us, the placement agents and the investors in this offering at the time of pricing, and may be at a discount to the current market price for our Common Stock. Therefore, the recent market price used throughout this preliminary prospectus as an assumed per unit offering price may not be indicative of the final offering price. There is no established public trading market for the warrants or the pre-funded warrants, and we do not expect such a market to develop. In addition, we do not intend to apply for a listing of the warrants or the pre-funded warrants on any national securities exchange or other nationally recognized trading system.

**Investing in our securities involves risks. You should review carefully the risks and uncertainties described under the heading “Risk Factors” contained in this prospectus and under similar headings in the other documents that are incorporated by reference into this prospectus, as described on page 42 of this prospectus.**

**Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the securities to be issued under this prospectus or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.**

	Per Unit	Per Pre-Funded Unit	Total
Public Offering Price	\$	\$	\$
Placement agent fees <sup>(1)</sup>	\$	\$	\$
Proceeds, before expenses, to us <sup>(2)</sup>	\$	\$	\$

- (1) See “*Plan of Distribution*” for additional disclosure regarding compensation payable to the placement agents.
- (2) Because there is no minimum number of securities or amount of proceeds required as a condition to closing of this offering, the actual public offering amount, placement agent fees, and proceeds to us, if any, are not presently determinable and may be substantially less than the total maximum offering amounts set forth above. See “*Plan of Distribution*” for more information.

We expect that delivery of the securities against payment therefor will be made on or about \_\_\_\_\_, 2023.

*Placement Agents*

**Maxim Group LLC**

**Lake Street**

The date of this prospectus is \_\_\_\_\_, 2023

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## ABOUT THIS PROSPECTUS

This prospectus is part of the registration statement that we filed with the Securities and Exchange Commission, or the “SEC,” pursuant to which we may, from time to time, offer and sell or otherwise dispose of the securities covered by this prospectus. As permitted by the rules and regulations of the SEC, the registration statement filed by us includes additional information not contained in this prospectus.

This prospectus and the documents incorporated by reference into this prospectus include important information about us, the securities being offered and other information you should know before investing in our securities. You should not assume that the information contained in this prospectus is accurate on any date subsequent to the date set forth on the front cover of this prospectus or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus is delivered or securities are sold or otherwise disposed of on a later date. It is important for you to read and consider all information contained in this prospectus, including the documents incorporated by reference therein, in making your investment decision. You should also read and consider the information in the documents to which we have referred you under “*Where You Can Find More Information*” and “*Incorporation of Certain Information by Reference*” in this prospectus.

You should rely only on this prospectus and the information incorporated or deemed to be incorporated by reference in this prospectus. We have not authorized anyone to give any information or to make any representation to you other than those contained or incorporated by reference in this prospectus. If anyone provides you with different or inconsistent information, you should not rely on it. This prospectus does not constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction.

Unless otherwise indicated, information contained or incorporated by reference in this prospectus concerning our industry, including our general expectations and market opportunity, is based on information from our own management estimates and research, as well as from industry and general publications and research, surveys and studies conducted by third parties. Management estimates are derived from publicly available information, our knowledge of our industry and assumptions based on such information and knowledge, which we believe to be reasonable. In addition, assumptions and estimates of our and our industry’s future performance are necessarily uncertain due to a variety of factors, including those described in section of this prospectus titled “*Risk Factors*.” These and other factors could cause our future performance to differ materially from our assumptions and estimates.

We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. This prospectus is an offer to sell only the securities offered hereby and only under circumstances and in jurisdictions where it is lawful to do so. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus, any applicable prospectus supplement or any free writing prospectuses prepared by or on behalf of us or to which we have referred you or are incorporated by reference. This prospectus is not an offer to sell securities, and it is not soliciting an offer to buy securities, in any jurisdiction where the offer or sale is not permitted.

For investors outside the United States: we have not done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of our securities and the distribution of this prospectus outside the United States.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described in this prospectus under “Where You Can Find More Information.”

**This prospectus contains references to trademarks, trade names and service marks belonging to other entities. Solely for convenience, trademarks, trade names and service marks referred to in this prospectus may appear without the ® or TM symbols, but such references are not intended to indicate, in any way, that the applicable licensor will not assert, to the fullest extent under applicable law, its rights to these trademarks and trade names. We do not intend our use or display of other entities’ trade names, trademarks or service marks to imply a relationship with, or endorsement or sponsorship of us by, any other entities.**

## PROSPECTUS SUMMARY

*This summary highlights selected information from this prospectus and does not contain all of the information that may be important to you in making an investment decision. This summary is qualified in its entirety by the more detailed information included elsewhere in this prospectus and/or incorporated by reference herein. Before making your investment decision with respect to our securities, you should carefully read this entire prospectus, including the information in our filings with the SEC incorporated by reference into this prospectus.*

*References in this prospectus to the “Company,” “we,” “us,” “our” and similar words refer to Avenue Therapeutics, Inc.*

### Our Business

#### Overview and Product Candidate Development

We are a specialty pharmaceutical company focused on the development and commercialization of therapies for the treatment of neurologic diseases. Our product candidates include AJ201 for the treatment of spinal and bulbar muscular atrophy (“SBMA”), intravenous tramadol (“IV tramadol”) for the treatment of post-operative acute pain, and BAER-101 for the treatment of epilepsy and panic disorders.

In November 2022, we completed the transactions contemplated under a Share Contribution Agreement, dated May 11, 2022 (“Contribution Agreement”), with Fortress Biotech, Inc. (“Fortress”) to acquire shares in Baergic Bio, Inc. (“Baergic”), which is developing BAER-101, a novel  $\alpha 2/3$ -subtype-selective gammaaminobutyric acid (“GABA”) A positive allosteric modulator (“PAM”). As a result, Baergic is a majority-controlled and owned subsidiary company of the Company.

In February 2023, we entered into a license agreement with AnnJi Pharmaceuticals Co. Ltd. (“AnnJi”) whereby the Company obtained an exclusive license from AnnJi to intellectual property rights pertaining to the molecule known as JM17, which activates Nrf1 and Nrf2, enhances androgen receptor degradation and underlies AJ201, a clinical product candidate currently in a Phase 1b/2a clinical trial in the United States (“U.S.”) for the treatment of SBMA, also known as Kennedy’s Disease.

#### AJ201

In February 2023, the Company licensed intellectual property rights pertaining to the molecule known as JM17, which activates Nrf1 and Nrf2, enhances androgen receptor degradation and underlies AJ201 from AnnJi. AJ201 is currently in a Phase 1b/2a clinical trial in the U.S. for the treatment of SBMA. SBMA is a rare, inherited, X-linked genetic neuromuscular disease primarily affecting men. The condition is caused by a polyglutamine expansion in the androgen receptor (“AR”) which leads to production of an abnormal AR protein that forms aggregates responsible for muscle atrophy focused in the spinal-bulbar region of the body. The weakening of the bulbar muscles affects chewing, speech and swallowing, with patients prone to choking or inhaling foods or liquids, resulting in airway infection. SBMA also affects muscles in the limbs, leading to difficulty walking and injury caused by falling. Currently, there is no effective treatment for SBMA.

AJ201 was designed to modify SBMA through multiple mechanisms including degradation of the abnormal AR protein and by stimulating Nrf1 and Nrf2, which are involved in protecting cells from oxidative stress which can lead to cell death. AJ201 completed a Phase 1 clinical trial in 2021, which demonstrated the safety of the molecule. It is currently being studied in a Phase 1b/2a multicenter, randomized, double-blind clinical trial in six clinical sites across the U.S., and screening of patients with SBMA has begun. This study aims to evaluate the safety and clinical response of AJ201 in patients suffering from SBMA. AJ201 has been granted Orphan Drug Designation by the U.S. Food and Drug Administration (“FDA”) for the indications of SBMA, Huntington’s Disease and Spinocerebellar Ataxia.

In July 2023, we announced the first patient was dosed in the Phase 1b/2a trial of AJ201 for the treatment of SBMA, and in September 2023, we announced the eighth patient was dosed. The 12-week, multicenter, randomized, double-blind trial is expected to enroll approximately 24 patients, randomly assigned to AJ201 (600mg/day) or placebo. The primary endpoint of the study is to assess safety and tolerability of AJ201 in subjects with clinically and genetically defined SBMA. Secondary endpoints include pharmacodynamic data measuring change from baseline in mutant androgen receptor protein levels in skeletal muscle and changes in the fat and muscle composition as seen on MRI scans. Further details on the study can be found using the ClinicalTrials.gov identifier NCT05517603. Information on [clinicaltrials.gov](https://clinicaltrials.gov) does not constitute part of this Form S-1.

#### IV tramadol

In February 2022, we had our Advisory Committee meeting with the FDA regarding IV tramadol. In the final part of the public meeting, the Advisory Committee voted yes or no on the following question: “Has the Applicant submitted adequate information to support the position that the benefits of their product outweigh the risks for the management of acute pain severe enough to require an opioid analgesic in an inpatient setting?” The results were 8 yes votes and 14 no votes. In March 2022, we received an Appeal Denied Letter from the OND in response to the FDRR. In August 2022, the Company participated in a Type A Meeting with the FDA Division of Anesthesia, Analgesia, and Addiction Products (“DAAAP”) regarding a briefing document submitted that presented a study design the Company believed would have the potential to address the comments and deficiencies noted in the Letter. The meeting on August 9, 2022 was a collaborative discussion on the study design and potential path forward. We incorporated the FDA’s suggestions from the meeting minutes and submitted a detailed study protocol.

The Company participated in a Type C meeting with the FDA in March 2023 to discuss a proposed study protocol to assess the risk of respiratory depression related to opioid stacking on IV tramadol relative to an approved opioid analgesic. We announced in April 2023 that the Company has received official meeting minutes from the Type C meeting with the FDA. The Type C meeting minutes indicate that the FDA and the Company are in agreement with a majority of the proposed protocol items and are in active discussion about remaining open items. The minutes indicate that the FDA also agrees that a successful study will support the submission of a complete response to the second Complete Response Letter for IV tramadol pending final agreement on a statistical analysis plan and a full review of the submitted data in the complete response as well as concurrence from the DAAAP.

In July 2023, the Company announced alignment with the FDA on key elements of the Phase 3 safety study, including the primary endpoint and statistical analysis approach. The non-inferiority study is designed to assess the theoretical risk of opioid-induced respiratory depression related to opioid stacking on IV tramadol compared to IV morphine.

The study will randomize post bunionectomy patients to IV tramadol or IV morphine for pain relief administered during a 48-hour post-operative period. Patients will have access to IV hydromorphone, a Schedule II opioid, for rescue of breakthrough pain. The primary endpoint is a composite of elements indicative of respiratory depression.

We submitted the revised protocol to the FDA including the statistical plan, which reflects the study design previously discussed, for final review.

#### *BAER-101 (novel $\alpha$ 2/3-subtype-selective GABA A PAM)*

Baergic is a clinical-stage pharmaceutical company founded in December 2019 that focuses on the development of pharmaceutical products for the treatment of neurologic disorders. Baergic was acquired by the Company pursuant to the Contribution Agreement with Fortress, in order to strategically align with Avenue's goals of building a rare and neurologic pipeline. Baergic's pipeline currently consists of a single compound, BAER-101, a novel  $\alpha$ 2/3-subtype-selective GABA A positive allosteric modulator. BAER-101 (formally known as AZD7325) was originally developed by AstraZeneca and has an established safety profile in early clinical trials including over 700 patients.

In August 2023, we reported preclinical data for BAER-101 from an in vivo evaluation in SynapCell's Genetic Absence Epilepsy Rate from Strasbourg ("GAERS") model of absence epilepsy. The GAERS model mimics behavioral, electrophysiological and pharmacological features of human absence seizures and has shown to be an early informative indicator of efficacy in anti-seizure drug development. In the model, BAER-101 demonstrated full suppression of seizure activity with a minimal effective dose of 0.3 mg/kg administered orally.

#### *Relationship with Fortress*

We were incorporated in Delaware on February 9, 2015, as a wholly owned subsidiary of Fortress, to develop and market pharmaceutical products for the acute care setting in the United States. In 2017, we completed an initial public offering of shares of our Common Stock. Fortress continues to control a voting majority of our capital stock pursuant to its ownership of a class of preferred stock. We anticipate remaining a majority controlled subsidiary of Fortress after the completion of this offering.

## **Corporate Information**

We are a majority-controlled subsidiary of Fortress. Baergic is our sole subsidiary. Avenue Therapeutics, Inc. was incorporated in Delaware on February 9, 2015. Our executive offices are located at 1111 Kane Concourse, Suite 301, Bay Harbor Islands, Florida 33154. Our telephone number is (781) 652-4500, and our email address is info@avenuetx.com. Information on our website, or any other website, is not incorporated by reference in this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

## **THE OFFERING**

### **Units Offered by Us**

Up to 20,338,983 units on a "reasonable best efforts" basis, each unit consisting of (A) one share of Common Stock, (B) one Series A warrant exercisable for one share of Common Stock and (C) one Series B warrant exercisable for one share of Common Stock. The shares of Common Stock and warrants that are part of the units are immediately separable and will be issued separately in this offering. The warrants included within the units are exercisable immediately and have an exercise price equal to \$ (100% of the public offering price per unit). The Series A warrants will expire five years after the date of issuance, and the Series B warrants will expire 18 months after the date of issuance. This prospectus also relates to the offering of the shares of Common Stock issuable upon exercise of the warrants. For more information regarding the warrants, you should carefully read the section titled "*Description of Securities to be Registered*" in this prospectus.

### **Pre-Funded Units Offered by Us**

We are also offering to those purchasers, if any, whose purchase of units in this offering would otherwise result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding shares of Common Stock immediately following the consummation of this offering, the opportunity to purchase, if such purchasers so choose, pre-funded units (each pre-funded unit consisting of (A) one pre-funded warrant to purchase one share of Common Stock, (B) one Series A warrant to purchase one share of Common Stock and (C) one Series B warrant to purchase one share of Common Stock), in lieu of units that would otherwise result in any such purchaser's beneficial ownership exceeding 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding shares of Common Stock.

The purchase price of each pre-funded unit will be equal to the price per unit being sold to the public in this offering, minus \$0.0001, and the exercise price of each pre-funded warrant included in the pre-funded units will be \$0.0001 per share. The pre-funded warrants included in the pre-funded units will be immediately exercisable and may be exercised at any time, and from time to time, until all of the pre-funded warrants are exercised in full.

For each pre-funded unit we sell, the number of units we are offering will be decreased on a one-for-one basis. This prospectus also relates to the offering of the shares of Common Stock issuable upon exercise of the pre-funded warrants. For more information regarding the pre-funded warrants, you should carefully read the section titled "*Description of Securities to be Registered*" in this prospectus.

**Reasonable Best Efforts Offering**

We have agreed to issue and sell the securities offered hereby to the purchasers through the placement agents. The placement agents are not required to buy or sell any specific number or dollar amount of the securities offered hereby, but will use their reasonable best efforts to solicit offers to purchase the securities offered by this prospectus. See “*Plan of Distribution*” beginning on page 36 of this prospectus.

**Shares of Common Stock Outstanding Prior to this Offering**

8,964,222 shares of Common Stock

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**Shares of Common Stock Outstanding Following this Offering<sup>(1)</sup>**

29,303,205 shares of Common Stock (assuming all of the units we are offering under this prospectus are sold, that we do not issue any pre-funded units in the offering and that none of the holders of warrants issued in the offering exercise their warrants)

**Nasdaq Capital Market Ticker Symbol of our Common Stock**

ATXI

**Use of Proceeds**

Assuming all of the units we are offering under this prospectus are sold at an assumed public offering price of \$0.59, we estimate that we will receive approximately \$10.7 million in net proceeds from this offering, after deducting the estimated placement agent fees and estimated offering expenses. However, this is a reasonable best efforts offering with no minimum number of securities or amount of proceeds as a condition to closing, and we may not sell all or any of the securities offered pursuant to this prospectus; as a result, we may receive significantly less in net proceeds.

The net proceeds from this offering will be used for general corporate purposes and working capital requirements, which may include, among other things, the advancement of our product candidates to obtain regulatory approval from the FDA. However, we will have broad discretion to allocate the net proceeds of this offering. See “*Use of Proceeds*” for additional information.

**Lock-up**

We, all of our directors, officers and the holders of 10% or more of our outstanding shares of Common Stock have agreed with the placement agents, subject to certain exceptions, not to sell, transfer or dispose of, directly or indirectly, any of our Common Stock or securities convertible into or exercisable or exchangeable for our Common Stock for a period of 180 days after the date of the final closing of this offering. See “*Plan of Distribution*” for more information.

**Risk Factors**

Any investment in the Common Stock offered hereby is speculative and involves a high degree of risk. You should carefully consider the information set forth under “*Risk Factors*” in this prospectus and under similar headings in the other documents that are incorporated by reference into this prospectus.

(1) The number of shares of Common Stock to be outstanding after this offering is based on 8,964,222 shares of our Common Stock outstanding as of September 30, 2023, and excludes:

- 6,078,132 shares of Common Stock issuable upon exercise of outstanding warrants having a weighted-average exercise price of \$1.55 per share;
- 85,000 shares of Common Stock issuable upon the vesting and settlement of outstanding restricted stock award/units;
- 3,352,489 shares of Common Stock reserved for issuance and available for future grant under our 2015 Incentive Plan;
- 1,685,000 shares of Common Stock issuable upon the exercise of stock options with a weighted-average exercise price of \$1.14 per share;
- 16,666 shares of Common Stock issuable upon conversion of the Class A Preferred Stock, at the holders’ election;

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- up to 20,338,983 shares of Common Stock issuable upon exercise of the Series A warrants included in the units and the pre-funded units;
- up to 20,338,983 shares of Common Stock issuable upon exercise of the Series B warrants included in the units and the pre-funded units; and
- 508,474 shares of Common Stock (assuming all of the units we are offering under this prospectus are sold at the assumed offering price) issuable to Fortress pursuant to the Amended and Restated Founders Agreement between Fortress and the Company (the “Founders Agreement”) following the closing of this offering.

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### CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains predictive or “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. All statements other than statements of current or historical fact contained in this prospectus, including statements that express our intentions, plans, objectives, beliefs, expectations, strategies, predictions or any other statements relating to our future activities or other future events or conditions are forward-looking statements. The words “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” “predict,” “project,” “will,” “should,” “would” and similar expressions, as they relate to us, are intended to identify forward-looking statements.

These statements are based on current expectations, estimates and projections made by management about our business, our industry and other conditions affecting our financial condition, results of operations or business prospects. These statements are not guarantees of future performance and involve risks, uncertainties and assumptions that are

difficult to predict. Therefore, actual outcomes and results may differ materially from what is expressed or forecasted in, or implied by, the forward-looking statements due to numerous risks and uncertainties. Factors that could cause such outcomes and results to differ include, but are not limited to, risks and uncertainties arising from:

- the fact that we currently have no drug products for sale and that our success is dependent on our product candidates receiving regulatory approval and being successfully commercialized;
- the possibility that serious adverse or unacceptable side effects are identified during the development of our current or future product candidates, such that we would need to abandon or limit development of some of our product candidates;
- our ability to successfully integrate Baergic Bio, Inc. or develop BAER-101 or AJ201;
- the substantial doubt raised about our ability to continue as a going concern, which may hinder our ability to obtain future financing;
- the significant losses we have incurred since inception and our expectation that we will continue to incur losses for the foreseeable future;
- our need for substantial additional funding, which may not be available to us on acceptable terms, or at all, which unavailability could force us to delay, reduce or eliminate our product development programs or commercialization efforts;
- our reliance on third parties for several aspects of our operations;
- our reliance on clinical data and results obtained by third parties that could ultimately prove to be inaccurate or unreliable;
- the possibility that we may not receive regulatory approval for any or all of our product candidates, or that such approval may be significantly delayed due to scientific or regulatory reasons;
- the fact that even if one or more of our product candidates receives regulatory approval, they will remain subject to substantial regulatory scrutiny;
- the effects of current and future laws and regulations relating to fraud and abuse, false claims, transparency, health information privacy and security and other healthcare laws and regulations;
- the effects of competition for our product candidates and the potential for new products to emerge that provide different or better therapeutic alternatives for our targeted indications;
- the possibility that the government or third-party payors fail to provide adequate coverage and payment rates for our product candidates or any future products;

- our ability to establish sales and marketing capabilities or to enter into agreements with third parties to market and sell our product candidates;
- our exposure to potential product liability claims;
- our ability to secure adequate protection of our intellectual property and our potential inability to maintain sufficient patent protection for our technology and products;
- our ability to maintain compliance with the obligations under our intellectual property licenses and funding arrangements with third parties, without which licenses and arrangements we could lose rights that are important to our business;
- the fact that Fortress controls a voting majority of our Common Stock and has rights to receive significant share grants annually;
- our ability to comply with the applicable listing standards and maintain our current listing for our Common Stock on The Nasdaq Capital Market; and
- those risks discussed or referred to in “*Risk Factors*” elsewhere in this prospectus, as well as those described in any other filings which we make with the SEC.

Any forward-looking statements speak only as of the date on which they are made, and we undertake no obligation to publicly update or revise any forward-looking statements to reflect events or circumstances that may arise after the date of this prospectus, except as required by applicable law. Investors should evaluate any statements made by us in light of these important factors.

#### MARKET AND INDUSTRY DATA AND FORECASTS

We obtained the industry and market data used throughout this prospectus and in the other documents incorporated by reference into this prospectus from our own internal estimates and research, as well as from independent market research, industry and general publications and surveys, governmental agencies, publicly available information and research, surveys and studies conducted by third parties. Internal estimates are derived from publicly available information released by industry analysts and third-party sources, our internal research and our industry experience, and are based on assumptions made by us based on such data and our knowledge of our industry and market, which we believe to be reasonable. In some cases, we do not expressly refer to the sources from which this data is derived. In addition, while we believe the industry and market data included in this prospectus is reliable and based on reasonable assumptions, such data involve material risks and other uncertainties and are subject to change based on various factors, including those discussed in this prospectus in the section titled “*Risk Factors*,” as well as those described in the documents incorporated by reference into this prospectus. These and other factors could cause results to differ materially from those expressed in the estimates made by the independent parties or by us.

#### RISK FACTORS

*Our business, results of operations and financial condition and the industry in which we operate are subject to various risks. Accordingly, investing in our securities involves a high degree of risk. This prospectus does not describe all of those risks. You should consider the risk factors described in this prospectus below, as well as those described under the caption “Risk Factors” in the documents incorporated by reference herein, including our [Annual Report on Form 10-K for the fiscal year ended December 31, 2022](#), together with the other information contained or incorporated by reference in this prospectus.*

*We have described below and in the documents incorporated by reference herein the most significant risk factors applicable to us, but they do not constitute all of the risks that*

may be applicable to us. New risks may emerge from time to time, and it is not possible for us to predict all potential risks or to assess the likely impact of all risks. Before making an investment decision, you should carefully consider these risks as well as other information we include or incorporate by reference in this prospectus and any prospectus supplement. This prospectus also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in the forward-looking statements as a result of a number of factors, including the risks described below. See the section titled "Cautionary Note Regarding Forward-Looking Statements."

## **Risks Related to this Offering**

***This is a reasonable best efforts offering, with no minimum amount of securities required to be sold, and we may sell fewer than all of the securities offered hereby.***

The placement agents have agreed to use their reasonable best efforts to solicit offers to purchase the securities in this offering. The placement agents have no obligation to buy any of the securities from us or to arrange for the purchase or sale of any specific number or dollar amount of the securities. There is no required minimum number of securities that must be sold as a condition to completion of this offering, and there can be no assurance that the offering contemplated hereby will ultimately be consummated. Even if we sell securities offered hereby, because there is no minimum offering amount required as a condition to closing of this offering, the actual offering amount is not presently determinable and may be substantially less than the maximum amount set forth on the cover page of this prospectus. We may sell fewer than all of the securities offered hereby, which may significantly reduce the amount of proceeds received by us. Thus, we may not raise the amount of capital we believe is required for our operations in the short-term and may need to raise additional funds, which may not be available or available on terms acceptable to us.

***If the price of our Common Stock fluctuates significantly, your investment could lose value.***

Although our Common Stock is listed on Nasdaq, we cannot assure you that an active public market will continue for our Common Stock. If an active public market for our Common Stock does not continue, the trading price and liquidity of our Common Stock will be materially and adversely affected. If there is a thin trading market or "float" for our stock, the market price for our Common Stock may fluctuate significantly more than the stock market as a whole. Without a large float, our Common Stock would be less liquid than the stock of companies with broader public ownership and, as a result, the trading prices of our Common Stock may be more volatile. In addition, in the absence of an active public trading market, investors may be unable to liquidate their investment in us. Furthermore, the stock market is subject to significant price and volume fluctuations, and the price of our Common Stock could fluctuate widely in response to several factors, including:

- our quarterly or annual operating results;
- changes in our earnings estimates;
- investment recommendations by securities analysts following our business or our industry;
- additions or departures of key personnel;
- our failure to achieve operating results consistent with securities analysts' projections; and
- changes in industry, general market or economic conditions.

The stock market has experienced extreme price and volume fluctuations in recent years that have significantly affected the quoted prices of the securities of many companies, including companies in our industry. The changes often appear to occur without regard to specific operating performance. The price of our Common Stock could fluctuate based upon factors that have little or nothing to do with our company and these fluctuations could materially reduce our stock price.

***We will have broad discretion in the use of proceeds of this offering designated for working capital and general corporate purposes.***

Our management will have broad discretion over the use and investment of the net proceeds of this offering. Accordingly, investors in this offering have only limited information concerning our management's specific intentions and will need to rely upon the judgment of our management with respect to the use of proceeds. The failure by our management to apply these funds effectively could result in financial losses that could have a material adverse effect on our business and cause the price of our securities to decline. Pending the application of these funds, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value.

***We do not intend to pay dividends on our Common Stock, so any returns will be limited to increases, if any, in our stock's value. Your ability to achieve a return on your investment will depend on appreciation, if any, in the price of our Common Stock.***

We currently anticipate that we will retain future earnings for the development, operation and expansion of our business and do not anticipate declaring or paying any cash dividends for the foreseeable future. Any future determination to declare dividends will be made at the discretion of our board of directors and will depend on, among other factors, our financial condition, operating results, capital requirements, general business conditions and other factors that our board of directors may deem relevant. Any return to stockholders will therefore be limited to the appreciation in the value of their stock, if any.

***The warrants are speculative in nature.***

The warrants included in the units and pre-funded units offered hereby do not confer any rights of Common Stock ownership on their holders, such as voting rights or the right to receive dividends, but rather merely represent the right to acquire shares of our Common Stock at a fixed price. Specifically, commencing on the date of issuance, holders of the warrants may exercise their right to acquire the shares of our Common Stock and pay an exercise price of \$ , equal to the public offering price per unit or pre-funded unit. Moreover, following this offering, the market value of the warrants is uncertain and there can be no assurance that the market value of the warrants will equal or exceed their exercise price. Furthermore, each Series A warrant will expire five years from the original issuance date, and each Series B warrant will expire 18 months from the original issue date. In the event the price of our Common Stock does not exceed the exercise price of the warrants during the period when the warrants are exercisable, the warrants may not have any value. There is no established public trading market for warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply to list the warrants on any securities exchange or nationally recognized trading system, including Nasdaq. Without an active market, the liquidity of the warrants will be limited.

***Holders of the warrants or pre-funded warrants will have no rights as a common stockholder until they acquire shares of our Common Stock.***

Until you acquire shares of our Common Stock upon exercise of your warrants or pre-funded warrants, you will have no rights with respect to shares of Common Stock issuable upon exercise of such warrants. Upon exercise of your warrants or pre-funded warrants, you will be entitled to exercise the rights of a holder of our Common Stock as to the security exercised only as to matters for which the record date occurs after the exercise.

***Provisions of the warrants and pre-funded warrants offered by this prospectus could discourage an acquisition of us by a third party.***

In addition to the provisions of our amended and restated certificate of incorporation and bylaws discussed elsewhere in this prospectus, certain provisions of the warrants and



pre-funded warrants offered by this prospectus could make it more difficult or expensive for a third party to acquire us. The warrants and pre-funded warrants prohibit us from engaging in certain transactions constituting “fundamental transactions” unless, among other things, the surviving entity assumes our obligations under the warrants. These and other provisions of the warrants and pre-funded warrants offered by this prospectus could prevent or deter a third party from acquiring us even where the acquisition could be beneficial to you.

***If you purchase shares of our Common Stock included as part of the units in this offering, you will incur immediate and substantial dilution in the book value of your shares.***

Investors purchasing shares of our Common Stock included as part of the units in this offering will pay a price per unit that substantially exceeds the pro forma as adjusted net tangible book value per share. As a result, investors purchasing shares of our Common Stock included as part of the units in this offering will incur immediate dilution of \$0.43 per share, representing the difference between the assumed public offering price of \$0.59 per unit (which is the last reported sale price of our Common Stock on The Nasdaq Capital Market on October 19, 2023) and our pro forma as adjusted net tangible book value per share as of June 30, 2023. To the extent outstanding options or warrants to purchase our Common Stock are exercised and to the extent that we issue to Fortress the shares of Common Stock issuable pursuant to the Founders Agreement following the closing of this offering, new investors may incur further dilution. For more information on the dilution you may experience as a result of investing in this offering, see the section of this prospectus entitled “*Dilution*.”

***If we sell Common Stock or preferred stock in future financings, stockholders may experience immediate dilution and, as a result, our stock price may decline.***

We may from time to time issue additional shares of Common Stock or preferred stock at a discount from the current trading price of our Common Stock. As a result, our stockholders would experience immediate dilution upon the purchase of any shares sold at such discount. In addition, as opportunities present themselves, we may enter into financing or similar arrangements in the future, including the issuance of debt securities, Common Stock or preferred stock. If we issue Common Stock or securities convertible into Common Stock, the holders of our Common Stock would experience additional dilution and, as a result, our stock price may decline.

***There is substantial doubt about our ability to continue as a going concern, which may hinder our ability to obtain future financing.***

We are not yet generating revenue, have incurred substantial operating losses since our inception and expect to continue to incur significant operating losses for the foreseeable future as we execute on our product development plan and may never become profitable. As of December 31, 2022, we had cash and cash equivalents of \$6.7 million and an accumulated deficit of \$80.6 million, and, as of June 30, 2023, we had cash and cash equivalents of \$1.6 million and an accumulated deficit of \$92.1 million. We do not believe that our cash is sufficient for the next twelve months. As a result, there is substantial doubt about our ability to continue as a going concern. Our ability to continue as a going concern will depend on our ability to obtain additional funding, as to which no assurances can be given. This offering is being conducted on a best efforts basis and we may sell fewer than all of the securities offered hereby and may receive significantly less in net proceeds from this offering than the maximum amount set forth on the cover page of this prospectus. Furthermore, even if we sell all of the securities offered hereby and raise the maximum amount of proceeds, we may need to raise additional capital to fund our operations and continue to support our planned development and commercialization activities. If we are unable to obtain funds when needed or on acceptable terms, we may be required to curtail our current development programs, cut operating costs, forgo future development and other opportunities or even terminate our operations.

***If we fail to satisfy applicable listing standards of The Nasdaq Capital Market, our Common Stock could be delisted from The Nasdaq Capital Market.***

On May 19, 2023, we received a deficiency letter (the “Nasdaq Stockholders’ Equity Letter”) from the Listing Qualifications Department (the “Staff”) of The Nasdaq Stock Market LLC, notifying us that we are not in compliance with Nasdaq Listing Rule 5550(b)(1), which requires us to maintain a minimum of \$2,500,000 in stockholders’ equity for continued listing on The Nasdaq Capital Market (the “Stockholders’ Equity Requirement”), nor in compliance with either of the alternative listing standards, market value of listed securities of at least \$35 million or net income of \$500,000 from continuing operations in the most recently completed fiscal year, or in two of the three most recently completed fiscal years. Our failure to comply with the Stockholders’ Equity Requirement was based on the filing of our Quarterly Report on Form 10-Q for the quarter ended March 31, 2023, reporting the stockholders’ equity of negative \$2,157,000. Pursuant to the Nasdaq Stockholders’ Equity Letter, we had 45 calendar days from the date of the Nasdaq Stockholders’ Equity Letter to submit a plan to regain compliance. On July 3, 2023, we submitted a compliance plan (the “Compliance Plan”). On July 17, 2023, the Staff granted the Company’s request for an extension of the deadline to regain compliance with the Rule to November 15, 2023.

Additionally, on September 27, 2023, we received a deficiency letter (the “Nasdaq Minimum-Bid Price Letter”) from the Staff of the Nasdaq Capital Market LLC, stating that the bid price of our Common Stock had closed below \$1.00 per share for 30 consecutive business days and that, therefore, we are not in compliance with Nasdaq Listing Rule 5550(a)(2) (the “Minimum-Bid Price Requirement”). We have a 180-calendar day grace period, through March 25, 2024, to regain compliance with the Minimum-Bid Price Requirement. Compliance can be achieved by evidencing a closing bid price of at least \$1.00 per share for a minimum of ten (10) consecutive business days, although the Staff may, in its discretion, require compliance for a longer period of time (generally no more than 20 consecutive business days) during the 180-calendar day grace period. If we do not regain compliance with the Minimum-Bid Price Requirement by March 25, 2024, we may be eligible for an additional 180-day compliance period so long as we satisfy the criteria for initial listing on The Nasdaq Stock Market, other than the market value of publicly held shares requirement, and the continued listing requirement for market value of publicly held shares and we provide written notice of our intention to cure the deficiency during the second compliance period by effecting a reverse stock split, if necessary. In the event we are not eligible for the second grace period, the Staff will provide written notice that our Common Stock is subject to delisting; however, we may request a hearing before the Nasdaq Hearings Panel (the “Panel”), which request, if timely made, would stay any further suspension or delisting action by the Staff pending the conclusion of the hearing process and expiration of any extension that may be granted by the Panel. We intend to closely monitor the closing bid price of the Common Stock and consider all available options to remedy the bid price deficiency, but no decision regarding any action has yet been made.

We intend to take all reasonable measures available to regain compliance under the Nasdaq Listing Rules and remain listed on The Nasdaq Capital Market. However, there can be no assurance that The Nasdaq Stock Market LLC will approve the Compliance Plan or that we will ultimately regain compliance with all applicable requirements for continued listing. If our Common Stock were delisted from The Nasdaq Stock Market, it could severely limit the liquidity of our Common Stock and your ability to sell our securities on the secondary market. Delisting from The Nasdaq Capital Market could adversely affect our ability to raise additional financing through the public or private sale of equity securities, would significantly affect the ability of investors to trade our securities and would negatively affect the value and liquidity of our Common Stock. Delisting could also have other negative results, including the potential loss of confidence by employees, the loss of institutional investor interest and fewer business development opportunities. If our Common Stock is delisted from The Nasdaq Capital Market, the price of our Common Stock may decline and our Common Stock may be eligible to trade on the OTC Bulletin Board, another over-the-counter quotation system, or on the pink sheets where an investor may find it more difficult to dispose of their Common Stock or obtain accurate quotations as to the market value of our Common Stock. Further, if we are delisted, we would incur additional costs under requirements of state “blue sky” laws in connection with any sales of our securities. These requirements could severely limit the market liquidity of our Common Stock and the ability of our stockholders to sell our Common Stock in the secondary market.

***Purchasers who purchase our securities in this offering pursuant to a securities purchase agreement may have rights not available to purchasers that purchase without the benefit of a securities purchase agreement.***

In addition to rights and remedies available to all purchasers in this offering under federal securities and state law, the purchasers that enter into a securities purchase agreement will also be able to bring claims for breach of contract against us. The ability to pursue a claim for breach of contract provides those investors with the means to enforce the covenants uniquely available to them under the securities purchase agreement including timely delivery of shares and indemnification for breach of contract.

### CAPITALIZATION

The following table sets forth our cash and capitalization as of June 30, 2023, as follows:

- on an actual basis;
- on an as adjusted basis to reflect the issuance and sale by us of 20,338,983 units in this offering at an assumed public offering price of \$0.59 per unit (which is the last reported sale price of our Common Stock on The Nasdaq Capital Market on October 19, 2023), after deducting the estimated offering expenses payable by us and assuming no sale of any pre-funded units in the offering, but before applying any of the net proceeds as described below under “Use of Proceeds,” including any amounts payable to InvaGen Pharmaceuticals Inc. (“InvaGen”).

The as adjusted information below is illustrative only, and our capitalization following the completion of this offering will be adjusted based on the actual public offering price and other terms of this offering determined at pricing. You should read this information in conjunction with our financial statements and the “Management’s Discussion and Analysis of Financial Condition and Results of Operations” section in our [Quarterly Report on Form 10-Q for the period ended June 30, 2023](#) which is incorporated by reference in this prospectus.

(\$ in thousands)	June 30, 2023 (unaudited)	
	Actual	As Adjusted
Cash and cash equivalents	\$ 1,571	\$ 12,221
<b>Stockholders’ Equity (Deficit)</b>		
<b>Preferred Stock (\$0.0001 par value), 2,000,000 shares authorized</b>		
Class A Preferred Stock – 250,000 shares issued and outstanding	—	—
<b>Common Stock (\$0.0001 par value), 75,000,000 shares authorized</b>		
Common stock – 7,920,485 issued and outstanding actual; 28,259,468 issued and outstanding as adjusted	1	3
Additional paid-in capital	86,757	97,405
Accumulated deficit	(92,094)	(92,094)
Total stockholders’ equity (deficit) attributed to the Company	(5,336)	5,314
Non-controlling interests	(810)	(810)
<b>Total Capitalization</b>	<b>\$ (6,146)</b>	<b>\$ 4,504</b>

Each \$0.10 increase or decrease in the assumed public offering price of \$0.59 per unit (which is the last reported sale price of our Common Stock on The Nasdaq Capital Market on October 19, 2023) would increase or decrease each of cash and cash equivalents, total stockholders’ equity and total capitalization on an as adjusted basis by approximately \$1.9 million, assuming the maximum number of units offered, as set forth on the cover page of this prospectus, remains the same, and after deducting the estimated placement agent fees and estimated offering expenses payable by us and assuming no sale of any pre-funded units in the offering.

Each 1,000,000 unit increase or decrease in the number of units offered by us in this offering would increase or decrease each of cash and cash equivalents, total stockholders’ equity and total capitalization on an as adjusted basis by approximately \$0.5 million, assuming that the price per unit for the offering remains at \$0.59 (which is the last reported sale price of our Common Stock on The Nasdaq Capital Market on October 19, 2023), and after deducting the estimated placement agent fees and estimated offering expenses payable by us.

The number of shares of Common Stock to be outstanding after this offering is based on 7,920,485 shares of our Common Stock outstanding as of June 30, 2023, and:

- excludes 767,085 shares of Common Stock issued and sold on September 8, 2023 in a private placement transaction;

- excludes 276,652 shares of Common Stock issued to AnnJi on September 26, 2023, pursuant to the Company’s license agreement with AnnJi, upon the enrollment of the eighth (8<sup>th</sup>) participant in the first Phase 1b/2a Clinical Trial in the United States;
- excludes 6,078,132 shares of Common Stock issuable upon exercise of outstanding warrants having a weighted-average exercise price of \$1.55 per share;
- excludes 85,000 shares of Common Stock issuable upon the vesting and settlement of outstanding restricted stock award/units;
- excludes 3,352,489 shares of Common Stock reserved for issuance and available for future grant under our 2015 Incentive Plan;
- excludes 1,685,000 shares of Common Stock issuable upon the exercise of stock options with a weighted-average exercise price of \$1.14 per share;
- excludes 16,666 shares of Common Stock issuable upon conversion of the Class A Preferred Stock, at the holders’ election;
- excludes up to 20,338,983 shares of Common Stock issuable upon exercise of the Series A warrants included in the units;
- excludes up to 20,338,983 shares of Common Stock issuable upon exercise of the Series B warrants included in the units; and
- excludes 508,474 shares of Common Stock (assuming all of the units we are offering under this prospectus are sold at the assumed offering price) issuable to Fortress, pursuant to the Founders Agreement, following the closing of this offering.

## USE OF PROCEEDS

We estimate that we will receive net proceeds from this offering of approximately \$10.7 million (assuming the sale of the maximum number of units offered hereby), based upon an assumed public offering price of \$0.59 per unit (which is the last reported sale price of our Common Stock on The Nasdaq Capital Market on October 19, 2023), after deducting the estimated placement agent fees and estimated offering expenses payable by us and assuming no exercise of the warrants included in the units or pre-funded units. We will only receive additional proceeds from the exercise of the warrants included in the units and pre-funded units we are selling in this offering if the warrants are exercised for cash. However, because this is a reasonable best efforts offering with no minimum number of securities or amount of proceeds as a condition to closing, the actual offering amount, placement agent fees, and net proceeds to us are not presently determinable and may be substantially less than the maximum amounts set forth on the cover page of this prospectus, and we may not sell all or any of the securities we are offering. As a result, we may receive significantly less in net proceeds. Based on the assumed offering price set forth above, we estimate that our net proceeds from the sale of 75%, 50%, and 25% of the units offered in this offering would be approximately \$7.9 million, \$5.1 million, and \$2.4 million, respectively, after deducting the estimated placement agent fees and estimated offering expenses payable by us, and assuming no exercise of the warrants included in the units or pre-funded units.

Each \$0.10 increase (decrease) in the assumed public offering price of \$0.59 per unit (which is the last reported sale price of our Common Stock on The Nasdaq Capital Market on October 19, 2023) would increase (decrease) the net proceeds to us from this offering by approximately \$1.9 million, assuming the number of units offered, as set forth on the cover page of this prospectus, remains the same, and after deducting estimated offering expenses payable by us and assuming no exercise of the warrants included in the units and no sale of any pre-funded units in the offering. Each 1,000,000 share increase (decrease) in the number of units offered by us in this offering would increase (decrease) the net proceeds to us from this offering by approximately \$0.5 million, assuming that the price per unit for the offering remains at \$0.59 (which is the last reported sale price of our Common Stock on The Nasdaq Capital Market on October 19, 2023), and after deducting the estimated offering expenses payable by us and assuming no exercise of the warrants included in the units and no sale of any pre-funded units in the offering.

The net proceeds from this offering will be used for general corporate purposes and working capital requirements, which may include, among other things, the advancement of our product candidates to obtain regulatory approval from the FDA. Additionally, under the agreement with InvaGen under which we repurchased all of InvaGen's shares in the Company, until we have paid an aggregate of \$4 million to InvaGen, we are contractually bound to pay 7.5% of the net proceeds, before expenses, of any public or private financing to InvaGen. Accordingly, assuming the sale of the maximum number of units offered hereby, we estimate we will pay InvaGen approximately \$798,750 of the net proceeds. We have not determined the amounts we plan to spend on the areas listed above or the timing of these expenditures, and we have no current plans with respect to acquisitions as of the date of this prospectus. The timing and amounts of our actual expenditures will depend on several factors. As a result, our management will have broad discretion to allocate the net proceeds of this offering. Pending their ultimate use, we intend to invest the net proceeds in a variety of securities, including commercial paper, government and non-government debt securities and/or money market funds that invest in such securities.

## DILUTION

Purchasers of the securities offered by this prospectus will suffer immediate and substantial dilution in the net tangible book value per share of the Common Stock included in the units they purchase. Net tangible book value per share represents the amount of total tangible assets less total liabilities, divided by the number of shares of our Common Stock outstanding as of June 30, 2023. Our net tangible book value as of June 30, 2023 was approximately \$(6.1) million, or \$(0.78) per share of our Common Stock.

Dilution in net tangible book value per share represents the difference between the amount per share paid by purchasers in this offering and the net tangible book value per share of our Common Stock immediately after this offering. After giving effect to the sale of the maximum number of units offered hereby at an assumed public offering price of \$0.59 per unit (which is the last reported sale price of our Common Stock on The Nasdaq Capital Market on October 19, 2023), and after deducting the estimated placement agent fees and the estimated expenses payable by us and assuming no sale of any pre-funded units in this offering and excluding the issuance of shares of Common Stock issuable to Fortress pursuant to the Founders Agreement, following the closing of this offering, our net tangible book value as of June 30, 2023 would have been approximately \$4.5 million, or \$0.16 per share of Common Stock. This represents an immediate increase in net book value of \$0.94 per share to our existing stockholders and an immediate dilution in net tangible book value of \$0.43 per share to new investors participating in this offering.

The following table illustrates this calculation on a per share basis:

Assumed offering price per share		\$	0.59
Net tangible book value per share as of June 30, 2023		\$	(0.78)
Increase per share attributable to the offering		\$	0.94
As-adjusted net tangible book value per share after giving effect to the offering		\$	0.16
Dilution in net tangible book value per share to new investors		\$	0.43

If we sell only 75% of the units offered in this offering, at an assumed public offering price of \$0.59 per unit (which is the last reported sale price of our Common Stock on The Nasdaq Capital Market on October 19, 2023), and after deducting the estimated placement agent fees and the estimated expenses payable by us and assuming no sale of any pre-funded units in this offering, our net tangible book value as of June 30, 2023 would have been approximately \$1.8 million, or \$0.08 per share of Common Stock. This represents an immediate increase in net book value of \$0.86 per share to our existing stockholders and an immediate dilution in net tangible book value of \$0.51 per share to new investors participating in this offering.

If we sell only 50% of the units offered in this offering, at an assumed public offering price of \$0.59 per unit (which is the last reported sale price of our Common Stock on The Nasdaq Capital Market on October 19, 2023), and after deducting the estimated placement agent fees and the estimated expenses payable by us and assuming no sale of any pre-funded units in this offering, our net tangible book value as of June 30, 2023 would have been approximately \$(1.0) million, or \$(0.06) per share of Common Stock. This represents an immediate increase in net book value of \$0.72 per share to our existing stockholders and an immediate dilution in net tangible book value of \$0.65 per share to new investors participating in this offering.

If we sell only 25% of the units offered in this offering, at an assumed public offering price of \$0.59 per unit (which is the last reported sale price of our Common Stock on The Nasdaq Capital Market on October 19, 2023), and after deducting the estimated placement agent fees and the estimated expenses payable by us and assuming no sale of any pre-funded units in this offering, our net tangible book value as of June 30, 2023 would have been approximately \$(3.8) million, or \$(0.29) per share of Common Stock. This represents an immediate increase in net book value of \$0.49 per share to our existing stockholders and an immediate dilution in net tangible book value of \$0.88 per share to new investors participating in this offering.

The number of shares of Common Stock to be outstanding after this offering is based on 7,920,485 shares of our Common Stock outstanding as of June 30, 2023, and:

- excludes 767,085 shares of Common Stock issued and sold on September 8, 2023 in a private placement transaction;

- excludes 276,652 shares of Common Stock issued to AnnJi on September 26, 2023, pursuant to the Company's license agreement with AnnJi, upon the enrollment of the eighth (8<sup>th</sup>) participant in the first Phase 1b/2a Clinical Trial in the United States;
- excludes 6,078,132 shares of Common Stock issuable upon exercise of outstanding warrants having a weighted-average exercise price of \$1.55 per share;
- excludes 85,000 shares of Common Stock issuable upon the vesting and settlement of outstanding restricted stock award/units;
- excludes 3,352,489 shares of Common Stock reserved for issuance and available for future grant under our 2015 Incentive Plan;
- excludes 1,685,000 shares of Common Stock issuable upon the exercise of stock options with a weighted-average exercise price of \$1.14 per share;
- excludes 16,666 shares of Common Stock issuable upon conversion of the Class A Preferred Stock, at the holders' election;
- excludes up to 20,338,983 shares of Common Stock issuable upon exercise of the Series A warrants included in the units;
- excludes up to 20,338,983 shares of Common Stock issuable upon exercise of the Series B warrants included in the units; and
- excludes 508,474 shares of Common Stock (assuming all of the units we are offering under this prospectus are sold at the assumed offering price) issuable to Fortress, pursuant to the Founders Agreement, following the closing of this offering.

### DIVIDEND POLICY

We currently intend to retain all available funds and any future earnings to fund the growth and development of our business. We have never declared or paid any cash dividends on our capital stock. We do not intend to pay cash dividends on our Common Stock in the foreseeable future. Investors should not purchase our common stock with the expectation of receiving cash dividends.

Any future determination to declare dividends will be made at the discretion of our board of directors and will depend on our financial condition, operating results, capital requirements, general business conditions, and other factors that our board of directors may deem relevant.

### UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL STATEMENTS

The following unaudited pro forma condensed combined consolidated financial information is presented to illustrate the effects of the acquisition of Baergic Bio, Inc. by Avenue Therapeutics, Inc. based on the historical financial position and results of operations of Avenue Therapeutics, Inc. and Baergic Bio, Inc. The unaudited pro forma condensed combined statements of operations for the periods presented give effect to the acquisition of Baergic as if it took place on January 1, 2021.

The unaudited pro forma condensed combined consolidated statement of operations for the years ended December 31, 2022, and 2021 were prepared based on (i) the historical audited consolidated statement of operations of the Company for the years ended December 31, 2022, and 2021 and (ii) the historical audited statement of operations of Baergic for the year ended December 31, 2021 and the historical unaudited statement of operations of Baergic for the six months ended June 30, 2022.

Our historical consolidated financial information has been derived from the consolidated audited and unaudited financial statements of the Company and accompanying notes to the financial statements incorporated by reference into this prospectus. The historical consolidated financial information of Baergic has been derived from the consolidated audited and unaudited financial statements of Baergic and accompanying notes to the financial statements incorporated by reference into this prospectus.

The unaudited pro forma condensed combined consolidated financial information was prepared in accordance with Article 11 of SEC Regulation S-X.

See the accompanying notes to the Unaudited Pro Forma Consolidated Financial Information for a discussion of assumptions made.

The unaudited pro forma condensed combined financial information has been presented for informational purposes only and is not necessarily indicative of what the combined company's financial position or results of operations actually would have been had the Company and Baergic been a combined company as of the date indicated. In addition, the unaudited pro forma condensed combined financial information does not purport to project the future financial position or operating results of the combined company. The historical consolidated financial information has been adjusted in the accompanying unaudited pro forma condensed combined consolidated financial information to give effect to unaudited pro forma events.

### UNAUDITED PRO FORMA CONDENSED COMBINED CONSOLIDATED STATEMENT OF OPERATIONS FOR THE YEAR ENDED DECEMBER 31, 2022

	Year Ended December 31, 2022	January 1, 2022 through November 7, 2022	Transaction Accounting Adjustments	Notes	Year Ended December 31, 2022 Pro Forma Combined
	Avenue (Historical)	Baergic (Historical)			
Operating expenses:					

Research and development	\$ 2,698	\$ 290	(208)	6(a)	\$ 2,780
General and administrative	5,345	609	(208)	6(a)	5,746
Loss from operations	<u>(8,043)</u>	<u>(899)</u>	<u>416</u>		<u>(8,526)</u>
Interest income	(20)	-			(20)
Interest expense	-	282			282
Financing costs - warrant liabilities	1,160	-			1,160
Change in fair value of warrant liabilities	(5,580)	-			(5,580)
<b>Net loss</b>	<b>\$ (3,603)</b>	<b>\$ (1,181)</b>	<b>\$ 416</b>		<b>\$ (4,368)</b>
Net loss attributable to non-controlling interests	51	-			51
Net loss attributable to common stockholders	<u>\$ (3,552)</u>	<u>\$ (1,181)</u>	<u>\$ 416</u>		<u>\$ (4,317)</u>
Net loss per common share attributable to common stockholders, basic and diluted	\$ (1.63)				\$ (2.29)
Weighted average number of common shares outstanding, basic and diluted	2,185,159				1,883,638

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**UNAUDITED PRO FORMA CONDENSED COMBINED CONSOLIDATED STATEMENT OF OPERATIONS FOR THE YEAR ENDED DECEMBER 31, 2021**

	Year Ended December 31, 2021 Avenue (Historical)	Year Ended December 31, 2021 Baergic (Historical)	Transaction Accounting Adjustments	Notes	Year Ended December 31, 2021 Pro Forma Combined
Operating expenses:					
Research and development	\$ 1,254	\$ 342	(250)	6(a)	\$ 1,346
General and administrative	2,484	363	(250)	6(a)	2,597
Loss from operations	<u>(3,738)</u>	<u>(705)</u>	<u>500</u>		<u>(3,943)</u>
Interest income	(7)	-			(7)
Interest expense	-	307			307
Financing costs – warrant liabilities	-	-			-
Change in fair value of warrant liabilities	-	-			-
<b>Net loss</b>	<b>\$ (3,731)</b>	<b>\$ (1,012)</b>	<b>\$ 500</b>		<b>\$ (4,243)</b>
Net loss attributable to non-controlling interests	-	-			-
Net loss attributable to common stockholders	<u>\$ (3,731)</u>	<u>\$ (1,012)</u>	<u>\$ 500</u>		<u>\$ (4,243)</u>
Net loss per common share attributable to common stockholders, basic and diluted	\$ (3.29)				\$ (5.71)
Weighted average number of common shares outstanding, basic and diluted	1,133,170				743,242

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**NOTES TO UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL INFORMATION**

**1. Description of the Merger**

On May 11, 2022, Avenue entered into a stock contribution agreement (the “Contribution Agreement”) with Fortress, pursuant to which Fortress agreed to transfer its ownership of a majority of the outstanding shares (common and preferred) in a private subsidiary company of Fortress, Baergic Bio, Inc. (“Baergic Bio”), to Avenue. Under the Contribution Agreement, Fortress also agreed to assign to Avenue certain intercompany agreements existing between Fortress and Baergic, including a Founders Agreement and Management Services Agreement. Consummation of the transactions contemplated by the Contribution Agreement were subject to the satisfaction of certain conditions precedent, including: (i) the closing of an equity financing by Avenue resulting in gross proceeds of no less than \$7.5 million, (ii) the agreement by InvaGen to (A) have 100% of its shares in Avenue repurchased by Avenue and (B) terminate certain of the agreements into which it entered with Avenue and/or Fortress in connection with InvaGen’s 2019 equity investment in Avenue, which will eliminate certain negative consent rights of InvaGen over Avenue and restore certain rights and privileges of Fortress in Avenue, and (iii) the sustained listing of Avenue’s Common Stock on Nasdaq. On October 11, 2022, Avenue consummated the transactions contemplated by the Share Repurchase Agreement with InvaGen, pursuant to which Avenue repurchased 100% of the shares in Avenue held by InvaGen for a purchase price of \$3 million. In connection with the closing of the Share Repurchase Agreement, which occurred on October 31, 2022, all of the rights retained by InvaGen pursuant to the Stockholders Agreement entered into by and among the Company, InvaGen and Fortress on November 12, 2018, were terminated. The acquisition was completed on November 8, 2022, at which time Baergic Bio became a consolidated subsidiary of Avenue.

**2. Reverse Stock Split**

On September 22, 2022, Avenue filed a Certificate of Amendment to its Third Amended and Restated Certificate of Incorporation (the “Amendment”) with the Secretary of State of the State of Delaware to (i) effect a one-for-fifteen reverse stock split (the “Reverse Stock Split”) of the Company’s shares of common stock, \$0.0001 par value (the “Common Stock”), and (ii) effect a related reduction in the number of the Company’s authorized shares from 50,000,000 to 20,000,000 (the “Authorized Share Reduction”). All share and per share information has been retroactively adjusted to give effect to the reverse stock split for all periods presented, unless otherwise indicated.

As a result of the Reverse Stock Split, every fifteen shares of the Company's pre-reverse split Common Stock were combined and reclassified as one share of Common Stock. Proportionate voting rights and other rights of common stockholders were not affected by the reverse split, other than as a result of the payment for fractional shares. No fractional shares were issued in connection with the Reverse Stock Split. Stockholders who would otherwise hold a fractional share of Common Stock received (upon surrender to the exchange agent of certificates representing such shares), a cash payment in lieu thereof, without interest or deduction, rounded to the nearest cent, in an amount equal to the product obtained by multiplying (a) the closing price per share of our common stock as reported on the Nasdaq Stock Market as of September 22, 2022, the effective date of the Reverse Stock Split, by (b) the fraction of one share owned by the stockholder. The total amount paid in consideration for the fractional shares was approximately \$10,000.

Proportionate adjustments were made to the per share exercise price and/or the number of shares issuable upon the exercise or vesting of all restricted stock award/units and warrants outstanding at September 22, 2022, which resulted in a proportional decrease in the number of shares of the Company's common stock reserved for issuance upon exercise or vesting of such restricted stock award/units and warrants, and, in the case of warrants, a proportional increase in the exercise price of all such stock options and warrants.

### 3. Basis of Presentation

The unaudited pro forma condensed combined financial information is prepared in accordance with Article 11 of SEC Regulation S-X. The historical financial information has been adjusted in the accompanying unaudited pro forma condensed combined financial information to give effect to unaudited pro forma events that are:

- directly attributable to the transaction;
- factually supportable; and

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- with respect to the unaudited pro forma condensed combined consolidated statement of operations, expected to have a continuing impact on the results of operations of the combined company.

The transaction was accounted as a transaction between entities under common control such that Avenue recognized the assets and liabilities of Baergic Bio received in the transaction at their historical carrying amounts, as reflected in the historical consolidated financial statements of Baergic Bio. No Goodwill or intangibles were recognized.

The unaudited pro forma condensed combined financial information is presented solely for informational purposes and is not necessarily indicative of the combined results of operations that might have been achieved for the periods or dates indicated, nor is it necessarily indicative of the future results of the combined company. The unaudited pro forma condensed combined financial information has not been adjusted to give effect to certain expected financial benefits of the merger, such as tax savings, cost synergies or revenue synergies, or the anticipated costs to achieve these benefits, including the cost of integration activities. The unaudited pro forma condensed combined financial information does not reflect possible adjustments related to restructuring or integration activities that have yet to be determined or transaction or other costs following the combination that are not expected to have a continuing impact on the business of the combined company.

### 4. Accounting Policies

The unaudited pro forma condensed combined consolidated financial information has been compiled in a manner consistent with the accounting policies of Avenue. Following the acquisition, the combined company conducted a review of accounting policies of Baergic Bio in an effort to determine if differences in accounting policies required further reclassification of results of operations or reclassification of assets or liabilities to conform to Avenue's accounting policies and classifications. As a result of that review, no significant differences were identified among the accounting policies of the companies that, when conformed, had a material impact on the unaudited pro forma condensed combined consolidated financial information.

### 5. Loss per Share

Represents the net loss per share calculated using the historical weighted average shares outstanding, adjusted for the shares repurchased by Avenue pursuant to the Share Repurchase Agreement, which occurred on October 31, 2022. The pro forma net loss per share calculation assumes the shares had been repurchased on January 1, 2021, the beginning of the earliest period presented.

### 6. Transaction Accounting Adjustments

The following provides explanations of the various adjustments to the unaudited pro forma condensed combined balance sheet:

- (a) Represents eliminations through consolidation of operating expenses from assignment of Master Services Agreement from Fortress to Avenue for Baergic.

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## DESCRIPTION OF SECURITIES TO BE REGISTERED

*Avenue Therapeutics has one class of securities registered under Section 12 of the Securities Act of 1934, as amended: our Common Stock. The following description of our Common Stock is a summary and is qualified in its entirety by reference to our Third Amended and Restated Certificate of Incorporation, as amended, and our Amended and Restated By-Laws (the "By-Laws"), which are included as exhibits to the registration statement on Form S-1 of which this prospectus forms a part. We encourage you to read the Certificate of Incorporation and By-Laws as well as the applicable provisions of the General Corporation Law of the State of Delaware, as amended (the "DGCL"), for more information.*

### Authorized Capital Stock

Our authorized capital stock consists of 75,000,000 shares of Common Stock, with \$0.0001 par value, and 2,000,000 shares of Preferred Stock, with \$0.0001 par value, of which 250,000 have been designated as Class A Preferred Stock and the remainder of which are undesignated Preferred Stock.

As of October 16, 2023, there were 8,964,222 shares of our Common Stock outstanding held by 31 record stockholders.

### Common Stock

#### Voting Rights

Holders of our Common Stock are entitled to one vote for each share held on all matters submitted to a vote of stockholders and do not have cumulative voting rights. An election of directors by our stockholders shall be determined by a plurality of the votes cast by the stockholders entitled to vote on the election. Holders of Common Stock are entitled to receive proportionately any dividends as may be declared by our board of directors, subject to any preferential dividend rights of outstanding preferred stock.

#### *Liquidation and Other Rights*

In the event of our liquidation or dissolution, the holders of Common Stock are entitled to receive proportionately all assets available for distribution to stockholders after the payment of all debts and other liabilities and subject to the prior rights of any outstanding preferred stock. Holders of Common Stock have no preemptive, subscription, redemption or conversion rights. The rights, preferences and privileges of holders of Common Stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate and issue in the future.

#### *Listing*

Our Common Stock is traded on The Nasdaq Capital Market under the symbol "ATXI." The transfer agent and registrar for our Common Stock is VStock Transfer, LLC.

#### *Dividends*

Holders of Common Stock are entitled to receive proportionately any dividends as may be declared by our board of directors, subject to any preferential dividend rights of outstanding preferred stock. Pursuant to the certificate of designation relating to the Class A Preferred Stock, we are prohibited from paying dividends on our Common Stock until all dividends required to be paid to the holders of our Class A Preferred Stock have been paid or declared and set apart for payment.

#### *Anti-Takeover Effects of Various Provisions of Delaware Law and Avenue Therapeutics' Certificate of Incorporation and By-Laws*

Provisions of the DGCL and our Certificate of Incorporation and By-Laws could make it more difficult to acquire Avenue Therapeutics by means of a tender offer, a proxy contest or otherwise, or to remove incumbent officers and directors. These provisions, including those summarized below, may encourage certain types of coercive takeover practices and takeover bids.

**Delaware Anti-Takeover Statute** In general, Section 203 of the DGCL prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years following the time the person became an interested stockholder, unless the business combination or the acquisition of shares that resulted in a stockholder becoming an interested stockholder is approved in a prescribed manner. Generally, a "business combination" includes a merger, asset or stock sale or other transaction resulting in a financial benefit to the interested stockholder. Generally, an "interested stockholder" is a person who, together with affiliates and associates, owns (or within three years prior to the determination of interested stockholder status did own) 15% or more of a corporation's voting stock. However, our Certificate of Incorporation provides that we are not subject to the anti-takeover provisions of Section 203 of the DGCL.

**Removal** Subject to the rights of any holders of any outstanding series of our Preferred Stock, stockholders may remove our directors with or without cause. Removal will require the affirmative vote of holders of a majority of our voting stock.

**Size of Board and Vacancies** Our By-Laws provide that the number of directors be fixed exclusively by the board of directors. Any vacancies created on its board of directors resulting from any increase in the authorized number of directors or the death, resignation, retirement, disqualification, removal from office or other cause will be filled by a majority of the board of directors then in office, even if less than a quorum is present, or by a sole remaining director. Any director appointed to fill a vacancy on our board of directors will hold office until the next annual meeting and until his or her successor has been elected and qualified.

**Requirements for Advance Notification of Stockholder Nominations and Proposals** Our By-Laws establish advance notice procedures with respect to stockholder proposals and nomination of candidates for election as directors other than nominations made by or at the direction of its board of directors or a committee of our board of directors.

**Undesignated Preferred Stock** Our board of directors is authorized to issue up to 2,000,000 shares of preferred stock without additional stockholder approval, which preferred stock could have voting rights or conversion rights that, if exercised, could adversely affect the voting power of the holders of Common Stock. The issuance of shares of preferred stock may have the effect of delaying, deferring or preventing a change in control of the Company without any action by the Company's stockholders.

#### **Limitation on Liability of Directors and Indemnification of Directors and Officers**

***Elimination of Liability of Directors.*** The DGCL authorizes corporations to limit or eliminate the personal liability of directors to corporations and their stockholders for monetary damages for breaches of directors' fiduciary duties as directors, and our Certificate of Incorporation includes such an exculpation provision. Our Certificate of Incorporation provides that, to the fullest extent permitted by the DGCL, no director will be personally liable to us or to our stockholders for monetary damages for breach of fiduciary duty as a director. While our Certificate of Incorporation provides directors with protection from awards for monetary damages for breaches of their duty of care, it does not eliminate this duty. Accordingly, our Certificate of Incorporation has no effect on the availability of equitable remedies such as an injunction or rescission based on a director's breach of his or her duty of care. The provisions apply to an officer of Avenue Therapeutics only if he or she is a director of Avenue Therapeutics and is acting in his or her capacity as director, and do not apply to officers of Avenue Therapeutics who are not directors. Additionally, our Certificate of Incorporation provides that, to the fullest extent permitted by law, we renounce any interest or expectancy in a transaction or matter that may be a corporate opportunity for us if it was presented to, or acquired, created or developed by, or which otherwise comes into the possession of, (i) any director on our board of directors who is not an employee of the Company or any of its subsidiaries, or (ii) any holder of our Class A Preferred Stock or any affiliate or other related person of any such holder, other than someone who is an employee of the Company or any of its subsidiaries, and no person shall have any duty to present such corporate opportunity to us and will not be liable to us for pursuing or acquiring such opportunity, or referring such opportunity to a third party.

***Indemnification of Directors, Officers and Employees.*** Our By-Laws require us to indemnify any person who was or is a party or is threatened to be made a party to, or was otherwise involved in, a legal proceeding by reason of the fact that he or she is or was a director, officer or employee of Avenue Therapeutics or, while a director, officer or employee of Avenue Therapeutics, is or was serving at our request in a fiduciary capacity with another enterprise (including any corporation, partnership, limited liability company, joint venture, trust, association or other unincorporated organization or other entity and any employee benefit plan, to the fullest extent authorized by the DGCL, as it exists or may be amended, against all expense, liability and loss (including attorneys' fees, judgments, fines, U.S. Employee Retirement Income Security Act of 1974, as amended, excise taxes or penalties and amounts paid in settlement by or on behalf of such person) actually and reasonably incurred in connection with such service. We are authorized under our By-Laws to carry directors' and officers' insurance protecting us, any director, officer or employee of ours or, against any expense, liability or loss, whether or not we have the power to indemnify the person under the DGCL. We may, to the extent authorized from time to time, indemnify any of our agents to the fullest



extent permitted with respect to directors, officers and employees in our By-Laws.

The limitation of liability and indemnification provisions in our Certificate of Incorporation and By-Laws may discourage stockholders from bringing a lawsuit against our directors for breach of fiduciary duty. These provisions also may reduce the likelihood of derivative litigation against our directors and officers, even though such an action, if successful, might otherwise benefit us and our stockholders. By its terms, the indemnification provided for in our By-Laws is not exclusive of any other rights that the indemnified party may be or become entitled to under any law, agreement, vote of stockholders or directors, provisions of our Certificate of Incorporation or By-Laws or otherwise. Any amendment, alteration or repeal of our By-Laws' indemnification provisions is, by the terms of our By-Laws, prospective only and will not adversely affect the rights of any indemnity in effect at the time of any act or omission occurring prior to such amendment, alteration or repeal.

#### **Warrants to be Issued in this Offering**

The following summary of certain terms and provisions of the warrants included in the units offered hereby is not complete and is subject to, and qualified in its entirety by the provisions of the form of warrant, which is filed as an exhibit to the registration statement of which this prospectus is a part. Prospective investors should carefully review the terms and provisions set forth in the form of warrant.

*Exercisability.* The warrants are exercisable immediately and at any time up to the date that is (A) for the Series A warrants, five years after their original issuance, and (B) for the Series B warrants, 18 months after their original issuance. The warrants will be exercisable, at the option of each holder, in whole or in part by delivering to us a duly executed exercise notice and, at any time a registration statement registering the offer and sale of the shares of Common Stock underlying the warrants under the Securities Act is effective and available for the issuance of such shares, or an exemption from registration under the Securities Act is available for the issuance of such shares, by payment in full in immediately available funds for the number of shares of Common Stock purchased upon such exercise. If a registration statement registering the offer and sale of the shares of Common Stock underlying the warrants under the Securities Act is not effective or available and an exemption from registration under the Securities Act is not available for the issuance of such shares, the holder may elect to exercise the warrant through a cashless exercise, in which case the holder would receive upon such exercise the net number of shares of Common Stock determined according to the formula set forth in the warrant. No fractional shares of Common Stock will be issued in connection with the exercise of a warrant. In lieu of fractional shares, we will pay the holder an amount in cash equal to the fractional amount multiplied by the exercise price.

*Exercise Limitation.* A holder will not have the right to exercise any portion of the warrant if the holder (together with its affiliates and certain related parties) would beneficially own in excess of 4.99% of the number of shares of our Common Stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the warrants. However, any holder may increase or decrease such percentage to any other percentage not in excess of 9.99%, provided that any increase in such percentage shall not be effective until 61 days following notice from the holder to us.

*Exercise Price.* The exercise price per whole share of Common Stock purchasable upon exercise of the warrants is equal to \$ (100% of the public offering price per unit). The exercise price is subject to appropriate adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting our Common Stock and also upon any distributions of assets, including cash, stock or other property to our stockholders.

*Transferability.* Subject to applicable laws, the warrants may be offered for sale, sold, transferred or assigned without our consent.

*Exchange Listing.* We do not intend to list the warrants on any securities exchange or nationally recognized trading system.

*Warrant Agent.* The warrants will be issued in registered form under a warrant agency agreement between VStock Transfer, LLC, as warrant agent, and us. The warrants will initially be represented only by one or more global warrants deposited with the warrant agent, as custodian on behalf of The Depository Trust Company (DTC) and registered in the name of Cede & Co., a nominee of DTC, or as otherwise directed by DTC.

*Fundamental Transactions.* In the event of a fundamental transaction, as described in the warrants and generally including any reorganization, recapitalization or reclassification of our Common Stock, the sale, transfer or other disposition of all or substantially all of our properties or assets, our consolidation or merger with or into another person, or any person or group, other than Fortress, becoming the beneficial owner of 50% of the voting power represented by our outstanding capital stock, the holders of the warrants will be entitled to receive upon exercise of the warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the warrants immediately prior to such fundamental transaction.

*Rights as a Stockholder.* Except as otherwise provided in the warrants or by virtue of such holder's ownership of shares of our Common Stock, the holder of a warrant does not have the rights or privileges of a holder of our Common Stock, including any voting rights, until the holder exercises the warrant.

*Governing Law.* The warrants and the warrant agency agreement are governed by New York law.

#### **Pre-funded Warrants to be Issued in this Offering**

The following summary of certain terms and provisions of the pre-funded warrants included in the pre-funded units offered hereby is not complete and is subject to, and qualified in its entirety by the provisions of the form of pre-funded warrant, which is filed as an exhibit to the registration statement of which this prospectus is a part. Prospective investors should carefully review the terms and provisions set forth in the form of pre-funded warrant.

*Exercisability.* The pre-funded warrants are exercisable immediately and may be exercised at any time, and from time to time, until the pre-funded warrants are exercised in full. The pre-funded warrants will be exercisable, at the option of each holder, in whole or in part by delivering to us a duly executed exercise notice and, at any time a registration statement registering the offer and sale of the shares of Common Stock underlying the pre-funded warrants under the Securities Act is effective and available for the issuance of such shares, or an exemption from registration under the Securities Act is available for the issuance of such shares, by payment in full in immediately available funds for the number of shares of Common Stock purchased upon such exercise. If a registration statement registering the offer and sale of the shares of Common Stock underlying the pre-funded warrants under the Securities Act is not effective or available and an exemption from registration under the Securities Act is not available for the issuance of such shares, the holder may elect to exercise the pre-funded warrants through a cashless exercise, in which case the holder would receive upon such exercise the net number of shares of Common Stock determined according to the formula set forth in the warrant. No fractional shares of Common Stock will be issued in connection with the exercise of a pre-funded warrant. In lieu of fractional shares, we will pay the holder an amount in cash equal to the fractional amount multiplied by the exercise price.

*Exercise Limitation.* A holder will not have the right to exercise any portion of the pre-funded warrant if the holder (together with its affiliates and certain related parties) would beneficially own in excess of 4.99% of the number of shares of our Common Stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the pre-funded warrants. However, any holder may increase or decrease such percentage to any other percentage not in excess of 9.99%, provided that any increase in such percentage shall not be effective until 61 days following notice from the holder to us.

*Exercise Price.* The exercise price per whole share of Common Stock purchasable upon exercise of the pre-funded warrants is \$0.0001. The exercise price is subject to appropriate adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting our Common Stock and also upon any distributions of assets, including cash, stock or other property to our stockholders.



*Transferability.* Subject to applicable laws, the pre-funded warrants may be offered for sale, sold, transferred or assigned without our consent.

*Exchange Listing.* We do not intend to list the pre-funded warrants on any securities exchange or nationally recognized trading system.

*Warrant Agent.* The pre-funded warrants will be issued in registered form under a warrant agency agreement between VStock Transfer, LLC, as warrant agent, and us. The pre-funded warrants will initially be represented only by one or more global warrants deposited with the warrant agent, as custodian on behalf of The Depository Trust Company (DTC) and registered in the name of Cede & Co., a nominee of DTC, or as otherwise directed by DTC.

*Fundamental Transactions.* In the event of a fundamental transaction, as described in the pre-funded warrants and generally including any reorganization, recapitalization or reclassification of our Common Stock, the sale, transfer or other disposition of all or substantially all of our properties or assets, our consolidation or merger with or into another person, or any person or group, other than Fortress, becoming the beneficial owner of 50% of the voting power represented by our outstanding capital stock, the holders of the pre-funded warrants will be entitled to receive upon exercise of the pre-funded warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the pre-funded warrants immediately prior to such fundamental transaction.

*Rights as a Stockholder.* Except as otherwise provided in the pre-funded warrants or by virtue of such holder's ownership of shares of our Common Stock, the holder of a pre-funded warrant does not have the rights or privileges of a holder of our Common Stock, including any voting rights, until the holder exercises the pre-funded warrant.

*Governing Law.* The pre-funded warrants and the warrant agency agreement are governed by New York law.

### **MATERIAL UNITED STATES FEDERAL INCOME TAX CONSIDERATIONS**

The following is a discussion of certain material U.S. federal income tax consequences of the acquisition, ownership and disposition of our shares of common units (each consisting of (A) one share of our Common Stock, (B) one Series A warrant to purchase one share of our Common Stock and (C) one Series B warrant to purchase one share of our Common Stock) and our pre-funded units (each consisting of (A) one pre-funded warrant to purchase one share of our Common Stock, (B) one Series A warrant to purchase one share of our Common Stock and (C) one Series B warrant to purchase one share of our Common Stock), which we refer to as our securities, that are purchased in this offering by U.S. Holders (as defined below) and Non-U.S. Holders (as defined below). Because the components of a common unit and a pre-funded unit are generally separable at the option of the holder, the holder of a common unit or pre-funded unit generally should be treated, for U.S. federal income tax purposes, as the owner of the underlying share of our common stock, one Series A warrant to purchase one share of our Common Stock and one Series B warrant to purchase one share of our Common Stock, in the case of a common unit, and one pre-funded warrant, one Series A warrant to purchase one share of our Common Stock and one Series B warrant to purchase one share of our Common Stock, in the case of a pre-funded unit. As a result, the discussion below with respect to holders of shares of our Common Stock, pre-funded warrants and warrants should also apply to holders of common units or pre-funded units (as the deemed owners of the underlying Common Stock, pre-funded warrants and warrants that constitute the units).

This discussion applies only to securities that are held as capital assets for U.S. federal income tax purposes and is applicable only to initial holders who are receiving our securities in this offering.

This discussion is a summary only and does not describe all of the tax consequences that may be relevant to you in light of your particular circumstances, including but not limited to the alternative minimum tax, the Medicare tax on certain investment income and the different consequences that may apply if you are subject to special rules that apply to certain types of investors (such as the effects of Section 451 of the federal income tax code (the "Code")), including but not limited to:

- bank and other financial institutions or financial services entities;
- broker-dealers;
- mutual funds;
- retirement plans, individual retirement accounts or other tax-deferred accounts;
- governments or agencies or instrumentalities thereof;
- regulated investment companies;
- pension plans;
- "controlled foreign corporations," "passive foreign investment companies," "qualified foreign pension funds," and corporations that accumulate earnings to avoid U.S. federal income tax;
- real estate investment trusts;
- expatriates or former long-term residents of the United States;
- persons that actually or constructively own five percent or more of our voting shares;
- insurance companies;
- taxpayers subject to a mark-to-market method of accounting rules;
- persons holding the securities as part of a "straddle," constructive sale, hedge, conversion or other integrated or similar transaction;

- U.S. holders (as defined below) whose functional currency is not the U.S. dollar;
- persons subject to alternative minimum tax;
- partnerships or other pass-through entities for U.S. federal income tax purposes and any beneficial owners of such entities;
- tax-exempt entities; and
- persons that acquired our securities pursuant to an exercise of employee share options, in connection with employee share incentive plans or otherwise as compensation or in connection with services.

This discussion is based on the Code, and administrative pronouncements, judicial decisions and final, temporary and proposed Treasury regulations as of the date hereof, which are subject to change, possibly on a retroactive basis, and changes to any of which subsequent to the date of this prospectus may affect the tax consequences described herein. This discussion does not address any aspect of state, local or non-U.S. taxation, or any U.S. federal taxes (e.g., gift and estate taxes) other than income taxes.

We have not sought, and will not seek, a ruling from the IRS as to any U.S. federal income tax consequence described herein. The IRS may disagree with the discussion herein, and its determination may be upheld by a court. Moreover, there can be no assurance that future legislation, regulations, administrative rulings or court decisions will not adversely affect the accuracy of the statements in this discussion. You are urged to consult your tax advisor with respect to the application of U.S. federal tax laws to your particular situation, as well as any tax consequences arising under the laws of any state, local or foreign jurisdiction.

This discussion does not consider the tax treatment of partnerships or other pass-through entities or persons who hold our securities through such entities. If a partnership (or other entity or arrangement classified as a partnership or other pass-through entity for United States federal income tax purposes) is the beneficial owner of our securities, the United States federal income tax treatment of a partner or member in the partnership or other pass-through entity generally will depend on the status of the partner or member and the activities of the partnership or other pass-through entity. If you are a partner or member of a partnership or other pass-through entity holding our securities, we urge you to consult your own tax advisor.

**THIS DISCUSSION IS ONLY A SUMMARY OF CERTAIN UNITED STATES FEDERAL INCOME TAX CONSIDERATIONS ASSOCIATED WITH THE ACQUISITION, OWNERSHIP AND DISPOSITION OF OUR SECURITIES. EACH PROSPECTIVE INVESTOR IN OUR SECURITIES IS URGED TO CONSULT ITS OWN TAX ADVISOR WITH RESPECT TO THE PARTICULAR TAX CONSEQUENCES TO SUCH INVESTOR OF THE ACQUISITION, OWNERSHIP AND DISPOSITION OF OUR SECURITIES, INCLUDING THE APPLICABILITY AND EFFECT OF ANY UNITED STATES FEDERAL NON-INCOME, STATE, LOCAL, AND NON-U.S. TAX LAWS.**

#### **Allocation of Purchase Price and Characterization of a Unit**

No statutory, administrative or judicial authority directly addresses the treatment of a unit or instruments similar to a unit for U.S. federal income tax purposes, and therefore, that treatment is not entirely clear. The acquisition of a common unit or pre-funded unit should be treated for U.S. federal income tax purposes as the acquisition of one share of our Common Stock, one Series A warrant and one Series B warrant, in the case of a common unit, and one pre-funded warrant, one Series A warrant and one Series B warrant, in the case of a pre-funded unit, and we intend to treat the acquisition of a unit in this manner. For U.S. federal income tax purposes, each holder of a unit must allocate the purchase price paid by such holder for such unit among the underlying securities based on the relative fair market value of each at the time of issuance. Under U.S. federal income tax law, each investor must make its own determination of such value based on all the relevant facts and circumstances. Therefore, we strongly urge each investor to consult its tax advisor regarding the determination of value for these purposes. The price allocated to each share of our Common Stock, warrants and/or pre-funded warrants should constitute the holder's initial tax basis in such share, warrant and/or pre-funded warrant, respectively. Any disposition of a unit should be treated for U.S. federal income tax purposes as a disposition of the share of our Common Stock and warrant or pre-funded warrant and warrant comprising the Unit, and the amount realized on the disposition should be allocated among the underlying securities based on their respective relative fair market values at the time of disposition.

The foregoing treatment of the securities and a holder's purchase price allocation are not binding on the IRS or the courts. Because there are no authorities that directly address instruments that are similar to the units, no assurance can be given that the IRS or the courts will agree with the characterization described above or the discussion below. Accordingly, each prospective investor is urged to consult its tax advisor regarding the tax consequences of an investment in a unit (including alternative characterizations of a unit). The balance of this discussion assumes that the characterization of the units described above is respected for U.S. federal income tax purposes.

#### **U.S. Holders**

This section applies to you if you are a "U.S. holder." A U.S. holder is a beneficial owner of our shares of Common Stock who or that is, for U.S. federal income tax purposes:

- an individual who is a citizen or resident of the United States;
- a corporation (or other entity taxable as a corporation) that is created or organized (or treated as created or organized) in or under the laws of the United States, any state thereof or the District of Columbia; or
- an estate the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust, if (i) a court within the United States is able to exercise primary supervision over the administration of the trust and one or more U.S. persons (as defined in the Code) have authority to control all substantial decisions of the trust or (ii) it has a valid election in effect under Treasury Regulations to be treated as a U.S. person.

*Taxation of Distributions.* If we pay distributions in cash or other property (other than certain distributions of our stock or rights to acquire our stock) to U.S. holders of shares of our Common Stock, such distributions generally will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Distributions in excess of current and accumulated earnings and profits will constitute a return of capital that will first be applied against and reduce (but not below zero) the U.S. holder's adjusted tax basis in our Common Stock. Any remaining excess will be treated as gain realized on the sale or other disposition of the Common Stock and will be treated as described under "U.S. Holders — Gain or Loss on Sale, Taxable Exchange or Other Taxable Disposition of Common Stock" below.

Dividends we pay to a U.S. holder that is a taxable corporation generally will qualify for the dividends received deduction if the requisite holding period is satisfied. With certain exceptions (including, but not limited to, dividends treated as investment income for purposes of investment interest deduction limitations), and provided certain holding period requirements are met, dividends we pay to a non-corporate U.S. holder may constitute "qualified dividends" that will be subject to tax at the maximum tax rate accorded to long-term capital gains. If the holding period requirements are not satisfied, then a corporation may not be able to qualify for the dividends received deduction and would have taxable income equal to the entire dividend amount, and non-corporate holders may be subject to tax on such dividend at regular ordinary income tax rates instead of the preferential rate that applies to qualified dividend income.

*Gain or Loss on Sale, Taxable Exchange or Other Taxable Disposition of our Securities.* Upon a sale or other taxable disposition of our shares of Common Stock, warrants or

pre-funded warrants, a U.S. holder generally will recognize capital gain or loss in an amount equal to the difference between the amount realized and the U.S. holder's adjusted tax basis in such shares of Common Stock, warrants or pre-funded warrants. Any such capital gain or loss generally will be long-term capital gain or loss if the U.S. holder's holding period for the Common Stock, warrants or pre-funded warrants so disposed of exceeds one year. If the holding period requirements are not satisfied, any gain on a sale or taxable disposition of our securities would be subject to short-term capital gain treatment and would be taxed at regular ordinary income tax rates. Long-term capital gains recognized by non-corporate U.S. holders will be eligible to be taxed at reduced rates. The deductibility of capital losses is subject to limitations.

Generally, the amount of gain or loss recognized by a U.S. holder is an amount equal to the difference between (i) the sum of the amount of cash and the fair market value of any property received in such disposition and (ii) the U.S. holder's adjusted tax basis in its shares of Common Stock, warrants or pre-funded warrants disposed. A U.S. holder's adjusted tax basis in its shares of Common Stock, warrants or pre-funded warrants generally will equal the U.S. holder's acquisition cost (that is, the portion of the purchase price of a unit allocated to a share of our common stock, warrant or pre-funded warrant, as described above under "—Allocation of Purchase Price and Characterization of a Unit") reduced, in the case of a share of Common Stock, by any prior distributions treated as a return of capital.

*Information Reporting and Backup Withholding.* In general, information reporting requirements may apply to dividends paid to a U.S. holder and to the proceeds of the sale or other disposition of our securities, unless the U.S. holder is an exempt recipient. Backup withholding may apply to such payments if the U.S. holder fails to provide a taxpayer identification number, a certification of exempt status or has been notified by the IRS that it is subject to backup withholding (and such notification has not been withdrawn).

Any amounts withheld under the backup withholding rules generally should be allowed as a refund or a credit against a U.S. holder's U.S. federal income tax liability provided the required information is timely furnished to the IRS.

### **Non-U.S. Holders**

This section applies to you if you are a "Non-U.S. holder." As used herein, the term "Non-U.S. holder" means a beneficial owner of our common units or pre-funded units who is not a U.S. Holder or any other person that is for U.S. federal income tax purposes:

- a non-resident alien individual (other than certain former citizens and residents of the U.S. subject to U.S. tax as expatriates),
- a foreign corporation, or
- an estate or trust that is not a U.S. holder.

The term "Non-U.S. Holder" generally does not include a U.S. Holder or a partnership or other entity classified as a partnership for U.S. federal income tax purposes and does not include an individual who is present in the United States for 183 days or more in the taxable year of disposition of the securities. If you are such an individual, you should consult your tax advisor regarding the U.S. federal income tax consequences of the acquisition, ownership or sale or other disposition of our securities.

*Taxation of Distributions.* In general, any distributions we make to a Non-U.S. holder of shares of our Common Stock, to the extent paid out of our current or accumulated earnings and profits (as determined under U.S. federal income tax principles), will constitute dividends for U.S. federal income tax purposes and, provided such dividends are not effectively connected with the Non-U.S. holder's conduct of a trade or business within the United States, we will be required to withhold tax from the gross amount of the dividend at a rate of 30%, unless such Non-U.S. holder is eligible for a reduced rate of withholding tax under an applicable income tax treaty and provides proper certification of its eligibility for such reduced rate (usually on an IRS Form W-8BEN or W-8BEN-E). Any distribution not constituting a dividend will be treated first as reducing (but not below zero) the Non-U.S. holder's adjusted tax basis in its shares of our Common Stock and, to the extent such distribution exceeds the Non-U.S. holder's adjusted tax basis, as gain realized from the sale or other disposition of the Common Stock, which will be treated as described under "Non-U.S. Holders—Gain on Sale, Taxable Exchange or Other Taxable Disposition of Our Securities" below. If we are unable to determine, at a time reasonably close to the date of payment of a distribution on our Common Stock, what portion, if any, of the distribution will constitute a dividend, then we may withhold U.S. federal income tax on the basis of assuming that the full amount of the distribution will be a dividend. If we or another withholding agent apply over-withholding, a non-U.S. holder may be entitled to a refund or credit of any excess tax withheld by timely filing an appropriate claim with the IRS. In addition, if we determine that we are or are likely to be classified as a "United States real property holding corporation" (see "Non-U.S. Holders—Gain on Sale, Taxable Exchange or Other Taxable Disposition of Our Securities" below), we will withhold 15% of any distribution that exceeds our current and accumulated earnings and profits, including a distribution in redemption of shares of our Common Stock.

The withholding tax does not apply to dividends paid to a Non-U.S. holder who provides a Form W-8ECL, certifying that the dividends are effectively connected with the Non-U.S. holder's conduct of a trade or business within the United States. Instead, the effectively connected dividends will be subject to regular U.S. income tax as if the Non-U.S. holder were a U.S. resident, subject to an applicable income tax treaty providing otherwise. A Non-U.S. corporation receiving effectively connected dividends may also be subject to an additional "branch profits tax" imposed at a rate of 30% (or a lower treaty rate).

Any documentation provided to an applicable withholding agent may need to be updated in certain circumstances. The certification requirements described above also may require a non-U.S. holder to provide its U.S. taxpayer identification number.

*Gain on Sale, Taxable Exchange or Other Taxable Disposition of Common Stock.* A Non-U.S. holder generally will not be subject to U.S. federal income or withholding tax in respect of gain recognized on a sale, taxable exchange or other taxable disposition of our Common Stock, warrants or pre-funded warrants, in each case without regard to whether such securities were held as part of a unit, unless:

- the gain is effectively connected with the conduct of a trade or business by the Non-U.S. holder within the United States (and, under certain income tax treaties, is attributable to a United States permanent establishment or fixed base maintained by the Non-U.S. holder);
- the non-U.S. holder is a nonresident alien individual who is present in the United States for a period or periods aggregating 183 days or more in the taxable year of the disposition and certain other conditions are met, in which case the non-U.S. holder will be subject to a 30% tax (or such lower rate as may be specified by an applicable income tax treaty) on the amount by which the non-U.S. holder's capital gains allocable to U.S. sources exceed capital losses allocable to U.S. sources during the taxable year of the disposition (without taking into account any capital loss carryovers); or

we are or have been a “U.S. real property holding corporation” for U.S. federal income tax purposes at any time during the shorter of the five-year period ending on the date of disposition or the period that the Non-U.S. holder held our Common Stock, and, in the case where shares of our Common Stock are regularly traded on an established securities market, the Non-U.S. holder has owned, directly or constructively, more than 5% of our Common Stock at any time within the shorter of the five-year period preceding the disposition or such Non-U.S. holder’s holding period for the shares of our Common Stock. There can be no assurance that our Common Stock will be treated as regularly traded on an established securities market for this purpose. Generally, a corporation is a U.S. real property holding corporation if the fair market value of its U.S. real property interests, as defined in the Code and applicable U.S. Treasury Regulations, equals or exceeds 50% of the sum of the fair market value of its worldwide real property interests plus its other assets used or held for use in a trade or business. Although there can be no assurance, we do not believe that we are, or have been, a U.S. real property holding corporation for U.S. federal income tax purposes, or that we are likely to become one in the future. These rules may be modified for Non-U.S. Holders of warrants or pre-funded warrants. If we are or have been a “United States real property holding corporation” and you own warrants or pre-funded warrants, you are urged to consult your own tax advisor regarding the application of these rules.

Unless an applicable treaty provides otherwise, gain described in the first bullet point above will be subject to tax at generally applicable U.S. federal income tax rates as if the Non-U.S. holder were a U.S. resident. Any gains described in the first bullet point above of a Non-U.S. holder that is a foreign corporation may also be subject to an additional “branch profits tax” at a 30% rate (or lower treaty rate).

If the third bullet point above applies to a Non-U.S. holder, gain recognized by such holder on the sale, exchange or other disposition of our Common Stock, warrants or pre-funded warrants, will generally be subject to tax at applicable U.S. federal income tax rates as if the Non-U.S. Holder were a U.S. resident. In addition, a buyer of our Common Stock, warrants or pre-funded warrants from any such holder may be required to withhold U.S. income tax at a rate of 15% of the amount realized upon such disposition if our Common Stock is not treated as regularly traded on an established securities market. We cannot determine whether we will be a United States real property holding corporation in the future. In general, we would be classified as a United States real property holding corporation if the fair market value of our “United States real property interests” equals or exceeds 50% of the sum of the fair market value of our worldwide real property interests plus our other assets used or held for use in a trade or business, as determined for U.S. federal income tax purposes.

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*Information Reporting and Backup Withholding.* Information returns will be filed with the IRS in connection with payments of dividends and the proceeds from a sale or other disposition of our shares of Common Stock, warrants or pre-funded warrants. A Non-U.S. holder may have to comply with certification procedures to establish that it is not a United States person in order to avoid information reporting and backup withholding requirements. The certification procedures required to claim a reduced rate of withholding under a treaty will satisfy the certification requirements necessary to avoid the backup withholding as well. The amount of any backup withholding from a payment to a Non-U.S. holder will be allowed as a credit against such holder’s U.S. federal income tax liability and may entitle such holder to a refund, provided that the required information is timely furnished to the IRS.

*FATCA Withholding Taxes.* Provisions commonly referred to as “FATCA” impose withholding of 30% on payments of dividends (including constructive dividends) on our Common Stock to “foreign financial institutions” (which is broadly defined for this purpose and in general includes investment vehicles) and certain other Non-U.S. entities unless various U.S. information reporting and due diligence requirements (generally relating to ownership by U.S. persons of interests in or accounts with those entities) have been satisfied by, or an exemption applies to, the payee (typically certified as to by the delivery of a properly completed IRS Form W-8BEN-E). If FATCA withholding is imposed, a beneficial owner that is not a foreign financial institution will be entitled to a refund of any amounts withheld by filing a U.S. federal income tax return (which may entail significant administrative burden). Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules. Under certain circumstances, a Non-U.S. holder might be eligible for refunds or credits of such withholding taxes, and a Non-U.S. holder might be required to file a U.S. federal income tax return to claim such refunds or credits. Prospective investors should consult their tax advisers regarding the effects of FATCA on their investment in our securities.

**The preceding discussion of material U.S. federal tax considerations is for general information only. It is not tax advice. You should consult your own tax advisors regarding the particular U.S. federal, state, local and non-U.S. tax consequences of purchasing, holding and disposing of our Common Stock, including the consequences of any proposed changes in applicable laws.**

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## PLAN OF DISTRIBUTION

We are offering up to 20,338,983 units, each consisting of (A) one share of Common Stock, (B) one Series A warrant to purchase one share of Common Stock and (C) one Series B warrant to purchase one share of Common Stock, for gross proceeds of up to \$12.0 million before deduction of placement agent commissions and offering expenses, in a best-efforts offering. There is no minimum amount of proceeds that is a condition to closing of this offering. The actual amount of gross proceeds, if any, in this offering could vary substantially from the gross proceeds from the sale of the maximum amount of securities being offered in this prospectus.

Pursuant to a placement agency agreement, dated as of \_\_\_\_\_, 2023, we have engaged Maxim Group LLC and Lake Street Capital Markets, LLC to act as our exclusive placement agents to solicit offers to purchase the securities offered by this prospectus. The placement agents are not purchasing or selling any securities, nor are they required to arrange for the purchase and sale of any specific number or dollar amount of securities, other than to use their “reasonable best efforts” to arrange for the sale of the securities by us. Therefore, we may not sell the entire amount of securities being offered. We will enter into a securities purchase agreement directly with certain of the institutional investors, at the investor’s option, who purchase our securities in this offering. Investors who do not enter into a securities purchase agreement shall rely solely on this prospectus in connection with the purchase of our securities in this offering. The placement agents may engage one or more subagents or selected dealers in connection with this offering.

The placement agency agreement provides that the placement agents’ obligations are subject to conditions contained in the placement agency agreement.

We will deliver the securities being issued to the investors upon receipt of investor funds for the purchase of the securities offered pursuant to this prospectus. We expect to deliver the securities being offered pursuant to this prospectus on \_\_\_\_\_, 2023.

### Placement Agent Fees, Commissions and Expenses

Upon the closing of this offering, we will pay the placement agents a cash transaction fee equal to 8% of the aggregate gross cash proceeds to us from the sale of the securities in the offering (reduced to 4% of aggregate gross cash proceeds received from our affiliates). In addition, we will reimburse the placement agents for their out-of-pocket expenses incurred in connection with this offering, including the fees and expenses of the counsel for the placement agents, up to \$100,000.

The following table shows the public offering price, placement agent fees and proceeds, before expenses, to us, assuming the purchase of all the securities we are offering.

Per Unit	Per Pre-Funded Unit	Total
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Public Offering Price	\$	\$	\$
Placement agent fees	\$	\$	\$
Proceeds, before expenses, to us	\$	\$	\$

We estimate that the total expenses of the offering, including registration, filing and listing fees, printing fees and legal and accounting expenses, but excluding placement agent fees, will be approximately \$390,000, all of which are payable by us. This figure includes the placement agents' accountable expenses, including, but not limited to, legal fees for placement agents' legal counsel, that we have agreed to pay at the closing of the offering up to an aggregate expense reimbursement of \$100,000.

The Financial Industry Regulatory Authority, Inc. has reviewed the proposed terms and arrangements of the compensation to be paid to the placement agents in connection with this offering.

#### Lock-Up Agreements

We, each of our officers and directors and any other holders of 10% or more of our outstanding shares of Common Stock as of the date of this prospectus have agreed, subject to certain exceptions, not to offer, issue, sell, contract to sell, encumber, grant any option for the sale of or otherwise dispose of any of our shares or other securities convertible into or exercisable or exchangeable for our shares of Common Stock for a period of 180 days after this offering is completed without the prior written consent of the placement agents.

The placement agents may in their sole discretion and at any time without notice release some or all of the shares subject to lock-up agreements prior to the expiration of the lock-up period. When determining whether or not to release shares from the lock-up agreements, the placement agents will consider, among other factors, the security holder's reasons for requesting the release, the number of shares for which the release is being requested and market conditions at the time.

#### Indemnification

We have agreed to indemnify the placement agents against certain liabilities, including liabilities under the Securities Act, and to contribute to payments that the placement agents may be required to make for these liabilities.

#### Determination of Offering Price and Exercise Price

The actual public offering price of the securities we are offering, and the exercise price of the warrants and pre-funded warrants included in the units and the pre-funded units that we are offering, were negotiated between us and the investors in the offering based on the trading of our Common Stock prior to the offering, among other things. Other factors considered in determining the public offering price of the securities we are offering, as well as the exercise price of the warrants included in the units and pre-funded warrants that we are offering include our history and prospects, the stage of development of our business, our business plans for the future and the extent to which they have been implemented, an assessment of our management, the general conditions of the securities markets at the time of the offering and such other factors as were deemed relevant.

#### Regulation M

The placement agents each may be deemed to be an underwriter within the meaning of Section 2(a)(11) of the Securities Act, and any commissions received by it and any profit realized on the resale of the securities sold by it while acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. As an underwriter, each placement agent would be required to comply with the requirements of the Securities Act and the Exchange Act, including, without limitation, Rule 10b-5 and Regulation M under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of our securities by the placement agents acting as principal. Under these rules and regulations, the placement agents (i) may not engage in any stabilization activity in connection with our securities and (ii) may not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities, other than as permitted under the Exchange Act, until it has completed its participation in the distribution.

#### Electronic Distribution

A prospectus in electronic format may be made available on a website maintained by the placement agents. In connection with the offering, the placement agents or selected dealers may distribute prospectuses electronically. No forms of electronic prospectus other than prospectuses that are printable as Adobe® PDF will be used in connection with this offering.

Other than the prospectus in electronic format, the information on each of the placement agents' websites and any information contained in any other website maintained by the placement agents is not part of the prospectus or the registration statement of which this prospectus forms a part, has not been approved and/or endorsed by us or either placement agent in its capacity as placement agent and should not be relied upon by investors.

#### Certain Relationships

Each placement agent and its affiliates have and may in the future provide, from time to time, investment banking and financial advisory services to us in the ordinary course of business, for which they may receive customary fees and commissions.

#### Selling Restrictions

**Canada.** The securities may be sold in Canada only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 *Prospectus Exemptions* or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 *Registration Requirements, Exemptions and Ongoing Registrant Obligations*. Any resale of the securities must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this prospectus supplement (including any amendment thereto) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal advisor.

Pursuant to section 3A.3 of National Instrument 33-105 *Underwriting Conflicts* (NI 33-105), the placement agents are not required to comply with the disclosure requirements of NI 33-105 regarding placement agents conflicts of interest in connection with this offering.

**European Economic Area.** In relation to each Member State of the European Economic Area which has implemented the Prospectus Directive (each, a “Relevant Member State”) an offer to the public of any securities may not be made in that Relevant Member State, except that an offer to the public in that Relevant Member State of any securities may be made at any time under the following exemptions under the Prospectus Directive, if they have been implemented in that Relevant Member State:

- to any legal entity which is a qualified investor as defined in the Prospectus Directive;
- to fewer than 100 or, if the Relevant Member State has implemented the relevant provision of the 2010 PD Amending Directive, 150, natural or legal persons (other than qualified investors as defined in the Prospectus Directive), as permitted under the Prospectus Directive, subject to obtaining the prior consent of the representatives for any such offer; or
- in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of securities shall result in a requirement for the publication by us or any placement agents of a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an “offer to the public” in relation to any securities in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any securities to be offered so as to enable an investor to decide to purchase any securities, as the same may be varied in that Member State by any measure implementing the Prospectus Directive in that Member State, the expression “Prospectus Directive” means Directive 2003/71/EC (and amendments thereto, including the 2010 PD Amending Directive, to the extent implemented in the Relevant Member State), and includes any relevant implementing measure in the Relevant Member State, and the expression “2010 PD Amending Directive” means Directive 2010/73/EU.

**Israel.** This document does not constitute a prospectus under the Israeli Securities Law, 5728-1968, or the Securities Law, and has not been filed with or approved by the Israel Securities Authority. In the State of Israel, this document is being distributed only to, and is directed only at, and any offer of the shares is directed only at, investors listed in the first addendum, or the Addendum, to the Israeli Securities Law, consisting primarily of joint investment in trust funds, provident funds, insurance companies, banks, portfolio managers, investment advisors, members of the Tel Aviv Stock Exchange, placement agents, venture capital funds, entities with equity in excess of NIS 50 million and “qualified individuals”, each as defined in the Addendum (as it may be amended from time to time), collectively referred to as qualified investors (in each case purchasing for their own account or, where permitted under the Addendum, for the accounts of their clients who are investors listed in the Addendum). Qualified investors will be required to submit written confirmation that they fall within the scope of the Addendum, are aware of the meaning of same and agree to it.

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**United Kingdom.** Each placement agent has represented and agreed that:

- it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000 (the FSMA) received by it in connection with the issue or sale of the securities in circumstances in which Section 21(1) of the FSMA does not apply to us; and
- it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the securities in, from or otherwise involving the United Kingdom.

**Switzerland.** The securities may not be publicly offered in Switzerland and will not be listed on the SIX Swiss Exchange (the SIX) or on any other stock exchange or regulated trading facility in Switzerland. This document has been prepared without regard to the disclosure standards for issuance prospectuses under art. 652a or art. 1156 of the Swiss Code of Obligations or the disclosure standards for listing prospectuses under art. 27 ff. of the SIX Listing Rules or the listing rules of any other stock exchange or regulated trading facility in Switzerland. Neither this document nor any other offering or marketing material relating to the securities or the offering may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this document nor any other offering or marketing material relating to the offering, or the securities have been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of securities will not be supervised by, the Swiss Financial Market Supervisory Authority FINMA, and the offer of securities has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes (CISA). Accordingly, no public distribution, offering or advertising, as defined in CISA, its implementing ordinances and notices, and no distribution to any non-qualified investor, as defined in CISA, its implementing ordinances and notices, shall be undertaken in or from Switzerland, and the investor protection afforded to acquirers of interests in collective investment schemes under CISA does not extend to acquirers of securities.

**Australia.** No placement document, prospectus, product disclosure statement or other disclosure document has been lodged with the Australian Securities and Investments Commission (ASIC), in relation to the offering.

This prospectus does not constitute a prospectus, product disclosure statement or other disclosure document under the Corporations Act 2001 (the Corporations Act) and does not purport to include the information required for a prospectus, product disclosure statement or other disclosure document under the Corporations Act.

Any offer in Australia of the securities may only be made to persons (the Exempt Investors) who are “sophisticated investors” (within the meaning of section 708(8) of the Corporations Act), “professional investors” (within the meaning of section 708(11) of the Corporations Act) or otherwise pursuant to one or more exemptions contained in section 708 of the Corporations Act so that it is lawful to offer the securities without disclosure to investors under Chapter 6D of the Corporations Act.

The securities applied for by Exempt Investors in Australia must not be offered for sale in Australia in the period of 12 months after the date of allotment under the offering, except in circumstances where disclosure to investors under Chapter 6D of the Corporations Act would not be required pursuant to an exemption under section 708 of the Corporations Act or otherwise or where the offer is pursuant to a disclosure document which complies with Chapter 6D of the Corporations Act. Any person acquiring securities must observe such Australian on-sale restrictions.

This prospectus contains general information only and does not take account of the investment objectives, financial situation or particular needs of any particular person. It does not contain any securities recommendations or financial product advice. Before making an investment decision, investors need to consider whether the information in this prospectus is appropriate to their needs, objectives and circumstances, and, if necessary, seek expert advice on those matters.

**Notice to Prospective Investors in the Cayman Islands.** No invitation, whether directly or indirectly, may be made to the public in the Cayman Islands to subscribe for our securities.

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**Taiwan.** The securities have not been and will not be registered with the Financial Supervisory Commission of Taiwan pursuant to relevant securities laws and regulations and may not be sold, issued or offered within Taiwan through a public offering or in circumstances which constitutes an offer within the meaning of the Securities and Exchange Act of Taiwan that requires a registration or approval of the Financial Supervisory Commission of Taiwan. No person or entity in Taiwan has been authorized to offer, sell, give advice regarding or otherwise intermediate the offering and sale of the securities in Taiwan.

**Notice to Prospective Investors in Hong Kong.** The contents of this prospectus have not been reviewed by any regulatory authority in Hong Kong. You are advised to exercise caution in relation to the offer. If you are in any doubt about any of the contents of this prospectus, you should obtain independent professional advice. Please note that (i) our shares may not be offered or sold in Hong Kong, by means of this prospectus or any document other than to “professional investors” within the meaning of Part I of Schedule 1 of the Securities and Futures Ordinance (Cap.571, Laws of Hong Kong) (SFO) and any rules made thereunder, or in other circumstances which do not result in the document being a “prospectus” within the meaning of the Companies Ordinance (Cap.32, Laws of Hong Kong) (CO) or which do not constitute an offer or invitation to the public for the purpose of the CO or the SFO, and (ii) no advertisement, invitation or document relating to our shares may be issued or may be in the possession of any person for the purpose of issue (in each case whether in Hong Kong or elsewhere) which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to the shares which are or are intended to be disposed of only to persons outside Hong Kong or only to “professional investors” within the meaning of the SFO and any rules made thereunder.

**Notice to Prospective Investors in the People’s Republic of China** This prospectus may not be circulated or distributed in the PRC and the shares may not be offered or sold, and will not offer or sell to any person for re-offering or resale directly or indirectly to any resident of the PRC except pursuant to applicable laws, rules and regulations of the PRC. For the purpose of this paragraph only, the PRC does not include Taiwan and the special administrative regions of Hong Kong and Macau.

## LEGAL MATTERS

McGuireWoods LLP, Charlotte, North Carolina, will pass upon the validity of the securities we are offering by this prospectus. The placement agents are being represented in connection with this offering by Ellenoff Grossman & Schole LLP.

## EXPERTS

The consolidated financial statements of Avenue Therapeutics, Inc. as of December 31, 2022 and for the year ended December 31, 2022, have been incorporated by reference herein and in the registration statement in reliance on the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in auditing and accounting. The audit report covering the December 31, 2022 consolidated financial statements contains an explanatory paragraph that states the Company has incurred substantial operating losses since its inception and expects to continue to incur significant operating losses for the foreseeable future that raise substantial doubt about the Company’s ability to continue as a going concern. The consolidated financial statements do not include any adjustments that might result from the outcome of that uncertainty.

The financial statements of Avenue Therapeutics, Inc. as of December 31, 2021 and for the year ended December 31, 2021 incorporated by reference in this prospectus and in the registration statement have been so incorporated in reliance on the report of BDO USA, LLP (n/k/a BDO USA, P.C.), an independent registered public accounting firm, incorporated herein by reference, given on the authority of said firm as experts in auditing and accounting. The report on the financial statements contains an explanatory paragraph regarding the Company’s ability to continue as a going concern.

The financial statements of Baergic Bio, Inc. as of December 31, 2021 and 2020 and for each of the years in the two-year period ended December 31, 2021, have been incorporated by reference herein and in the registration statement in reliance on the report of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in auditing and accounting. The audit report covering the December 31, 2021 financial statements contains an emphasis of matter paragraph that states that the Company’s recurring losses from operations raise substantial doubt about the entity’s ability to continue as a going concern. The financial statements do not include any adjustments that might result from the outcome of that uncertainty.

## WHERE YOU CAN FIND MORE INFORMATION

We file reports and proxy statements with the SEC. These filings include our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and proxy statements on Schedule 14A, as well as any amendments to those reports and proxy statements, which are available free of charge through our website as soon as reasonably practicable after we file them with, or furnish them to, the SEC. Our Internet website address is [www.avenuetx.com](http://www.avenuetx.com). Our website and the information contained on, or that can be accessed through, the website will not be deemed to be incorporated by reference in, and are not considered part of, this prospectus. You should not rely on any such information in making your decision whether to purchase our securities. The SEC also maintains a website at [www.sec.gov](http://www.sec.gov) that contains reports, proxy and information statements and other information regarding us and other issuers that file electronically with the SEC.

We have filed with the SEC a registration statement on Form S-1 under the Securities Act relating to the securities being offered by this prospectus. This prospectus, which constitutes part of that registration statement, does not contain all of the information set forth in the registration statement or the exhibits and schedules which are part of the registration statement. For further information about us and the securities offered, see the registration statement and the exhibits and schedules thereto. Statements contained in this prospectus regarding the contents of any contract or any other document to which reference is made are not necessarily complete, and, in each instance where a copy of a contract or other document has been filed as an exhibit to the registration statement, reference is made to the copy so filed, each of those statements being qualified in all respects by the reference.

## INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” into this prospectus the information we file with the SEC in other documents, which means that we can disclose important information to you by referring you to those documents instead of having to repeat the information in this prospectus. The information incorporated by reference is considered to be part of this prospectus, and later information that we file with the SEC will automatically update and supersede such information. We incorporate by reference the documents listed below and any future information filed (rather than furnished) with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act between the date of this prospectus and the date all securities to which this prospectus relates have been sold or the offering is otherwise terminated and also between the date of the initial registration statement and prior to effectiveness of the registration statement, provided, however, that we are not incorporating any information furnished under Item 2.02 or Item 7.01 of any Current Report on Form 8-K:

• [our Annual Report on Form 10-K for the year ended December 31, 2022, filed with the SEC on March 31, 2023;](#)

- the information specifically incorporated by reference into our [Annual Report on Form 10-K for the year ended December 31, 2022](#) from our [Definitive Proxy Statement on Schedule 14A, filed with the SEC on April 28, 2023](#);
- our Quarterly Reports on Form 10-Q for the quarter ended March 31, 2023, filed with the SEC on [May 12, 2023](#) and for the quarter ended June 30, 2022, filed with the SEC on [August 11, 2023](#); and
- our Current Reports on Form 8-K and Form 8-K/A filed with the SEC on [January 25, 2023](#), [February 1, 2023](#), [February 3, 2023](#), [February 10, 2023](#), [March 2, 2023](#), [March 8, 2023](#), [March 30, 2023](#), [April 17, 2023](#), [May 12, 2023](#), [May 22, 2023](#), [June 26, 2023](#), [July 5, 2023](#), [July 21, 2023](#), [August 10, 2023](#), [September 8, 2023](#), [September 27, 2023](#) and [September 28, 2023](#).

We will furnish without charge to you a copy of any or all of the documents incorporated by reference, including exhibits to these documents, upon written or oral request. Direct your written request to: Corporate Secretary, Avenue Therapeutics, Inc., 1111 Kane Concourse, Suite 301, Bay Harbor Islands, Florida 33154, or (781) 652-4500.

A statement contained in a document incorporated by reference into this prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus, any prospectus supplement or in any other subsequently filed document which is also incorporated in this prospectus modifies or replaces such statement. Any statements so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.



Up to 20,338,983 Units, Each Consisting of (A) One Share of Common Stock, (B) One Series A Warrant to Purchase One Share of Common Stock and (C) One Series B Warrant to Purchase One Share of Common Stock

or

Up to 20,338,983 Pre-Funded Units, Each Consisting of (A) One Pre-funded Warrant to Purchase One Share of Common Stock, (B) One Series A Warrant to Purchase One Share of Common Stock and (C) One Series B Warrant to Purchase One Share of Common Stock

Up to 20,338,983 Shares of Common Stock Underlying the Series A Warrants  
 Up to 20,338,983 Shares of Common Stock Underlying the Series B Warrants  
 Up to 20,338,983 Shares of Common Stock Underlying the Pre-funded Warrants

PROSPECTUS

, 2023

Placement Agents

**Maxim Group LLC**

**Lake Street**

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

**Item 13. Other Expenses of Issuance and Distribution**

The following table indicates the expenses to be incurred in connection with the offering described in this registration statement, other than placement agent fees, all of which will be paid by us. All amounts are estimates except the SEC registration fee and the FINRA filing fee.

	<b>Amount</b>
SEC registration fee	\$ 4,416.00
FINRA filing fee	\$ 5,900.00
Accounting fees and expenses	\$ 200,000.00
Legal fees and expenses	\$ 110,000.00
Miscellaneous fees and expenses	\$ 0.00
Placement agents' reimbursable expenses	\$ 25,000.00
Total expenses	\$ 345,316.00

**Item 14. Indemnification of Directors and Officers**

Under the General Corporation Law of the State of Delaware ("DGCL"), a corporation may include provisions in its certificate of incorporation that will relieve its directors of monetary liability for breaches of their fiduciary duty to the corporation, except under certain circumstances, including a breach of the director's duty of loyalty, acts or omissions of the director not in good faith or which involve intentional misconduct or a knowing violation of law, the approval of an improper payment of a dividend or an improper purchase by the corporation of stock or any transaction from which the director derived an improper personal benefit. The Company's Amended and Restated Certificate of Incorporation eliminates the personal liability of directors to the Company or its stockholders for monetary damages for breach of fiduciary duty as a director with certain limited exceptions set forth in the DGCL.

Section 145 of the DGCL grants to corporations the power to indemnify each officer and director against liabilities and expenses incurred by reason of the fact that he or she is or was an officer or director of the corporation if he or she acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful. The Company's Amended and Restated



Certificate of Incorporation and By-Laws provide for indemnification of each officer and director of the Company to the fullest extent permitted by the DGCL. Section 145 of the DGCL also empowers corporations to purchase and maintain insurance on behalf of any person who is or was an officer or director of the corporation against liability asserted against or incurred by him in any such capacity, whether or not the corporation would have the power to indemnify such officer or director against such liability under the provisions of Section 145 of the DGCL.

**Item 15. Recent Sales of Unregistered Securities.**

On September 8, 2023, we entered into an unwritten agreement with Fortress Biotech, Inc., the holder of a majority of the voting power of the Company’s capital stock, and Dr. Lindsay A. Rosenwald, a director on the board of directors of the Company (Dr. Rosenwald and Fortress Biotech, Inc., together, the “Investors”), pursuant to which we agreed to issue and sell 767,085 shares (the “Shares”) of Common Stock of the Company, for an aggregate purchase price of approximately \$550,000 in a private placement transaction (the “Private Placement”). The Shares were offered and sold in reliance on the exemption from registration provided by Section 4(a)(2) of the Securities Act. The Shares were purchased by the Investors at a price per share of \$0.717, which was the “consolidated closing bid price” of the Common Stock on the Nasdaq Capital Market as of September 7, 2023, in compliance with Nasdaq Listing Rule 5365(c).

The gross proceeds to the Company from the Private Placement, before deducting estimated offering expenses payable by the Company, were approximately \$550,000. We did not incur any underwriting or placement agent fees associated with the Private Placement. We intend to use the net proceeds from the Private Placement for working capital and other general corporate purposes.

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**Item 16. Exhibits and Financial Statement Schedules**

Exhibit No.	Description	Incorporated by Reference			Exhibit No.	Filed herewith
		Form	File Number	Date		
<a href="#">1.1</a>	<a href="#">Underwriting Agreement, dated October 6, 2022, by and between Avenue Therapeutics, Inc. and Aegis Capital Corp.</a>	<a href="#">8-K</a>	<a href="#">001-38114</a>	<a href="#">October 12, 2022</a>	<a href="#">1.1</a>	
<a href="#">3.1</a>	<a href="#">Third Amended and Restated Certificate of Incorporation of Avenue Therapeutics, Inc.</a>	<a href="#">8-K</a>	<a href="#">001-38114</a>	<a href="#">June 27, 2017</a>	<a href="#">3.1</a>	
<a href="#">3.2</a>	<a href="#">Certificate of Amendment of the Third Amended and Restated Certificate of Incorporation of Avenue Therapeutics, Inc.</a>	<a href="#">10-Q</a>	<a href="#">001-38114</a>	<a href="#">August 14, 2018</a>	<a href="#">3.1</a>	
<a href="#">3.3</a>	<a href="#">Certificate of Amendment of the Third Amended and Restated Certificate of Incorporation of Avenue Therapeutics, Inc.</a>	<a href="#">8-K</a>	<a href="#">001-38114</a>	<a href="#">September 22, 2022</a>	<a href="#">3.1</a>	
<a href="#">3.4</a>	<a href="#">Certificate of Amendment of the Third Amended and Restated Certificate of Incorporation of Avenue Therapeutics, Inc.</a>	<a href="#">8-K</a>	<a href="#">001-38114</a>	<a href="#">February 3, 2023</a>	<a href="#">3.1</a>	
<a href="#">3.5</a>	<a href="#">Amended and Restated Bylaws of Avenue Therapeutics, Inc.</a>	<a href="#">8-K</a>	<a href="#">000-38114</a>	<a href="#">February 11, 2019</a>	<a href="#">3.1</a>	
<a href="#">3.6</a>	<a href="#">Second Amended and Restated Bylaws of Avenue Therapeutics, Inc.</a>	<a href="#">8-K</a>	<a href="#">000-38114</a>	<a href="#">February 10, 2023</a>	<a href="#">3.1</a>	
<a href="#">4.1</a>	<a href="#">Specimen certificate evidencing shares of Common Stock</a>	<a href="#">10-12G</a>	<a href="#">000-55556</a>	<a href="#">January 12, 2017</a>	<a href="#">4.1</a>	
<a href="#">4.2</a>	<a href="#">Form of Warrant (2017)</a>	<a href="#">10-12G</a>	<a href="#">000-55556</a>	<a href="#">January 12, 2017</a>	<a href="#">4.2</a>	
<a href="#">4.3</a>	<a href="#">Form of Warrant (October 2022)</a>	<a href="#">8-K</a>	<a href="#">001-38114</a>	<a href="#">October 12, 2022</a>	<a href="#">4.1</a>	
<a href="#">4.4</a>	<a href="#">Form of Pre-funded Warrant (October 2022)</a>	<a href="#">8-K</a>	<a href="#">001-38114</a>	<a href="#">October 12, 2022</a>	<a href="#">4.2</a>	
<a href="#">4.5</a>	<a href="#">Form of Pre-funded Warrant (Registered Offering) (January 2023)</a>	<a href="#">8-K</a>	<a href="#">001-38114</a>	<a href="#">February 1, 2023</a>	<a href="#">10.3</a>	
<a href="#">4.6</a>	<a href="#">Form of PIPE Warrant (PIPE) (January 2023)</a>	<a href="#">8-K</a>	<a href="#">001-38114</a>	<a href="#">February 1, 2023</a>	<a href="#">10.4</a>	
<a href="#">4.7</a>	<a href="#">Warrant Agent Agreement, dated October 6, 2022, by and between Avenue Therapeutics, Inc. and VStock Transfer, LLC</a>	<a href="#">8-K</a>	<a href="#">001-38114</a>	<a href="#">October 12, 2022</a>	<a href="#">4.3</a>	
<a href="#">4.8</a>	<a href="#">Form of Warrant</a>					<a href="#">X</a>
<a href="#">4.9</a>	<a href="#">Form of Pre-funded Warrant*</a>					<a href="#">X</a>
<a href="#">4.10</a>	<a href="#">Form of Warrant Agent Agreement</a>					<a href="#">X</a>
<a href="#">5.1</a>	<a href="#">Opinion of McGuireWoods LLP</a>					<a href="#">X</a>
<a href="#">10.1</a>	<a href="#">Asset Transfer and License Agreement between Fortress Biotech, Inc. and Revogenex Ireland Limited dated February 17, 2015**</a>	<a href="#">10-12G/A</a>	<a href="#">000-55556</a>	<a href="#">March 13, 2017</a>	<a href="#">10.1</a>	
<a href="#">10.2</a>	<a href="#">First Amendment to Asset Transfer and License Agreement between Fortress Biotech, Inc. and Revogenex Ireland Limited dated June 23, 2016</a>	<a href="#">10-12G/A</a>	<a href="#">000-55556</a>	<a href="#">March 13, 2017</a>	<a href="#">10.11</a>	
<a href="#">10.3</a>	<a href="#">Second Amendment to Asset Transfer and License Agreement between Fortress Biotech, Inc. and Revogenex Ireland Limited dated May 4, 2017</a>	<a href="#">S-1/A</a>	<a href="#">333-217552</a>	<a href="#">May 22, 2017</a>	<a href="#">10.3</a>	
<a href="#">10.4</a>	<a href="#">Amended and Restated Founders Agreement between Fortress Biotech, Inc. and Avenue Therapeutics, Inc. dated September 13, 2016</a>	<a href="#">10-12G</a>	<a href="#">000-55556</a>	<a href="#">January 12, 2017</a>	<a href="#">10.2</a>	

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<a href="#">10.5</a>	<a href="#">Management Services Agreement between Fortress Biotech, Inc. and Avenue Therapeutics, Inc. effective as of February 17, 2015</a>	<a href="#">10-12G</a>	<a href="#">000-55556</a>	<a href="#">January 12, 2017</a>	<a href="#">10.5</a>	
<a href="#">10.6</a>	<a href="#">Avenue Therapeutics, Inc. 2015 Incentive Plan</a>	<a href="#">10-12G</a>	<a href="#">000-55556</a>	<a href="#">January 12, 2017</a>	<a href="#">10.7</a>	
<a href="#">10.7</a>	<a href="#">Stock Contribution Agreement between Avenue Therapeutics, Inc. and Fortress Biotech, Inc., dated May 11, 2022</a>	<a href="#">10-Q</a>	<a href="#">001-38114</a>	<a href="#">August 15, 2022</a>	<a href="#">10.1</a>	
<a href="#">10.8</a>	<a href="#">Form of Securities Purchase Agreement (Registered Offering), dated January 27, 2023, by and among Avenue Therapeutics, Inc. and the purchaser party thereto</a>	<a href="#">8-K</a>	<a href="#">001-38114</a>	<a href="#">February 1, 2023</a>	<a href="#">10.1</a>	
<a href="#">10.9</a>	<a href="#">Form of Securities Purchase Agreement (PIPE), dated January 27, 2023, by and among Avenue Therapeutics, Inc. and the purchaser party thereto</a>	<a href="#">8-K</a>	<a href="#">001-38114</a>	<a href="#">February 1, 2023</a>	<a href="#">10.2</a>	
<a href="#">10.10</a>	<a href="#">Form of Registration Rights Agreement, dated January 27, 2023, by and among Avenue Therapeutics, Inc. and the purchaser party thereto</a>	<a href="#">8-K</a>	<a href="#">001-38114</a>	<a href="#">February 1, 2023</a>	<a href="#">10.5</a>	
<a href="#">10.11</a>	<a href="#">Placement Agent Agreement entered into by and between Avenue Therapeutics, Inc. and Aegis Capital Corp., dated January 27, 2023</a>	<a href="#">8-K</a>	<a href="#">001-38114</a>	<a href="#">February 1, 2023</a>	<a href="#">10.7</a>	
<a href="#">10.12</a>	<a href="#">License Agreement entered into by and between AnnJi Pharmaceutical Co. Ltd. and Avenue Therapeutics, Inc., dated February 28, 2023</a>	<a href="#">10-Q</a>	<a href="#">001-38114</a>	<a href="#">May 12, 2023</a>	<a href="#">10.9</a>	
<a href="#">10.13</a>	<a href="#">Registration Rights Agreement, dated as of February 28, 2023, by and among Avenue Therapeutics, Inc. and AnnJi Pharmaceutical Co. Ltd.</a>	<a href="#">10-Q</a>	<a href="#">001-38114</a>	<a href="#">May 12, 2023</a>	<a href="#">10.10</a>	

<a href="#">10.14</a>	<a href="#">Form Avenue Therapeutics, Inc. Stock Option Plan</a>	<a href="#">8-K</a>	<a href="#">001-38114</a>	<a href="#">July 5, 2023</a>	<a href="#">10.1</a>	
<a href="#">10.15</a>	<a href="#">Registration Rights Letter Agreement, dated as of September 8, 2023, by and among Avenue Therapeutics, Inc. and the purchaser parties thereto</a>	<a href="#">8-K</a>	<a href="#">001-38114</a>	<a href="#">September 8, 2023</a>	<a href="#">10.1</a>	
<a href="#">10.16</a>	<a href="#">Form of Placement Agency Agreement</a>					<a href="#">X</a>
<a href="#">10.17</a>	<a href="#">Form of Securities Purchase Agreement</a>					<a href="#">X</a>
<a href="#">21.1</a>	<a href="#">Subsidiaries of Avenue Therapeutics, Inc.</a>	<a href="#">10-K</a>	<a href="#">001-38114</a>	<a href="#">March 31, 2023</a>	<a href="#">21.1</a>	
<a href="#">23.1</a>	<a href="#">Consent of Independent Registered Public Accounting Firm, KPMG LLP as to Avenue Therapeutics, Inc., for year ended December 31, 2022</a>					<a href="#">X</a>
<a href="#">23.2</a>	<a href="#">Consent of Independent Registered Public Accounting Firm, BDO USA, P.C. as to Avenue Therapeutics, Inc., for year ended December 31, 2021</a>					<a href="#">X</a>
<a href="#">23.3</a>	<a href="#">Consent of Independent Registered Public Accounting Firm, KPMG LLP, as to Baergic Bio, Inc.</a>					<a href="#">X</a>
<a href="#">23.4</a>	<a href="#">Consent of McGuireWoods LLP (included in Exhibit 5.1)</a>					<a href="#">X</a>
<a href="#">24.1</a>	<a href="#">Power of Attorney*</a>					<a href="#">X</a>
<a href="#">107</a>	<a href="#">Filing Fee Table</a>					<a href="#">X</a>

\* Previously filed.

\*\* Subject to a request for confidential treatment.

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**Item 17. Undertakings.**

The undersigned registrant hereby undertakes:

- A. To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
- (i) To include any prospectus required by section 10(a)(3) of the Securities Act;
  - (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent not more than 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.
  - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;
- Provided, however, that Paragraphs (i), (ii), and (iii) of this section do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in this registration statement,
- B. That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- C. To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- D. That, for the purpose of determining liability under the Securities Act to any purchaser, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.
- E. The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in this registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

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- F. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

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Pursuant to the requirements of the Securities Act, the Registrant has duly caused this Amendment No. 2 to Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in New York, New York, on October 23, 2023.

**Avenue Therapeutics, Inc.**

By: /s/ Alexandra MacLean, M.D.

Name: Alexandra MacLean, M.D.

Title: Chief Executive Officer

Pursuant to the requirements of the Securities Act, this Amendment No. 2 to Registration Statement has been signed by the following persons in the capacities and on the dated indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Alexandra MacLean, M.D.</u> Alexandra MacLean, M.D.	Chief Executive Officer <i>(Principal Executive Officer)</i>	October 23, 2023
<u>*</u> David Jin	Chief Operating Officer and Interim Chief Financial Officer <i>(Principal Financial Officer, Principal Accounting Officer)</i>	October 23, 2023
<u>*</u> Jay Kranzler, M.D., Ph.D.	Chairman of the Board	October 23, 2023
<u>*</u> Faith Charles	Director	October 23, 2023
<u>*</u> Neil Herskowitz	Director	October 23, 2023
<u>*</u> Curtis Oltmans	Director	October 23, 2023
<u>*</u> Lindsay A. Rosenwald, M.D.	Director	October 23, 2023

By: /s/ Alexandra MacLean, M.D.

Alexandra MacLean, M.D.

*Attorney-in-Fact*

## [SERIES A/SERIES B] COMMON STOCK PURCHASE WARRANT

AVENUE THERAPEUTICS, INC.

Warrant Shares: [•]

Issuance Date: [•], 2023

Initial Exercise Date: [•], 2023

THIS [SERIES A/SERIES B] COMMON STOCK PURCHASE WARRANT (the “**Warrant**”) certifies that Cede & Co. or its registered assigns (the “**Holder**”) is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after the date hereof (the “**Initial Exercise Date**”) and on or prior to 5:00 p.m. (New York City time) on [•]<sup>1</sup> (the “**Termination Date**”) but not thereafter, to subscribe for and purchase from Avenue Therapeutics, Inc., a Delaware corporation (the “**Company**”), up to [•] shares of Common Stock (as subject to adjustment hereunder, the “**Warrant Shares**”). The purchase price of one share of Common Stock under this Warrant shall be equal to the Exercise Price, as defined in Section 2(b). This Warrant shall initially be issued and maintained in the form of a security held in book-entry form and the Depository Trust Company or its nominee (“**DTC**”) shall initially be the sole registered holder of this Warrant, subject to a Holder’s right to elect to receive a Warrant in certificated form pursuant to the terms of the Warrant Agent Agreement, in which case this sentence shall not apply.

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

“**Affiliate**” means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person, as such terms are used in and construed under Rule 405 under the Securities Act.

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

“**Board of Directors**” means the board of directors of the Company.

“**Business Day**” means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed; provided, however, for clarification, commercial banks shall not be deemed to be authorized or required by law to remain closed due to “stay at home”, “shelter-in-place”, “non-essential employee” or any other similar orders or restrictions or the closure of any physical branch locations at the direction of any governmental authority so long as the electronic funds transfer systems (including for wire transfers) of commercial banks in The City of New York generally are open for use by customers on such day.

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

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<sup>1</sup> Series A Warrant: Insert the date that is the five (5) year anniversary of the Issue Date; Series B Warrant: Insert the date that is the eighteen (18) month anniversary of the Issue Date.

“**Common Stock**” means the common stock, par value \$0.0001 per share, of the Company, and any other class of securities into which such securities may hereafter be reclassified or changed.

“**Common Stock Equivalents**” means any securities of the Company which would entitle the holder thereof to acquire at any time shares of Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for shares of Common Stock, or otherwise entitles the holder thereof to receive, shares of Common Stock.

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

“**Person**” means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

“**Registration Statement**” means the Company’s registration statement on Form S-1 (File No. 333-274562), as amended.

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

“**Trading Day**” means a day on which the shares of Common Stock are traded on a Trading Market.

“**Trading Market**” means any of the following markets or exchanges on which the shares of Common Stock are listed or quoted for trading on the date in question: the NYSE American, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, the New York Stock Exchange, OTCQB or OTCQX (or any successors to any of the foregoing).

“**Transfer Agent**” means VStock Transfer, LLC, and any successor transfer agent of the Company.

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

determined by an independent appraiser selected in good faith by the holders of a majority in interest of the Warrants then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

“**Warrant Agent Agreement**” means that certain warrant agent agreement, dated on or about the Initial Exercise Date, between the Company and the Warrant Agent.

“**Warrant Agent**” means the Transfer Agent and any successor warrant agent of the Company.

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“**Warrants**” means this Warrant and other common stock purchase warrants issued to investors by the Company pursuant to the Registration Statement.

## Section 2. Exercise.

a) Exercise of Warrant. Subject to the provisions of Section 2(e) herein, exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date, by delivery to the Company of a duly executed PDF copy submitted by e-mail (or e-mail attachment) of the Notice of Exercise in the form annexed hereto as Annex A (the “**Notice of Exercise**”), and, unless the cashless exercise procedure specified in Section 2(c) below is specified in the applicable Notice of Exercise, delivery within the Standard Settlement Period of the aggregate Exercise Price of the Warrant Shares specified in the applicable Notice of Exercise as specified in this Section 2(a). Within the earlier of (i) two (2) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period (as defined in Section 2(d)(i) herein) following the date of the Notice of Exercise as aforesaid, the Holder shall deliver the aggregate Exercise Price for the Warrant Shares specified in the applicable Notice of Exercise by wire transfer of immediately available funds or cashier’s check drawn on a United States bank unless the cashless exercise procedure specified in Section 2(c) below is specified in the applicable Notice of Exercise. No ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise be required. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days of the date on which the final Notice of Exercise is delivered to the Company. Partial exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Holder and the Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise within one (1) Trading Day of receipt of such notice. **The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.**

Notwithstanding the foregoing in this Section 2(a), a holder whose interest in this Warrant is a beneficial interest in certificate(s) representing this Warrant held in book-entry form through DTC (or another established clearing corporation performing similar functions) shall effect exercises made pursuant to this Section 2(a) by delivering to DTC (or such other clearing corporation, as applicable) the appropriate instruction form for exercise, complying with the procedures to effect exercise that are required by DTC (or such other clearing corporation, as applicable), subject to a Holder’s right to elect to receive a Warrant in certificated form pursuant to the terms of the Warrant Agent Agreement, in which case this sentence shall not apply.

b) Exercise Price. The exercise price per share of Common Stock under this Warrant shall be  $[\$ \cdot ]^2$ , subject to adjustment hereunder (the “**Exercise Price**”).

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<sup>2</sup> Note: This will be 100% of the public offering price per unit.

c) Cashless Exercise. The Company shall use commercially reasonable efforts to cause the Registration Statement to remain effective with a current prospectus and to maintain the registration of the shares of Common Stock and of the Warrants under the Exchange Act. If at any time after the Initial Exercise Date there is no effective registration statement registering, or no current prospectus available for, the issuance of the Warrant Shares to the Holder, then this Warrant may also be exercised, in whole or in part, at such time by means of a “cashless exercise” in which the Holder shall be entitled to receive a number of Warrant Shares equal to the quotient obtained by dividing [(A-B) (X)] by (A), where:

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

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

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

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

## d) Mechanics of Exercise.

i. Delivery of Warrant Shares Upon Exercise. The Company shall cause the Warrant Shares purchased hereunder to be transmitted by the Transfer Agent to the Holder by crediting the account of the Holder’s or its designee’s balance account with The Depository Trust Company through its Deposit or Withdrawal at Custodian system (“**DWAC**”) if the Company is then a participant in such system and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares to or resale of the Warrant Shares by Holder or (B) this Warrant is being exercised via cashless exercise, and otherwise by physical delivery of a certificate, registered in the Company’s share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the address specified by the Holder in the

Notice of Exercise by the date that is the earliest of (i) two (2) Trading Days after the delivery to the Company of the Notice of Exercise and (ii) the number of Trading Days comprising the Standard Settlement Period after the delivery to the Company of the Notice of Exercise (such date, the “**Warrant Share Delivery Date**”). Upon delivery of the Notice of Exercise, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date of delivery of the Warrant Shares, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received within the earlier of (i) two (2) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period following delivery of the Notice of Exercise. If the Company fails for any reason to deliver to the Holder the Warrant Shares subject to a Notice of Exercise by the Warrant Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares subject to such exercise (based on the VWAP of the shares of Common Stock on the date of the applicable Notice of Exercise), \$10 per Trading Day (increasing to \$20 per Trading Day on the third Trading Day after the Warrant Share Delivery Date) for each Trading Day after such Warrant Share Delivery Date until such Warrant Shares are delivered or Holder rescinds such exercise. The Company agrees to maintain a transfer agent that is a participant in the FAST program so long as this Warrant remains outstanding and exercisable. As used herein, “**Standard Settlement Period**” means the standard settlement period, expressed in a number of Trading Days, on the Company’s primary Trading Market with respect to the shares of Common Stock as in effect on the date of delivery of the Notice of Exercise.

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

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

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

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

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

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

e) Holder’s Exercise Limitations. The Company shall not effect any exercise of this Warrant, and a Holder shall not have the right to exercise any portion of this Warrant, pursuant to Section 2 or otherwise, to the extent that after giving effect to such issuance after exercise as set forth on the applicable Notice of Exercise, the Holder (together with the Holder’s Affiliates, and any other Persons acting as a group together with the Holder or any of the Holder’s Affiliates (such Persons, “**Attribution Parties**”)), would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, non-exercised portion of this Warrant beneficially owned by the Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or non-converted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 2(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder, it being acknowledged by the Holder that the Company is not representing to

the Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and the Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 2(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the submission of a Notice of Exercise shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 2(e), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company's most recent periodic or annual report filed with the Commission, as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Company shall within one Trading Day confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "**Beneficial Ownership Limitation**" shall be 4.99% (or, upon election by a Holder prior to the issuance of any Warrants, 9.99%) of the number of shares of Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of this Warrant. The Holder, upon notice to the Company, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 2(e), provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of this Warrant held by the Holder and the provisions of this Section 2(e) shall continue to apply. Any increase in the Beneficial Ownership Limitation will not be effective until the 61<sup>st</sup> day after such notice is delivered to the Company. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 2(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Warrant.

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### Section 3. Certain Adjustments.

a) **Stock Dividends and Splits.** If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions on its shares of Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Company upon exercise of this Warrant), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues by reclassification of shares of Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the aggregate Exercise Price of this Warrant shall remain unchanged. Any adjustment made pursuant to this Section 3(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

b) **Subsequent Rights Offerings.** In addition to any adjustments pursuant to Section 3(a) above, if at any time the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to all (or substantially all) of the record holders of any class of shares of Common Stock (the "**Purchase Rights**"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, that, to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

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

d) **Fundamental Transaction.** If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person, (ii) the Company, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (approved or recommended by the Board of Directors or a committee thereof) is completed pursuant to which holders of shares of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the voting power of the capital stock of the Company, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of shares of Common Stock or any compulsory share exchange pursuant to which the shares of Common Stock are effectively converted into or exchanged for other securities, cash or property, or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off, merger or scheme of arrangement) with another Person or group of Persons whereby such other Person or group, other than Fortress Biotech, Inc., acquires more than 50% or more of the voting power of the capital stock in the Company (each a "**Fundamental Transaction**"), then, upon any subsequent exercise of this Warrant, the Holder shall have the right to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction (without regard to any limitation in Section 2(e) on the

exercise of this Warrant), the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (together, the “**Alternate Consideration**”) receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction (without regard to any limitation in Section 2(e) on the exercise of this Warrant). For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of shares of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any exercise of this Warrant following such Fundamental Transaction.

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Notwithstanding anything to the contrary, in the event of a Fundamental Transaction, the Company or any Successor Entity (as defined below) shall, at the Holder’s option, exercisable at any time concurrently with, or within 30 days after, the consummation of the Fundamental Transaction (or, if later, the date of the public announcement of the applicable Fundamental Transaction), purchase this Warrant from the Holder by paying to the Holder an amount of cash equal to the Black Scholes Value (as defined below) of the remaining unexercised portion of this Warrant on the date of the consummation of such Fundamental Transaction; provided, however, that, if the Fundamental Transaction is not within the Company’s control, including not approved by the Company’s Board of Directors, the Holder shall only be entitled to receive from the Company or any Successor Entity the same type or form of consideration (and in the same proportion), at the Black Scholes Value of the unexercised portion of this Warrant, that is being offered and paid to the holders of Common Stock of the Company in connection with the Fundamental Transaction, whether that consideration be in the form of cash, stock or any combination thereof, or whether the holders of Common Stock are given the choice to receive from among alternative forms of consideration in connection with the Fundamental Transaction; provided, further, that if holders of Common Stock of the Company are not offered or paid any consideration in such Fundamental Transaction, such holders of Common Stock will be deemed to have received common stock of the Successor Entity (which Entity may be the Company following such Fundamental Transaction) in such Fundamental Transaction. “**Black Scholes Value**” means the value of this Warrant based on the Black-Scholes Option Pricing Model obtained from the “OV” function on Bloomberg determined as of the day of consummation of the applicable Fundamental Transaction for pricing purposes and reflecting (A) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the time between the date of the public announcement of the applicable contemplated Fundamental Transaction and the Termination Date, (B) an expected volatility equal to the 100 day volatility as obtained from the HVT function on Bloomberg (determined utilizing a 365 day annualization factor) as of the Trading Day immediately following the public announcement of the applicable contemplated Fundamental Transaction, (C) the underlying price per share used in such calculation shall be the highest VWAP during the period beginning on the Trading Day immediately preceding the public announcement of the applicable contemplated Fundamental Transaction (or the consummation of the applicable Fundamental Transaction, if earlier) and ending on the Trading Day of the Holder’s request pursuant to this Section 3(e) and (D) a remaining option time equal to the time between the date of the public announcement of the applicable contemplated Fundamental Transaction and the Termination Date and (E) a zero cost of borrow. The payment of the Black Scholes Value will be made by wire transfer of immediately available funds (or such other consideration) within the later of (i) five Business Days of the Holder’s election and (ii) the date of consummation of the Fundamental Transaction.

The Company shall cause any successor entity in a Fundamental Transaction in which the Company is not the survivor (the “**Successor Entity**”) to assume in writing all of the obligations of the Company under this Warrant in accordance with the provisions of this Section 3(e) pursuant to written agreements in form and substance reasonably satisfactory to the Warrant Agent and the holders of Warrants representing at least a majority of the shares of Common Stock underlying the Warrants then outstanding (the “**Required Holders**”) and approved by the Required Holders (without unreasonable delay) prior to such Fundamental Transaction and shall, at the option of the Holder, deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant which is exercisable for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the exercise price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall be added to the term “Company” under this Warrant (so that from and after the occurrence or consummation of such Fundamental Transaction, each and every provision of this Warrant referring to the “Company” shall refer instead to each of the Company and the Successor Entity or Successor Entities, jointly and severally), and the Successor Entity or Successor Entities, jointly and severally with the Company may exercise every right and power of the Company prior thereto and the Successor Entity or Successor Entities shall assume all of the obligations of the Company prior thereto under this Warrant with the same effect as if the Company and such Successor Entity or Successor Entities, jointly and severally, had been named as the Company herein. For the avoidance of doubt, the Holder shall be entitled to the benefits of the provisions of this Section 3(e) regardless of (i) whether the Company has sufficient authorized shares of Common Stock for the issuance of Warrant Shares and/or (ii) whether a Fundamental Transaction occurs prior to the Initial Exercise Date.

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e) Calculations. All calculations under this Section 3 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 3, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding treasury shares, if any) issued and outstanding.

f) Notice to Holder.

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

ii. Notice to Allow Exercise by Holder. If (A) the Company shall declare a dividend (or any other distribution in whatever form) on the shares of Common Stock, (B) the Company shall declare a special nonrecurring cash dividend on or a redemption of the shares of Common Stock, (C) the Company shall authorize the granting to all holders of the shares of Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Company shall be required in connection with any reclassification of the shares of Common Stock, any consolidation or merger to which the Company (or any of its subsidiaries) is a party, any sale or transfer of all or substantially all of its assets, or any compulsory share exchange whereby the shares of Common Stock are converted into other securities, cash or property, or (E) the Company shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered by facsimile or email to the Holder at its last facsimile number or email address as it shall appear upon the Warrant Register of the Company, at least 20 calendar days prior to the applicable record or effective date hereinafter specified, a notice (unless such information is filed with the Commission, in which case a notice shall not be required) stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the shares of Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the



date as of which it is expected that holders of the shares of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange; provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided in this Warrant constitutes, or contains, material, non-public information regarding the Company or any of the subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to exercise this Warrant during the period commencing on the date of such notice to the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

h) Voluntary Adjustment by Company. Subject to the rules and regulations of the Trading Market, the Company may at any time during the term of this Warrant, subject to the prior written consent of the Holder, reduce the then current Exercise Price to any amount and for any period of time deemed appropriate by the board of directors of the Company.

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#### Section 4. Transfer of Warrant.

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

b) New Warrants. If this Warrant is not held in global form through DTC (or any successor depository), this Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 4(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice. All Warrants issued on transfers or exchanges shall be dated the initial issuance date of this Warrant and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

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

#### Section 5. Miscellaneous.

a) No Rights as Stockholder until Exercise; No Settlement in Cash. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a stockholder of the Company prior to the exercise hereof as set forth in Section 2(d)(i), except as expressly set forth in Section 3. Without limiting any rights of a Holder to receive Warrant Shares on a “cashless exercise” pursuant to Section 2(c) or to receive cash payments pursuant to Section 2(d)(i) and Section 2(d)(iv) herein, including if the Company is for any reason unable to issue and deliver Warrant Shares upon exercise of this Warrant as required pursuant to the terms hereof, in no event shall the Company be required to net cash settle an exercise of this Warrant or cash settle in any other form.

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

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

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#### d) Authorized Shares.

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

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

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

e) Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Warrant 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 law thereof. Each party agrees that all legal proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Warrant (whether brought against a party hereto or their respective affiliates, directors, officers, shareholders, partners, members, employees or agents) shall be commenced exclusively in the state and federal courts sitting in the City of New York. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, Borough of Manhattan, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is improper or is an inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Warrant and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by law. If either party shall commence an action, suit or proceeding to enforce any provisions of this Warrant, the prevailing party in such action, suit or proceeding shall be reimbursed by the other party for their reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding. Notwithstanding the foregoing, nothing in this paragraph shall limit or restrict the federal district court in which a Holder may bring a claim under the U.S. federal securities laws.

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

g) Non-Waiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies. No provision of this Warrant shall be construed as a waiver by the Holder of any rights which the Holder may have under the U.S. federal securities laws and the rules and regulations of the Commission thereunder. Without limiting any other provision of this Warrant, if the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damages to the Holder, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

h) Notices. Any and all notices or other communications or deliveries to be provided by the Holders hereunder including, without limitation, any Notice of Exercise, shall be in writing and delivered personally, by e-mail, or sent by a nationally recognized overnight courier service, addressed to (A) the Company, at 2 Gansevoort Street, 9<sup>th</sup> Floor, New York, NY 10014, Attention: Chief Operating Officer, email address: djin@fortressbiotech.com, or such other email address or address as the Company may specify for such purposes by notice to the Holders; and (B) the Warrant Agent, at VStock Transfer, LLC, 18 Lafayette Pl., Woodmere, NY 11598, Attention: Transaction Processing Dept., email address: info@vstocktransfer.com. Any and all notices or other communications or deliveries to be provided by the Company hereunder shall be in writing and delivered personally, by e-mail, or sent by a nationally recognized overnight courier service addressed to each Holder at the e-mail address or address of such Holder appearing on the books of the Company. Any notice or other communication or deliveries hereunder shall be deemed given and effective on the earliest of (i) the time of transmission, if such notice or communication is delivered via e-mail at the e-mail address set forth in this Section prior to 5:30 p.m. (New York City time) on any date, (ii) the next Trading Day after the time of transmission, if such notice or communication is delivered via e-mail at the e-mail address set forth in this Section on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (iii) the second Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service, or (iv) upon actual receipt by the party to whom such notice is required to be given. To the extent that any notice provided hereunder constitutes, or contains, material, non-public information regarding the Company or any subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K.

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

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

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

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

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

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

o) Warrant Agent Agreement. If this Warrant is held in global form through DTC (or any successor depository), this Warrant is issued subject to the Warrant Agent Agreement. To the extent any provision of this Warrant conflicts with the express provisions of the Warrant Agent Agreement, the provisions of this Warrant shall govern and be controlling.

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(Signature Page Follows)

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

**AVENUE THERAPEUTICS, INC.**

By: \_\_\_\_\_  
Alexandra MacLean, M.D.  
Chief Executive Officer

**VSTOCK TRANSFER, LLC**

By: \_\_\_\_\_  
Yoel Goldfeder  
Chief Executive Officer

**ANNEX A**

**NOTICE OF EXERCISE**

TO: AVENUE THERAPEUTICS, INC.

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

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

in lawful money of the United States; or

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

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

\_\_\_\_\_

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

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

[SIGNATURE OF HOLDER]

Name of Investing Entity: \_\_\_\_\_  
*Signature of Authorized Signatory of Investing Entity:* \_\_\_\_\_  
Name of Authorized Signatory: \_\_\_\_\_  
Title of Authorized Signatory: \_\_\_\_\_  
Date: \_\_\_\_\_

**ANNEX B**

**ASSIGNMENT FORM**

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

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

Name: \_\_\_\_\_  
(Please Print)

Address: \_\_\_\_\_  
(Please Print)

Phone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

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

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

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

(Signature Guaranteed):

Date: \_\_\_\_\_, \_\_\_\_\_

*Signature to be guaranteed by an authorized officer of a chartered bank, trust company or medallion guaranteed by an investment dealer who is a member of a recognized stock exchange.*

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## Warrant Agent Agreement

This WARRANT AGENT AGREEMENT (this “**Warrant Agreement**”) dated as of [•], 2023 is by and between Avenue Therapeutics, Inc, a Delaware corporation (the “**Company**”), and VStock Transfer, LLC (the “**Warrant Agent**”).

**WHEREAS**, the Company is selling in a public offering up to (i) [•] units (the “**Units**”), with each Unit consisting of (x) one (1) share of common stock, par value \$0.0001 per share (“**Common Stock**”), (y) one (1) Series A warrant to purchase one share of Common Stock at an exercise price of \$[•] (each, a “**Series A Warrant**” and collectively, the “**Series A Warrants**”) and (z) one (1) Series B warrant to purchase one share of Common Stock at an exercise price of \$[•] (each, a “**Series B Warrant**” and collectively, the “**Series B Warrants**”); the Series A Warrants and the Series B Warrants, together, the “**Warrants**”), (ii) [•] pre-funded units (the “**Pre-funded Units**”), with each Pre-funded Unit consisting of (x) one (1) Series A Warrant, (y) one (1) Series B Warrant and (z) one (1) pre-funded warrant to purchase one (1) share of Common Stock at an exercise price of \$0.0001 per share of Common Stock (each, a “**Pre-funded Warrant**” and collectively, the “**Pre-funded Warrants**”);

**WHEREAS**, the Company has filed, with the Securities and Exchange Commission, a registration statement on Form S-1 (Registration No. 333-274562) (as the same may be amended from time to time, the “**Registration Statement**”), for the registration, under the Securities Act of 1933, as amended, of the offer and sale of the Units, Pre-funded Units, Common Stock, Warrants, Pre-funded Warrants, and Common Stock underlying Pre-funded Warrants and Warrants, and such Registration Statement was declared effective on [•], 2023;

**WHEREAS**, the Company desires the Warrant Agent to act on behalf of the Company, and the Warrant Agent is willing to so act, in accordance with the terms set forth in this Warrant Agreement in connection with the issuance, registration, transfer, exchange and exercise of the Warrants and the Pre-funded Warrants;

**WHEREAS**, the Company desires to provide for the provisions of the Warrants and the Pre-funded Warrants, the terms upon which they shall be issued and exercised, and the respective rights, limitation of rights, and immunities of the Company, the Warrant Agent, and the holders of the Warrants and the Pre-funded Warrants; and

**WHEREAS**, all acts and things have been done and performed which are necessary to make the Warrants and the Pre-funded Warrants the valid, binding and legal obligations of the Company, and to authorize the execution and delivery of this Warrant Agreement;

**NOW, THEREFORE**, in consideration of the mutual agreements herein contained, the parties hereto agree as follows:

1. Appointment of Warrant Agent. The Company hereby appoints the Warrant Agent to act as agent for the Company with respect to the Warrants and the Pre-funded Warrants, and the Warrant Agent hereby accepts such appointment and agrees to perform the same in accordance with the express terms and conditions set forth in this Warrant Agreement (and no implied terms or conditions).

2. Warrants.

2.1. Form of Warrants. The Series A Warrants, the Series B Warrants and the Pre-funded Warrants shall each be registered securities and shall be evidenced by a global warrant (each, a “**Global Warrant**”) in the forms of Exhibit A, Exhibit B and Exhibit C to this Warrant Agreement, which shall be deposited on behalf of the Company with a custodian for The Depository Trust Company (“**DTC**”) and registered in the name of Cede & Co., a nominee of DTC. The terms of the Global Warrants are incorporated herein by reference. If DTC subsequently ceases to make its book-entry settlement system available for the Series A Warrants, the Series B Warrants or the Pre-funded Warrants, the Company may instruct the Warrant Agent regarding making other arrangements for book-entry settlement. In the event that the Series A Warrants, the Series B Warrants or the Pre-funded Warrants are not eligible for, or it is no longer necessary to have such instruments available in, book-entry form, the Company may instruct the Warrant Agent to provide written instructions to DTC to deliver to the Warrant Agent for cancellation the applicable Global Warrant, and the Company shall instruct the Warrant Agent to deliver to DTC separate certificates evidencing Series A Warrants, Series B Warrants or Pre-funded Warrants (“**Definitive Certificates**”) and, together with the Global Warrants, “**Warrant Certificates**”) registered as requested through the DTC system.

2.2. Issuance and Registration of Warrants.

2.2.1. Warrant Register. The Warrant Agent shall maintain books (“**Warrant Register**”) for the registration of original issuance and the registration of transfer of the Warrants and the Pre-funded Warrants.

2.2.2. Issuance of Warrants. Upon the initial issuance of the Warrants and the Pre-funded Warrants, the Warrant Agent shall issue the Global Warrants and deliver the Warrants and the Pre-funded Warrants in the DTC book-entry settlement system in accordance with written instructions delivered to the Warrant Agent by the Company. Ownership of security entitlements in the Warrants and the Pre-funded Warrants shall be shown on, and the transfer of such ownership shall be effected through, records maintained (i) by DTC and (ii) by institutions that have accounts with DTC (each, a “**Participant**”).

2.2.3. Beneficial Owner; Holder. Prior to due presentment for registration of transfer of any Warrant or Pre-funded Warrant, the Company and the Warrant Agent may deem and treat the person in whose name that Warrant or Pre-funded Warrant shall be registered on the Warrant Register (the “**Holder**”) as the absolute owner of such security for purposes of any exercise thereof, and for all other purposes, and neither the Company nor the Warrant Agent shall be affected by any notice to the contrary; provided, that the rights of beneficial owners in a Warrant or Pre-funded Warrant evidenced by a Global Warrant shall be exercised by the Holder or a Participant through the DTC system. Notwithstanding the foregoing, nothing herein shall prevent the Company, the Warrant Agent or any agent of the Company or the Warrant Agent from giving effect to any written certification, proxy or other authorization furnished by DTC governing the exercise of the rights of a holder of a beneficial interest in any Warrant or Pre-funded Warrant.

2.2.4. Delivery of Warrant Certificate. A Holder has the right to elect at any time or from time to time a Warrant Exchange (as defined below) pursuant to a Warrant Certificate Request Notice (as defined below). Upon written notice by a Holder to the Warrant Agent for the exchange of some or all of such Holder's Global Warrants for a Warrant Certificate evidencing the same number of Series A Warrants, Series B Warrants or Pre-funded Warrants, which request shall be in the form attached hereto as Exhibit D (a “**Warrant Certificate Request Notice**”) and the deemed surrender upon delivery by the Holder of a number of Global Warrants for the same number of Series A Warrants, Series B Warrants or Pre-funded Warrants evidenced by a Warrant Certificate, a “**Warrant Exchange**”), the Warrant Agent shall promptly effect the Warrant Exchange and shall promptly issue and deliver to the Holder a Warrant Certificate for such number of Series A Warrants, Series B Warrants or Pre-funded Warrants in the name set forth in the Warrant Certificate Request Notice. Such Warrant Certificate shall be dated the date of issuance of the Warrant Certificate, shall include the initial exercise date of the Series A Warrants, Series B Warrants or Pre-funded Warrants, shall be executed by an authorized signatory of the Company and shall be reasonably acceptable in all respects to such Holder. In connection with a Warrant Exchange, the Company agrees to deliver, or to direct the Warrant Agent to deliver, the Warrant Certificate to the Holder within three (3) Business Days of the Warrant Certificate Request Notice pursuant to the delivery instructions in the Warrant Certificate Request Notice. The Company covenants and agrees that, upon the date of delivery of the Warrant Certificate Request Notice, the Holder shall be deemed to be the holder of the Warrant Certificate and, notwithstanding anything to the contrary set forth herein, the Warrant Certificate shall be deemed for all purposes to contain all of the terms and conditions of the Warrants or Pre-funded Warrants evidenced by such Warrant Certificate and the terms of this Agreement.

2.2.5. Execution. The Warrant Certificates shall be executed on behalf of the Company by any authorized officer of the Company (an “**Authorized Officer**”), which need not be the same authorized signatory for all of the Warrant Certificates, either manually or by facsimile signature. The Warrant Certificates shall be countersigned by an authorized signatory of the Warrant Agent, which need not be the same signatory for all of the Warrant Certificates, and no Warrant Certificate shall be valid for any purpose unless so countersigned. In case any Authorized Officer of the Company that signed any of the Warrant Certificates ceases to be an Authorized Officer of the Company before countersignature by the Warrant Agent and issuance and delivery by the Company, such Warrant Certificates, nevertheless, may be countersigned by the Warrant Agent, issued and delivered with the same force and effect as though the person who signed such Warrant Certificates had not ceased to be such officer of the Company; and any Warrant Certificate may be signed on behalf of the Company by any person who, at the actual date of the execution of such Warrant Certificate, shall be an Authorized Officer of the Company authorized to sign such Warrant Certificate, although at the date of the execution of this Warrant Agreement any such person was not such an Authorized Officer.

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2.2.6. Registration of Transfer. At any time at or prior to the Termination Date (as defined below), a transfer of any Series A Warrants, Series B Warrants or Pre-funded Warrants may be registered and any Warrant Certificate or Warrant Certificates may be split up, combined or exchanged for another Warrant Certificate or Warrant Certificates evidencing the same number of Series A Warrants, Series B Warrants or Pre-funded Warrants as the Warrant Certificate or Warrant Certificates surrendered. Any Holder desiring to register the transfer of Series A Warrants, Series B Warrants or Pre-funded Warrants or to split up, combine or exchange any Warrant Certificate shall make such request in writing delivered to the Warrant Agent, and shall surrender to the Warrant Agent the Warrant Certificate or Warrant Certificates evidencing the Series A Warrants, the Series B Warrants or the Pre-funded Warrants the transfer of which is to be registered or that is or are to be split up, combined or exchanged and, in the case of registration of transfer, shall provide a signature guarantee. Thereupon, the Warrant Agent shall countersign and deliver to the person entitled thereto a Warrant Certificate or Warrant Certificates, as the case may be, as so requested; provided, however that Series A Warrants, Series B Warrants and Pre-funded Warrants may not be combined in the same Warrant Certificate. The Company and the Warrant Agent may require payment, by the Holder requesting a registration of transfer of Series A Warrants, Series B Warrants or Pre-funded Warrants or a split-up, combination or exchange of a Warrant Certificate (but, for purposes of clarity, not upon the exercise of the Warrants and issuance of Warrant Shares to the Holder), of a sum sufficient to cover any tax or governmental charge that may be imposed in connection with such registration of transfer, split-up, combination or exchange, together with reimbursement to the Company and the Warrant Agent of all reasonable expenses incidental thereto.

2.2.7. Loss, Theft and Mutilation of Warrant Certificates. Upon receipt by the Company and the Warrant Agent of evidence reasonably satisfactory to them of the loss, theft, destruction or mutilation of a Warrant Certificate, and, in case of loss, theft or destruction, of indemnity or security in customary form and amount, and reimbursement to the Company and the Warrant Agent of all reasonable expenses incidental thereto, and upon surrender to the Warrant Agent and cancellation of the Warrant Certificate if mutilated, the Warrant Agent shall, on behalf of the Company, countersign and deliver a new Warrant Certificate of like tenor to the Holder in lieu of the Warrant Certificate so lost, stolen, destroyed or mutilated. The Warrant Agent may charge the Holder an administrative fee for processing the replacement of lost Warrant Certificates. The Warrant Agent may receive compensation from the surety companies or surety agents for administrative services provided to them.

2.2.8. Proxies. The Holder of a Warrant or Pre-funded Warrant may grant proxies or otherwise authorize any person, including the Participants and beneficial holders that may own interests through the Participants, to take any action that a Holder is entitled to take under this Agreement or the Warrants or Pre-funded Warrants; provided, however, that at all times that Warrants or Pre-funded Warrants are evidenced by a Global Warrant, exercise of those Warrants or Pre-funded Warrants shall be effected on their behalf by Participants through DTC in accordance with the procedures administered by DTC.

### 3. Terms and Exercise of Warrants.

3.1. Exercise Price. Each Warrant shall entitle the Holder, subject to the provisions of the applicable Warrant Certificate and of this Warrant Agreement, to purchase from the Company the number of shares of Common Stock stated therein, at the price of \$[\*] per share of Common Stock, subject to the subsequent adjustments provided in the Global Warrant. Each Pre-funded Warrant shall entitle the Holder, subject to the provisions of the applicable Warrant Certificate and of this Warrant Agreement to purchase from the Company the number of shares of Common Stock stated therein, at the price of \$0.0001 per share of Common Stock, subject to the subsequent adjustments provided in the Global Warrant. The term “**Exercise Price**” as used in this Warrant Agreement refers to the price per share at which shares of Common Stock may be purchased at the time a Warrant or Pre-funded Warrant is exercised.

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3.2. Duration of Warrants. A Warrant may be exercised only during the period (“**Exercise Period**”) commencing on the date of issuance and ending on the Termination Date. For purposes of this Warrant Agreement, the “**Termination Date**” of the Series A Warrants and the Series B Warrants shall have the meaning set forth in each Global Warrant evidencing the Series A Warrants and Series B Warrants, respectively. Each Warrant not exercised on or before the Termination Date shall become void, and all rights thereunder and all rights in respect thereof under this Agreement shall cease at the close of business on the Termination Date. The Pre-funded Warrants do not expire.

### 3.3. Exercise of Warrants.

3.3.1. Exercise. Subject to the provisions of each Global Warrant, a Holder (or a Participant or a designee of a Participant acting on behalf of a Holder) may exercise Warrants or Pre-funded Warrants by delivering to the Warrant Agent, not later than 5:00 P.M., Eastern Time, on any business day during the Exercise Period a notice of exercise of the Warrants or Pre-funded Warrants to be exercised (i) in the form attached to the Global Warrant or (ii) via an electronic warrant exercise through the DTC system (each, an “**Election to Purchase**”) and, unless the cashless exercise procedure is specified in the applicable Election to Purchase, delivery of the aggregate Exercise Price of the Warrant Shares specified in the applicable Election to Purchase. All other requirements for the exercise of a Warrant or Pre-funded Warrant shall be as set forth in the Warrant or Pre-funded Warrant, respectively. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender a Warrant Certificate to the Warrant Agent until the Holder has purchased all of the Warrant Shares available thereunder and the applicable Warrant Certificate has been exercised in full, in which case, the Holder shall surrender the Warrant Certificate to the Warrant Agent for cancellation within three (3) Trading Days of the date on which the final Election to Purchase is delivered to the Warrant Agent. Partial exercises of a Warrant Certificate resulting in purchases of a portion of the total number of Warrant Shares available thereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable thereunder in an amount equal to the applicable number of Warrant Shares purchased.

3.3.2. The Warrant Agent shall, by 5:00 P.M., Eastern Time, on the Trading Day following the Exercise Date (as defined below) of any Warrant or Pre-funded Warrant, advise the Company, the transfer agent and registrar for the Company’s Common Stock, in respect of (i) the number of Warrant Shares indicated on the Notice of Exercise as issuable upon such exercise with respect to such exercised Warrants, (ii) the instructions of the Holder or Participant, as the case may be, provided to the Warrant Agent with respect to the delivery of the Warrant Shares and the number of Warrants or Pre-Funded Warrants that remain outstanding after such exercise and (iii) such other information as the Company or such transfer agent and registrar shall reasonably request. The Company shall issue the Warrant Shares in compliance with the terms of the Warrant or Pre-funded Warrant, as applicable.

3.3.3. Valid Issuance. All Warrant Shares issued by the Company upon the proper exercise of a Warrant or Pre-funded Warrant in conformity

with this Warrant Agreement shall be validly issued, fully paid and non-assessable.

3.3.4. No Fractional Exercise. Notwithstanding any provision contained in this Warrant Agreement to the contrary, no fractional shares or scrip representing fractional shares shall be issued upon the exercise of the Warrant or Pre-funded Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall, at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or round up to the next whole share.

3.3.5. No Transfer Taxes. The Company shall not be required to pay any stamp or other tax or governmental charge required to be paid in connection with any transfer involved in the issue of the Warrant Shares upon the exercise of Warrants or Pre-funded Warrants; and in the event that any such transfer is involved, the Company shall not be required to issue or deliver any Warrant Shares until such tax or other charge shall have been paid or it has been established to the Company's satisfaction that no such tax or other charge is due.

3.3.6. Date of Issuance. The Company will treat an exercising Holder as a beneficial owner of the Warrant Shares as of the time of delivery of a Notice of Exercise (as defined in the Warrant Certificate) to the Warrant Agent or the Company, and for purposes of Regulation SHO, a holder whose interest in the Warrant or Pre-funded Warrant is a beneficial interest in certificate(s) representing the Warrant or Pre-funded Warrant held in book-entry form through DTC shall be deemed to have exercised its interest in the Warrant or Pre-funded Warrant upon instructing its broker that is a DTC participant to exercise its interest in the Warrant or Pre-funded Warrant (the date of any such exercise, an "**Exercise Date**"), except that, if the Exercise Date is a date when the stock transfer books of the Company are closed, such person shall be deemed to have become the holder of such shares at the open of business on the next succeeding date on which the stock transfer books are open.

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4. Adjustments. Upon every adjustment of the Exercise Price or the number of Warrant Shares issuable upon exercise of a Warrant or Pre-funded Warrant, the Company shall give written notice thereof to the Warrant Agent, which notice shall state the Exercise Price resulting from such adjustment and the increase or decrease, if any, in the number of Warrant Shares purchasable at such price upon the exercise of a Warrant or Pre-funded Warrant, setting forth in reasonable detail the method of calculation and the facts upon which such calculation is based. Upon the occurrence of any event specified in Section 3 of the Warrant or Pre-funded Warrant, then, in any such event, the Company shall give written notice to the Warrant Agent. Failure to give such notice, or any defect therein, shall not affect the legality or validity of such event. The Warrant Agent shall be entitled to rely conclusively on, and shall be fully protected in relying on, any certificate, notice or instructions provided by the Company with respect to any adjustment of the Exercise Price or the number of shares issuable upon exercise of a Warrant or Pre-funded Warrant, or any related matter, and the Warrant Agent shall not be liable for any action taken, suffered or omitted to be taken by it in accordance with any such certificate, notice or instructions or pursuant to this Warrant Agreement. The Warrant Agent shall not be deemed to have knowledge of any such adjustment unless and until it shall have received written notice thereof from the Company.

5. Restrictive Legends; Fractional Warrants. In the event that a Warrant Certificate surrendered for transfer bears a restrictive legend, the Warrant Agent shall not register that transfer until the Warrant Agent has received an opinion of counsel for the Company stating that such transfer may be made and indicating whether the Warrants or Pre-funded Warrants must also bear a restrictive legend upon that transfer. The Warrant Agent shall not be required to effect any registration of transfer or exchange which will result in the transfer of or delivery of a Warrant Certificate for a fraction of a Warrant or Pre-funded Warrant.

6. Other Provisions Relating to Rights of Holders of Warrants.

6.1. No Rights as Stockholder. Except as otherwise specifically provided herein, a Holder, solely in its capacity as a holder of Warrants or Pre-funded Warrants, shall not be entitled to vote or receive dividends or be deemed the holder of share capital of the Company for any purpose, nor shall anything contained in this Warrant Agreement be construed to confer upon a Holder, solely in its capacity as the registered holder of Warrants or Pre-funded Warrants, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of share capital, consolidation, merger, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights or rights to participate in new issues of shares, or otherwise, prior to the issuance to the Holder of the Warrant Shares which it is then entitled to receive upon the due exercise of Warrants or Pre-funded Warrants.

6.2. Reservation of Common Stock. The Company shall at all times reserve and keep available a number of its authorized but unissued shares of Common Stock that will be sufficient to permit the exercise in full of all outstanding Warrants and Pre-funded Warrants issued pursuant to this Warrant Agreement.

7. Concerning the Warrant Agent and Other Matters.

7.1. Any instructions given to the Warrant Agent orally, as permitted by any provision of this Warrant Agreement, shall be confirmed in writing by the Company as soon as practicable. The Warrant Agent shall not be liable or responsible and shall be fully authorized and protected for acting, or failing to act, in accordance with any oral instructions which do not conform with the written confirmation received in accordance with this Section 7.1.

7.2.(a) Whether or not any Warrants or Pre-funded Warrants are exercised, for the Warrant Agent's services as agent for the Company hereunder, the Company shall pay to the Warrant Agent such fees as may be separately agreed between the Company and Warrant Agent. (b) All amounts owed by the Company to the Warrant Agent under this Warrant Agreement are due within 30 days of the invoice date. Delinquent payments are subject to a late payment charge of one and one-half percent (1.5%) per month commencing 45 days from the invoice date. The Company agrees to reimburse the Warrant Agent for any attorney's fees and any other costs associated with collecting delinquent payments. (c) No provision of this Warrant Agreement shall require Warrant Agent to expend or risk its own funds or otherwise incur any financial liability in the performance of any of its duties under this Warrant Agreement or in the exercise of its rights.

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7.3. As agent for the Company hereunder the Warrant Agent: (a) shall have no duties or obligations other than those specifically set forth herein or as may subsequently be agreed to in writing by the Warrant Agent and the Company; (b) shall be regarded as making no representations and having no responsibilities as to the validity, sufficiency, value, or genuineness of the Warrants, Pre-funded Warrants or any Warrant Shares; (c) shall not be obligated to take any legal action hereunder; if, however, the Warrant Agent determines to take any legal action hereunder, and where the taking of such action might, in its judgment, subject or expose it to any expense or liability it shall not be required to act unless it has been furnished with an indemnity reasonably satisfactory to it; (d) may rely on and shall be fully authorized and protected in acting or failing to act upon any certificate, instrument, opinion, notice, letter or other document or security delivered to the Warrant Agent and believed by it to be genuine and to have been signed by the proper party or parties; (e) shall not be liable or responsible for any recital or statement contained in the Registration Statement or any other documents relating thereto; (f) shall not be liable or responsible for any failure on the part of the Company to comply with any of its covenants and obligations relating to the Warrants and Pre-funded Warrants, including without limitation obligations under applicable securities laws; (g) may rely on and shall be fully authorized and protected in acting or failing to act upon the written, telephonic or oral instructions with respect to any matter relating to its duties as Warrant Agent covered by this Warrant Agreement (or supplementing or qualifying any such actions) of officers of the Company, and is hereby authorized and directed to accept instructions with respect to the performance of its duties hereunder from the Company or counsel to the Company, and may apply to the Company, for advice or instructions in connection with the Warrant Agent's duties hereunder, and the Warrant Agent shall not be liable for any delay in acting while waiting for those instructions; any applications by the Warrant Agent for written instructions from the Company may, at the option of the Warrant Agent, set forth in writing any action proposed to be taken or omitted by the Warrant Agent under this Warrant Agreement

and the date on or after which such action shall be taken or such omission shall be effective; the Warrant Agent shall not be liable for any action taken by, or omission of, the Warrant Agent in accordance with a proposal included in such application on or after the date specified in such application (which date shall not be less than five business days after the date such application is sent to the Company, unless the Company shall have consented in writing to any earlier date) unless prior to taking any such action, the Warrant Agent shall have received written instructions in response to such application specifying the action to be taken or omitted; (h) may consult with counsel satisfactory to the Warrant Agent, including its in-house counsel; (i) may perform any of its duties hereunder either directly or by or through nominees, correspondents, designees, or subagents, and it shall not be liable or responsible for any misconduct or negligence on the part of any nominee, correspondent, designee, or subagent appointed with reasonable care by it in connection with this Warrant Agreement; (j) is not authorized, and shall have no obligation, to pay any brokers, dealers, or soliciting fees to any person; and (k) shall not be required hereunder to comply with the laws or regulations of any country other than the United States of America or any political subdivision thereof.

7.4.(a) In the absence of gross negligence or willful or illegal misconduct on its part, the Warrant Agent shall not be liable for any action taken, suffered, or omitted by it or for any error of judgment made by it in the performance of its duties under this Warrant Agreement. Anything in this Warrant Agreement to the contrary notwithstanding, in no event shall Warrant Agent be liable for special, indirect, incidental, consequential or punitive losses or damages of any kind whatsoever (including but not limited to lost profits, liquidated damages or buy-in claims), even if the Warrant Agent has been advised of the possibility of such losses or damages and regardless of the form of action. Any liability of the Warrant Agent will be limited in the aggregate to the amount of fees paid by the Company hereunder. The Warrant Agent shall not be liable for any failures, delays or losses, arising directly or indirectly out of conditions beyond its reasonable control including, but not limited to, acts of government, exchange or market ruling, suspension of trading, work stoppages or labor disputes, fires, civil disobedience, riots, rebellions, storms, electrical or mechanical failure, computer hardware or software failure, communications facilities failures including telephone failure, war, terrorism, insurrection, earthquakes, floods, acts of God or similar occurrences. (b) In the event any question or dispute arises with respect to the proper interpretation of the Warrants or the Warrant Agent's duties under this Warrant Agreement or the rights of the Company or of any Holder, the Warrant Agent shall not be required to act and shall not be held liable or responsible for its refusal to act until the question or dispute has been judicially settled (and, if appropriate, it may file a suit in interpleader or for a declaratory judgment for such purpose) by final judgment rendered by a court of competent jurisdiction, binding on all persons interested in the matter which is no longer subject to review or appeal, or settled by a written document in form and substance satisfactory to Warrant Agent and executed by the Company and each such Holder. In addition, the Warrant Agent may require for such purpose, but shall not be obligated to require, the execution of such written settlement by all the Holders and all other persons that may have an interest in the settlement.

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7.5. The Company covenants to indemnify the Warrant Agent and hold it harmless from and against any loss, liability, claim or expense (" **Loss**") arising out of or in connection with the Warrant Agent's duties under this Warrant Agreement, including the costs and expenses of defending itself against any Loss, unless such Loss shall have been determined by a court of competent jurisdiction to be a result of the Warrant Agent's gross negligence or willful or illegal misconduct.

7.6. Unless terminated earlier by the parties hereto, this Agreement shall terminate 90 days after the later of the Termination Date (as defined in the Warrants and Pre-funded Warrants) and the date on which no Warrants remain outstanding (the "**Termination Date**"). On the business day following the Termination Date, the Warrant Agent shall deliver to the Company any entitlements, if any, held by the Warrant Agent under this Warrant Agreement. The Agent's right to be reimbursed for fees, charges and out-of-pocket expenses as provided in this Section 8 shall survive the termination of this Warrant Agreement.

7.7. If any provision of this Warrant Agreement shall be held illegal, invalid, or unenforceable by any court, this Warrant Agreement shall be construed and enforced as if such provision had not been contained herein and shall be deemed an agreement among the parties to it to the full extent permitted by applicable law.

7.8. The Company represents and warrants that: (a) it is duly incorporated and validly existing under the laws of its jurisdiction of incorporation; (b) the offer and sale of the Warrants and Pre-funded Warrants and the execution, delivery and performance of all transactions contemplated thereby (including this Warrant Agreement) have been duly authorized by all necessary corporate action and will not result in a breach of or constitute a default under the articles of association, bylaws or any similar document of the Company or any indenture, agreement or instrument to which it is a party or is bound; (c) this Warrant Agreement has been duly executed and delivered by the Company and constitutes the legal, valid, binding and enforceable obligation of the Company; (d) the Warrants and Pre-funded Warrants will comply in all material respects with all applicable requirements of law; and (e) to the best of its knowledge, there is no litigation pending or threatened as of the date hereof in connection with the offering of the Warrants or Pre-funded Warrants.

7.9. In the event of inconsistency between this Warrant Agreement and the terms set forth in the Warrant Certificate with respect to a Warrant or Pre-funded Warrant, as it may from time to time be amended, the terms of the Warrant Certificate shall control.

7.10. Set forth in Exhibit E hereto is a list of the names and specimen signatures of the persons authorized to act for the Company under this Warrant Agreement (the "**Authorized Representatives**"). The Company shall, from time to time, certify to the Warrant Agent the names and signatures of any other persons authorized to act for the Company under this Warrant Agreement.

7.11. Except as expressly set forth elsewhere in this Warrant Agreement, all notices, instructions and communications under this Agreement shall be in writing, shall be effective upon receipt and shall be addressed, if to the Company, to its address set forth beneath its signature to this Agreement, or, if to the Warrant Agent, to VStock Transfer, LLC, 18 Lafayette Place, Woodmere, NY 11598, or to such other address of which a party hereto has notified the other party.

7.12.(a) This Warrant Agreement shall be governed by and construed in accordance with the laws of the State of New York. All actions and proceedings relating to or arising from, directly or indirectly, this Warrant Agreement may be litigated in courts located within the Borough of Manhattan in the City and State of New York. The Company hereby submits to the personal jurisdiction of such courts and consents that any service of process may be made by certified or registered mail, return receipt requested, directed to the Company at its address last specified for notices hereunder. (b) This Warrant Agreement shall inure to the benefit of and be binding upon the successors and assigns of the parties hereto. This Warrant Agreement may not be assigned, or otherwise transferred, in whole or in part, by either party without the prior written consent of the other party, which the other party will not unreasonably withhold, condition or delay; except that (i) consent is not required for an assignment or delegation of duties by Warrant Agent to any affiliate of Warrant Agent and (ii) any reorganization, merger, consolidation, sale of assets or other form of business combination by the Warrant Agent or the Company shall not be deemed to constitute an assignment of this Warrant Agreement. (c) No provision of this Warrant Agreement may be amended, modified or waived, except in a written document signed by both parties.

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7.13. Payment of Taxes. The Company will from time to time promptly pay all taxes and charges that may be imposed upon the Company or the Warrant Agent in respect of the issuance or delivery of Warrant Shares upon the exercise of Warrants and Pre-funded Warrants, but the Company may require the Holders to pay any transfer taxes in respect of the Warrants or such shares. The Warrant Agent may refrain from registering any transfer of Warrants or Pre-funded Warrants or any delivery of any Warrant Shares unless or until the persons requesting the registration or issuance shall have paid to the Warrant Agent for the account of the Company the amount of such tax or charge, if any, or shall have established to the reasonable satisfaction of the Company and the Warrant Agent that such tax or charge, if any, has been paid.

7.14. Resignation of Warrant Agent.

7.14.1. Appointment of Successor Warrant Agent. The Warrant Agent, or any successor to it hereafter appointed, may resign its duties and be



discharged from all further duties and liabilities hereunder after giving thirty (30) days' notice in writing to the Company, or such shorter period of time agreed to by the Company. The Company may terminate the services of the Warrant Agent, or any successor Warrant Agent, after giving thirty (30) days' notice in writing to the Warrant Agent or successor Warrant Agent, or such shorter period of time as agreed. If the office of the Warrant Agent becomes vacant by resignation, termination or incapacity to act or otherwise, the Company shall appoint in writing a successor Warrant Agent in place of the Warrant Agent. If the Company shall fail to make such appointment within a period of 30 days after it has been notified in writing of such resignation or incapacity by the Warrant Agent, then the Warrant Agent or any Holder may apply to any court of competent jurisdiction for the appointment of a successor Warrant Agent at the Company's cost. Pending appointment of a successor to such Warrant Agent, either by the Company or by such a court, the duties of the Warrant Agent shall be carried out by the Company. Any successor Warrant Agent (but not including the initial Warrant Agent), whether appointed by the Company or by such court, shall be a person organized and existing under the laws of any state of the United States of America, in good standing, and authorized under such laws to exercise corporate trust powers and subject to supervision or examination by federal or state authority. After appointment, any successor Warrant Agent shall be vested with all the authority, powers, rights, immunities, duties, and obligations of its predecessor Warrant Agent with like effect as if originally named as Warrant Agent hereunder, without any further act or deed, and except for executing and delivering documents as provided in the sentence that follows, the predecessor Warrant Agent shall have no further duties, obligations, responsibilities or liabilities hereunder, but shall be entitled to all rights that survive the termination of this Warrant Agreement and the resignation or removal of the Warrant Agent, including but not limited to its right to indemnity hereunder. If for any reason it becomes necessary or appropriate or at the request of the Company, the predecessor Warrant Agent shall execute and deliver, at the expense of the Company, an instrument transferring to such successor Warrant Agent all the authority, powers, and rights of such predecessor Warrant Agent hereunder; and upon request of any successor Warrant Agent the Company shall make, execute, acknowledge, and deliver any and all instruments in writing for more fully and effectually vesting in and confirming to such successor Warrant Agent all such authority, powers, rights, immunities, duties, and obligations.

7.14.2. Notice of Successor Warrant Agent. In the event a successor Warrant Agent shall be appointed, the Company shall give notice thereof to the predecessor Warrant Agent and the transfer agent for the Common Stock not later than the effective date of any such appointment.

7.14.3. Merger or Consolidation of Warrant Agent. Any person into which the Warrant Agent may be merged or converted or with which it may be consolidated or any person resulting from any merger, conversion or consolidation to which the Warrant Agent shall be a party or any person succeeding to the shareowner services business of the Warrant Agent or any successor Warrant Agent shall be the successor Warrant Agent under this Warrant Agreement, without any further act or deed. For purposes of this Warrant Agreement, "person" shall mean any individual, firm, corporation, partnership, limited liability company, joint venture, association, trust or other entity, and shall include any successor (by merger or otherwise) thereof or thereto.

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8. Miscellaneous Provisions.

8.1. Persons Having Rights under this Warrant Agreement. Nothing in this Warrant Agreement expressed and nothing that may be implied from any of the provisions hereof is intended, or shall be construed, to confer upon, or give to, any person or corporation other than the parties hereto any right, remedy, or claim under or by reason of this Warrant Agreement or of any covenant, condition, stipulation, promise, or agreement hereof.

8.2. Examination of the Warrant Agreement. A copy of this Warrant Agreement shall be available at all reasonable times at the office of the Warrant Agent designated for such purpose for inspection by any Holder. Prior to such inspection, the Warrant Agent may require any such holder to provide reasonable evidence of its interest in the Warrants or the Pre-funded Warrants.

8.3. Counterparts. This Warrant Agreement may be executed in any number of original, facsimile or electronic counterparts and each of such counterparts shall for all purposes be deemed to be an original, and all such counterparts shall together constitute but one and the same instrument.

8.4. Effect of Headings. The Section headings herein are for convenience only and are not part of this Warrant Agreement and shall not affect the interpretation thereof.

9. Certain Definitions. As used herein, the following terms shall have the following meanings:

- (a) **"Trading Day"** means any day on which the Common Stock is traded on the Trading Market, or, if the Trading Market is not the principal trading market for the Common Stock, then on the principal securities exchange or securities market in the United States on which the Common Stock are then traded, provided that **"Trading Day"** shall not include any day on which the Common Stock is scheduled to trade on such exchange or market for less than 4.5 hours or any day that the Common Stock are suspended from trading during the final hour of trading on such exchange or market (or if such exchange or market does not designate in advance the closing time of trading on such exchange or market, then during the hour ending at 4:00 P.M., Eastern Time).
- (b) **"Trading Market"** means NYSE American, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market or the New York Stock Exchange.

[Signature Page Follows]

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IN WITNESS WHEREOF, this Warrant Agent Agreement has been duly executed by the parties hereto as of the day and year first above written

AVENUE THERAPEUTICS, INC.

By: \_\_\_\_\_  
Name: Alexandra MacLean, M.D.  
Title: Chief Executive Officer  
Address: 1111 Kane Concourse, Suite 301  
Bay Harbor Islands, Florida 33154

VSTOCK TRANSFER, LLC

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

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**EXHIBIT A**

GLOBAL SERIES A WARRANT

[See attached.]

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**EXHIBIT B**

GLOBAL SERIES B WARRANT

[See attached.]

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**EXHIBIT C**

GLOBAL PRE-FUNDED WARRANT

[See attached.]

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**EXHIBIT D**

WARRANT CERTIFICATE REQUEST NOTICE

To: \_\_\_\_\_ as Warrant Agent for \_\_\_\_\_ (the "**Company**")

The undersigned Holder of Common Stock Purchase Warrants ("**Warrants**") in the form of Global Warrants issued by the Company hereby elects to receive a Warrant Certificate evidencing the Warrants held by the Holder as specified below:

- 1.Name of Holder of Warrants in form of Global Warrants: \_\_\_\_\_
- 2.Name of Holder in Warrant Certificate (if different from name of Holder of Warrants in form of Global Warrants): \_\_\_\_\_
- 3.Number of Warrants in name of Holder in form of Global Warrants: \_\_\_\_\_
- 4.Number of Warrants for which Warrant Certificate shall be issued: \_\_\_\_\_
- 5.Series of Warrants to which this Certificate Request Notice applies (Series A, Series B or Pre-funded): \_\_\_\_\_
- 6.Number of Warrants in name of Holder in form of Global Warrants after issuance of Warrant Certificate, if any: \_\_\_\_\_
- 7.Warrant Certificate shall be delivered to the following address:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The undersigned hereby acknowledges and agrees that, in connection with this Warrant Exchange and the issuance of the Warrant Certificate, the Holder is deemed to have surrendered the number of Warrants in form of Global Warrants in the name of the Holder equal to the number of Warrants evidenced by the Warrant Certificate.

[SIGNATURE OF HOLDER]

Name of Investing Entity: \_\_\_\_\_

*Signature of Authorized Signatory of Investing Entity:* \_\_\_\_\_

Name of Authorized Signatory: \_\_\_\_\_

Title of Authorized Signatory: \_\_\_\_\_

Date: \_\_\_\_\_

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**EXHIBIT E**

AUTHORIZED REPRESENTATIVES

<u>Name</u>	<u>Title</u>	<u>Signature</u>
Alexandra MacLean	Chief Executive Officer	_____
David Jin	Interim Chief Financial Officer & Chief Operating Officer	_____

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McGuireWoods LLP  
 201 North Tryon Street  
 Suite 3000  
 Charlotte, NC 28202-2146  
 Phone: 704.343.2000  
 Fax: 704.343.2300  
 www.mcguirewoods.com

October 23, 2023

Board of Directors  
 Avenue Therapeutics, Inc.  
 1111 Kane Concourse, Suite 301  
 Bay Harbor Islands, Florida 33154

**Avenue Therapeutics, Inc.  
 Registration Statement on Form S-1**

Ladies and Gentlemen:

We have acted as counsel to Avenue Therapeutics, Inc., a Delaware corporation (the “Company”), in connection with the Registration Statement on Form S-1 (Reg. No. 333-274562), including a related prospectus filed with the Registration Statement and any subsequent registration statement on Form S-1 filed pursuant to Rule 462(b) (as amended, the “Registration Statement”) being filed by the Company on the date of this opinion letter with the Securities and Exchange Commission (the “SEC”) in connection with the registration under the Securities Act of 1933, as amended (the “Securities Act”), of the public offering of up to 20,338,983 units (each consisting of either (A) one share of the Company’s Common Stock, par value \$0.0001 per share (the “Common Stock,” and such shares, the “Shares”), one Series A warrant to purchase one Share of Common Stock (in substantially the form filed as Exhibit 4.8 to the Registration Statement, the “Series A Warrants”), and one Series B warrant to purchase one Share of Common Stock (in substantially the form filed as Exhibit 4.8 to the Registration Statement, the “Series B Warrants” and together with the Series A Warrants, the “Warrants”) (each such unit, a “Common Unit”) or (B) one pre-funded warrant (such pre-funded warrants in substantially the form filed as Exhibit 4.9 to the Registration Statement, the “Pre-funded Warrants”) to purchase one Share, one Series A Warrant and one Series B Warrant (each such unit, a “Pre-funded Unit,” and collectively with the Shares, the Warrants, and the Common Units, the “Securities”). The Securities are to be sold pursuant to a Placement Agency Agreement by and among the Company, Maxim Group LLC and Lake Street Capital Markets, LLC, in substantially the form filed as Exhibit 10.16 to the Registration Statement (the “Placement Agency Agreement”). The Warrants are to be issued pursuant to a Warrant Agent Agreement, in substantially the form filed as Exhibit 4.10 to the Registration Statement (the “Warrant Agent Agreement”).

The term “Shares” includes any additional shares of Common Stock, or shares of Common Stock underlying Warrants and Pre-funded Warrants, the offering of which is registered by the Company pursuant to Rule 462(b) under the Securities Act in connection with the offering contemplated by the Registration Statement. The shares underlying the Warrants and the Pre-funded Warrants are referred to herein collectively as the “Warrant Shares”. This opinion letter is being furnished in accordance with the requirements of Item 16 of Form S-1 and Item 601(b)(5)(i) of Regulation S-K promulgated under the Securities Act.

**Documents Reviewed**

In connection with this opinion letter, we have examined the following documents:

- (a) the Registration Statement, including the exhibits being filed therewith;

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- (b) the prospectus contained in the Registration Statement (the “Prospectus”);
- (c) the form of Placement Agency Agreement;
- (d) the form of Warrant Agent Agreement;
- (e) the form of Warrant; and
- (f) the form of Pre-funded Warrant.

As used herein, the Placement Agency Agreement, the Warrant Agent Agreement, the Warrant and the Pre-funded Warrant are referred to, collectively, as the “Subject Documents.”

In addition, we have examined and relied upon the following:

- (i) (A) true and correct copies of the certificate of incorporation and bylaws of the Company, each as in effect the date hereof and as amended, supplemented or modified to date, and (B) the resolutions of the Board of Directors of the Company authorizing (1) the filing of the Registration Statement by the Company and (2) the issuance of the Securities by the Company, subject to (x) specific further authorization for the issuance, execution, delivery and performance by proper action of the Company’s Board of Directors or a pricing committee thereof (the “Authorizing Resolutions”) with respect to such Securities and (y) the other qualifications set forth therein;

- (ii) a certificate dated October 23, 2023 issued by the Secretary of State of the State of Delaware, attesting to the corporate status of the Company in the State of Delaware; and

- (iii) originals, or copies identified to our satisfaction as being true copies, of such other records, documents and instruments as we have deemed necessary for the purposes of this opinion letter.

(iv) "Applicable Law" means the Delaware General Corporation Law and the laws of the State of New York.

#### **Assumptions Underlying Our Opinions**

For all purposes of the opinions expressed herein, we have assumed, without independent investigation, the following:

(a) Factual Matters. To the extent that we have reviewed and relied upon (i) certificates of the Company or authorized representatives thereof, (ii) representations of the Company set forth in the Subject Documents (if any) and (iii) certificates and assurances from public officials, all of such certificates, representations and assurances are accurate with regard to factual matters.

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Board of Directors  
Avenue Therapeutics, Inc.  
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(b) Signatures; Legal Capacity. The signatures of individuals who have signed or will sign the Subject Documents are genuine. All individuals who have signed or will sign the Subject Documents have the legal capacity to execute such Subject Documents.

(c) Authentic and Conforming Documents. All documents submitted to us as originals are authentic, complete and accurate, and all documents submitted to us as copies conform to authentic original documents.

(d) Organizational Status, Power and Authority of Certain Parties. All parties to each of the Subject Documents are or will be, as of the date the applicable Subject Document is executed and delivered, validly existing and in good standing in their respective jurisdictions of formation, except no such assumption is made as to the Company as of the date hereof, and have or will have, as of the date the applicable Subject Document is executed and delivered, the capacity and full power and authority to execute, deliver and perform the applicable Subject Document and the documents required or permitted to be delivered and performed thereunder, except that no such assumption is made as to the Company as of the date hereof.

(e) Authorization, Execution and Delivery of the Subject Documents. Each of the Subject Documents and the documents required or permitted to be delivered thereunder have been or will be, as of the date the applicable Subject Document is executed and delivered, duly authorized by all necessary corporate, limited liability company, business trust, partnership or other action on the part of the parties thereto and have been or will be, as of the date the applicable Subject Document is executed and delivered, duly executed and delivered by such parties, except that no such assumption is made as to the Company as of the date hereof.

(f) Registration. The Registration Statement shall have been declared effective under the Securities Act and such effectiveness shall not have been terminated or rescinded.

(g) No Mutual Mistake, Amendments, etc. There has not been, and will not be, as of the date each Subject Document is executed and delivered, any mutual mistake of fact, fraud, duress or undue influence in connection with the issuance of the Shares, the Warrants, the Pre-funded Warrants, and the Warrant Shares as contemplated by the Registration Statement, the Prospectus and the Subject Documents, as applicable. There are and will be no oral or written statements or agreements that modify, amend or vary, or purport to modify, amend or vary, any of the terms of the Subject Documents.

#### **Our Opinions**

Based on and subject to the foregoing and the exclusions, qualifications, limitations and other assumptions set forth in this opinion letter, we are of the opinion that:

1. The Shares, when (a) Authorizing Resolutions with respect to the Shares have been adopted, (b) the terms for the issuance and sale of the Shares have been established in conformity with such Authorizing Resolutions, (c) the Shares have been issued and sold as contemplated by the Registration Statement, the Prospectus and the Placement Agency Agreement, (d) the Company has received the consideration provided for in the Prospectus and the Placement Agency Agreement and any applicable definitive purchase or similar agreement and (e) such consideration for the Shares is not less than the amount specified in the applicable Authorizing Resolutions, will be validly issued, fully paid and non-assessable;

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2. The Underlying Shares issuable upon exercise of the Warrants and the Pre-funded Warrants, when (a) Authorizing Resolutions with respect to the Warrants and the Pre-funded Warrants have been adopted, (b) the terms of the Warrants and the Pre-funded Warrants have been established in conformity with such Authorizing Resolutions, (c) the Warrants and the Pre-funded Warrants have been issued as contemplated by the Registration Statement, the Prospectus, the Placement Agency Agreement and the Warrant Agent Agreement and (d) the Warrants and the Pre-funded Warrants have been executed and delivered by the Company and authenticated and countersigned in accordance with the provisions of the Warrant Agent Agreement and, when issued upon exercise of the Warrants or the Pre-funded Warrants, as applicable, upon payment of the applicable exercise price therefor in accordance with the terms thereof, will be validly issued, fully paid and non-assessable;

3. The Warrants, when (a) Authorizing Resolutions with respect to the Warrants have been adopted, (b) the terms of the Warrants have been established in conformity with such Authorizing Resolutions, (c) the Warrants have been issued and sold as contemplated by the Registration Statement, the Prospectus, the Placement Agency Agreement and the Warrant Agent Agreement and (d) the Warrants have been executed and delivered by the Company and authenticated or countersigned in accordance with the provisions of the Warrant Agent Agreement, will constitute the valid and binding obligations of the Company, enforceable against the Company in accordance with their terms, under the laws of the State of New York; and

4. The Pre-funded Warrants, when (a) Authorizing Resolutions with respect to the Pre-funded Warrants have been adopted, (b) the terms of the Pre-funded Warrants have been established in conformity with such Authorizing Resolutions, (c) the Pre-funded Warrants have been issued and sold as contemplated by the Registration Statement, the Prospectus, the Placement Agency Agreement and the Warrant Agent Agreement and (d) the Pre-funded Warrants have been executed and delivered by the Company and authenticated or countersigned in accordance with the provisions of the Warrant Agent Agreement, will constitute the valid and binding

obligations of the Company, enforceable against the Company in accordance with their terms, under the laws of the State of New York.

**Qualification and Limitation Applicable to Our Opinions**

The opinions set forth above are subject to the following qualifications and limitations:

(a) Applicable Law. Our opinions are limited to Applicable Law, and we do not express any opinion concerning any other law.

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( b ) Bankruptcy. Our opinions are subject to the effect of any applicable bankruptcy, insolvency (including, without limitation, laws relating to preferences, fraudulent transfers and equitable subordination), reorganization, moratorium and other similar laws affecting creditors' rights generally.

(c) Equitable Principles. Our opinions are subject to the effect of general principles of equity (regardless of whether considered in a proceeding in equity or at law), including, without limitation, concepts of materiality, reasonableness, good faith and fair dealing

**Miscellaneous**

The foregoing opinions are being furnished only for the purpose referred to in the second paragraph of this opinion letter. Our opinions are based on statutes, regulations and administrative and judicial interpretations which are subject to change. We undertake no responsibility to update or supplement these opinions subsequent to the effective date of the Registration Statement. Headings in this opinion letter are intended for convenience of reference only and shall not affect its interpretation. We hereby consent to the filing of this opinion letter as Exhibit 5.1 to the Registration Statement, to the incorporation by reference of this opinion letter into any subsequent registration statement on Form S-1 filed by the Company pursuant to Rule 462(b) of the Securities Act, and to the reference to our firm in the Registration Statement under the caption "Legal Matters." In giving this consent, we do not admit that we are within the category of persons whose consent is required by Section 7 of the Securities Act or the rules and regulations of the SEC promulgated thereunder.

Very truly yours,

/s/ McGuireWoods LLP

McGuireWoods LLP

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## PLACEMENT AGENCY AGREEMENT

\_\_\_\_\_, 2023

Maxim Group LLC  
300 Park Avenue, 16<sup>th</sup> Floor  
New York, NY 10022

and

Lake Street Capital Markets, LLC  
920 Second Avenue South, Suite 700  
Minneapolis, Minnesota 55402

Ladies and Gentlemen:

Subject to the terms and conditions herein (this "Agreement"), Avenue Therapeutics, Inc., a Delaware corporation (the "Company"), hereby agrees to sell up to an aggregate of \$ \_\_\_\_\_ units (the "Units") of the Company, each Unit consisting of either (a) one share (the "Shares") of the Company's common stock, \$0.0001 par value per share (the "Common Stock") and one Series A Warrant to purchase one share of Common Stock (such warrants, the "Series A Warrants") and one Series B Warrant to purchase one share of Common Stock (such warrants, the "Series B Warrants" and, collectively with the Series A Warrants, the "Common Warrants") (the "Common Unit") or (b) one prefunded common stock purchase warrant to purchase one share of Common Stock in lieu of Shares (the "Prefunded Warrants" and, collectively with the Common Warrants, the "Warrants"), one Series A Warrant and one Series B Warrant (the "Prefunded Unit") (the shares of Common Stock underlying the Prefunded Warrants and the Common Warrants, the "Warrant Shares" and, collectively with the Common Units, the Prefunded Units, the Shares, the Prefunded Warrants, the Warrants and the Warrant Shares, the "Securities") directly to various investors (each, an "Investor" and, collectively, the "Investors") through Maxim Group LLC and Lake Street Capital Markets, LLC (the "Placement Agents") as placement agents. The documents executed and delivered by the Company and the Investors in connection with the Offering (as defined below), including, without limitation, a securities purchase agreement (such form, the "Purchase Agreement"), shall be collectively referred to herein as the "Transaction Documents." The purchase price to the Investors is \$ \_\_\_\_\_ per Common Unit (the "Common Unit Purchase Price"), provided that the purchase price per Prefunded Unit shall be the Common Unit Purchase Price minus \$0.0001. The exercise price to the Investors for each share of Common Stock issuable upon exercise of the Prefunded Warrants is \$0.0001, and the exercise price to the Investors for each share of Common Stock issuable upon exercise of the Common Warrants is \$ \_\_\_\_\_. The Placement Agents may retain other brokers or dealers to act as sub-agents or selected-dealers on its behalf in connection with the Offering; provided, however, that the Company shall have first approved any such sub-agent. Capitalized terms used and not otherwise defined herein shall have the meanings set forth in the Purchase Agreement.

The Company hereby confirms its agreement with the Placement Agents as follows:

### Section 1. Agreement to Act as Placement Agents

(a) On the basis of the representations, warranties and agreements of the Company herein contained, and subject to all the terms and conditions of this Agreement, the Placement Agents shall be the exclusive placement agents in connection with the offering and sale by the Company of the Securities pursuant to the Company's registration statement on Form S-1 (File No. 333-274562) (the "Registration Statement"), with the terms of such offering (the "Offering") to be subject to market conditions and negotiations between the Company, the Placement Agents and the prospective Investors. The Placement Agents will act on a reasonable best efforts basis and the Company agrees and acknowledges that there is no guarantee of the successful placement of the Securities, or any portion thereof, in the prospective Offering. Under no circumstances will the Placement Agents or any of their "Affiliates" (as defined below) be obligated to underwrite or purchase any of the Securities for its own account or otherwise provide any financing. The Placement Agents shall act solely as the Company's agent and not as principal. The Placement Agents shall have no authority to bind the Company with respect to any prospective offer to purchase Securities and the Company shall have the sole right to accept offers to purchase Securities and may reject any such offer, in whole or in part. Subject to the terms and conditions hereof, payment of the purchase price for, and delivery of, the Securities shall be made at one or more closings (each a "Closing" and the date on which each Closing occurs, a "Closing Date"). The Closing of the issuance of the Securities shall occur via "Delivery Versus Payment", i.e., on the Closing Date, the Company shall issue the Securities directly to the account designated by the Placement Agents and, upon receipt of such Securities, the Placement Agents shall electronically deliver such Securities to the applicable Investor and payment shall be made by the Placement Agents (or its clearing firm) by wire transfer to the Company. As compensation for services rendered, on each Closing Date, the Company shall pay to the Placement Agents:

(i) A cash fee equal to 8.0% of the gross proceeds received by the Company from the sale of the Securities at the closing of the Offering (the "Closing"); provided, however, the cash fee shall be reduced to 4.0% of the gross proceeds received by the Company from the sale of the Securities to an affiliate of the Company (as defined in the Securities Act (as defined below)).

(ii) an expense reimbursement amount pursuant and subject to Section 6 of this Agreement.

(b) The term of the Placement Agents' exclusive engagement shall expire on the earlier of December 31, 2023 and the final Closing Date. Notwithstanding anything to the contrary contained herein, the provisions concerning confidentiality, indemnification and contribution contained herein and the Company's obligations contained in the indemnification provisions will survive any expiration or termination of this Agreement, and the Company's obligation to pay fees actually earned and payable and to reimburse expenses actually incurred and reimbursable pursuant to Section 1 hereof and which are permitted to be reimbursed under FINRA Rule 5110(g) (4)(A), will survive any expiration or termination of this Agreement. Nothing in this Agreement shall be construed to limit the ability of the Placement Agents or their Affiliates to pursue, investigate, analyze, invest in, or engage in investment banking, financial advisory or any other business relationship with Persons (as defined below) other than the Company. As used herein (i) "Persons" means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind and (ii) "Affiliate" means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person as such terms are used in and construed under Rule 405 under the Securities Act of 1933, as amended (the "Securities Act").

**Section 2. Representations, Warranties and Covenants of the Company.** The Company hereby represents, warrants and covenants to the Placement Agents as of the date hereof, and as of each Closing Date, as follows:

(a) Securities Law Filings. The Company has filed with the Securities and Exchange Commission (the “Commission”) the Registration Statement under the Securities Act, which was originally filed on September 18, 2023, as amended, and declared effective on \_\_\_\_\_, 2023 for the registration of the offering and sale of the Securities under the Securities Act. Following the determination of pricing among the Company and the prospective Investors introduced to the Company by the Placement Agents, the Company will file with the Commission pursuant to Rules 430B and 424(b) under the Securities Act, and the rules and regulations (the “Rules and Regulations”) of the Commission promulgated thereunder, a final prospectus relating to the placement of the Securities, their respective pricings and the plan of distribution thereof and will advise the Placement Agents of all further information (financial and other) with respect to the Company required to be set forth therein. Such registration statement, including the exhibits thereto, as amended, is hereinafter called the “Registration Statement”; such prospectus in the form in which it appears in the Registration Statement at the time of effectiveness is hereinafter called the “Preliminary Prospectus”; and the final prospectus, in the form in which it will be filed with the Commission pursuant to Rules 430A and/or 424(b) (including the Preliminary Prospectus as it may be amended or supplemented) is hereinafter called the “Final Prospectus.” The Registration Statement at the time it originally became effective is hereinafter called the “Original Registration Statement.” Any reference in this Agreement to the Registration Statement, the Original Registration Statement, the Preliminary Prospectus or the Final Prospectus shall be deemed to refer to and include the documents incorporated by reference therein (the “Incorporated Documents”), if any, which were or are filed under the Securities Exchange Act of 1934, as amended (the “Exchange Act”) and incorporated by reference into the Registration Statement, the Original Registration Statement, the Preliminary Prospectus or the Final Prospectus, as the case may be; and any reference in this Agreement to the terms “amend,” “amendment” or “supplement” with respect to the Registration Statement, the Original Registration Statement, the Preliminary Prospectus or the Final Prospectus shall be deemed to refer to and include the filing of any document under the Exchange Act after the date of this Agreement, or the issue date of the Preliminary Prospectus or the Final Prospectus, as the case may be, deemed to be incorporated therein by reference. All references in this Agreement to financial statements and schedules and other information which is “contained,” “included,” “described,” “referenced,” “set forth” or “stated” in the Registration Statement, the Preliminary Prospectus or the Final Prospectus (and all other references of like import) shall be deemed to mean and include all such financial statements and schedules and other information which is or is deemed to be incorporated by reference in the Registration Statement, the Preliminary Prospectus or the Final Prospectus, as the case may be. As used in this paragraph and elsewhere in this Agreement, “Time of Sale Disclosure Package” means the Preliminary Prospectus, the final terms of the Offering provided to the Investors in writing and any issuer free writing prospectus as defined in Rule 433 of the Act (each, an “Issuer Free Writing Prospectus”), if any, that the parties hereto shall hereafter expressly agree in writing to treat as part of the Time of Sale Disclosure Package. The term “any Prospectus” shall mean, as the context requires, the Preliminary Prospectus, the Final Prospectus, and any supplement to either thereof. The Company has not received any notice that the Commission has issued or intends to issue a stop order suspending the effectiveness of the Registration Statement or the use of the Preliminary Prospectus or any prospectus supplement or intends to commence a proceeding for any such purpose.

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(b) Assurances. The Original Registration Statement, as amended, (and any further documents to be filed with the Commission) contains all exhibits and schedules as required by the Securities Act. Each of the Registration Statement and any post-effective amendment thereto, at the time it became effective, complied in all material respects with the Securities Act and the applicable Rules and Regulations and did 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; provided, however, that the Company makes no representations with respect to the Placement Agent Information (as defined below). The Final Prospectus, as of its date, complied or will comply in all material respects with the Securities Act and the applicable Rules and Regulations. The Final Prospectus, as amended or supplemented, did not and will not contain as of the date thereof any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading; provided, however, that the Company makes no representations with respect to the Placement Agent Information. The Incorporated Documents, when they were filed with the Commission, conformed in all material respects to the requirements of the Exchange Act and the applicable Rules and Regulations promulgated thereunder, and none of such documents, when they were filed with the Commission, contained any untrue statement of a material fact or omitted to state a material fact necessary to make the statements therein (with respect to Incorporated Documents incorporated by reference in the Final Prospectus), in light of the circumstances under which they were made not misleading. No post-effective amendment to the Registration Statement reflecting any facts or events arising after the date thereof which represent, individually or in the aggregate, a fundamental change in the information set forth therein is required to be filed with the Commission. Except for this Agreement and the Transaction Documents, there are no documents required to be filed with the Commission in connection with the transaction contemplated hereby that (x) have not been filed as required pursuant to the Securities Act or (y) will not be filed within the requisite time period. Except for this Agreement and the Transaction Documents, there are no contracts or other documents required to be described in the Final Prospectus, or to be filed as exhibits or schedules to the Registration Statement, which have not been described or filed as required. “Placement Agent Information” shall mean the information provided to the Company by the Placement Agents and included in subsections “Electronic Distribution,” “Regulation M,” “Certain Relationships,” and “Selling Restrictions” under the “Plan of Distribution” section in the Final Prospectus.

(c) Offering Materials. Neither the Company nor any of its directors and officers has distributed and none of them will distribute, prior to each Closing Date, any offering material in connection with the offering and sale of the Securities other than the Time of Sale Disclosure Package.

(d) Authorization; Enforcement. The Company has the requisite corporate power and authority to enter into and to consummate the transactions contemplated by this Agreement and the Time of Sale Disclosure Package and otherwise to carry out its obligations hereunder and thereunder. The execution and delivery of each of this Agreement by the Company and the consummation by it of the transactions contemplated hereby and thereby have been duly authorized by all necessary action on the part of the Company and no further action is required by the Company, the Company’s Board of Directors (the “Board of Directors”) or the Company’s stockholders in connection therewith other than in connection with the Required Approvals (as defined in the Purchase Agreement). This Agreement has been duly executed by the Company and, when delivered in accordance with the terms hereof, will constitute the valid and binding obligation of the Company enforceable against the Company in accordance with its terms, except (i) as limited by general equitable principles and applicable bankruptcy, insolvency, reorganization, moratorium and other laws of general application affecting enforcement of creditors’ rights generally, (ii) as limited by laws relating to the availability of specific performance, injunctive relief or other equitable remedies and (iii) insofar as indemnification and contribution provisions may be limited by applicable law.

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

(f) Certificates. Any certificate signed by an officer of the Company and delivered to the Placement Agents or to counsel for the Placement Agents shall be



deemed to be a representation and warranty by the Company to the Placement Agents as to the matters set forth therein.

(g) Reliance. The Company acknowledges that the Placement Agents will rely upon the accuracy and truthfulness of the foregoing representations and warranties and hereby consents to such reliance.

(h) Forward-Looking Statements. No forward-looking statements (within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act) contained in the Time of Sale Disclosure Package has been made or reaffirmed without a reasonable basis or has been disclosed other than in good faith.

(i) Statistical or Market-Related Data. Any statistical, industry-related and market-related data included or incorporated by reference in the Time of Sale Disclosure Package are based on or derived from sources that the Company reasonably and in good faith believes to be reliable and accurate, and such data agree with the sources from which they are derived.

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(j) Certain Fees; FINRA Affiliations. Except as set forth in the Registration Statement, the Time of Sale Disclosure Package and the Final Prospectus, no brokerage or finder's fees or commissions are or will be payable by the Company, any Subsidiary or Affiliate of 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. There are no other arrangements, agreements or understandings of the Company or, to the Company's knowledge, any of its stockholders that may affect the Placement Agents' compensation, as determined by FINRA. Other than payments to the Placement Agents for this Offering, the Company has not made and has no agreements, arrangements or understanding to make any direct or indirect payments (in cash, securities or otherwise) to: (i) any person, as a finder's fee, consulting fee or otherwise, in consideration of such person raising capital for the Company or introducing to the Company persons who raised or provided capital to the Company; (ii) any FINRA member participating in the offering as defined in FINRA Rule 5110 (a "Participating Member"); or (iii) any person or entity that has any direct or indirect affiliation or association with any Participating Member, within the 180-day period preceding the initial filing of the Registration Statement through the 60-day period after the Effective Date. None of the net proceeds of the Offering will be paid by the Company to any Participating Member or its affiliates, except as specifically authorized herein. To the Company's knowledge, no officer, director or any beneficial owner of 10% or more of the Company's Common Stock or Common Stock Equivalents has any direct or indirect affiliation or association with any Participating Member in the Offering. Except for securities purchased on the open market, no Company Affiliate is an owner of stock or other securities of any Participating Member. No Company Affiliate has made a subordinated loan to any Participating Member. No proceeds from the sale of the Securities (excluding placement agent compensation as disclosed in the Registration Statement and the Prospectus) will be paid to any Participating Member, any persons associated with a Participating Member or an affiliate of a Participating Member. Except as disclosed in the Prospectus, the Company has not issued any warrants or other securities or granted any options, directly or indirectly, to the Placement Agents within the 180-day period prior to the initial filing date of the Prospectus. Except for securities issued to the Placement Agents as disclosed in the Prospectus, no person to whom securities of the Company have been privately issued within the 180-day period prior to the initial filing date of the Prospectus is a Participating Member, is a person associated with a Participating Member or is an affiliate of a Participating Member. No Participating Member in the Offering has a conflict of interest with the Company. For this purpose, a "conflict of interest" exists when a Participating Member, the parent or affiliate of a Participating Member or any person associated with a Participating Member in the aggregate beneficially own 10% or more of the Company's outstanding subordinated debt or common equity, or 10% or more of the Company's preferred equity. "FINRA member participating in the Offering" includes any associated person of a Participating Member in the Offering, any member of such associated person's immediate family and any affiliate of a Participating Member in the Offering. When used in this Section 3.1(j) the term "affiliate of a FINRA member" or "affiliated with a FINRA member" means an entity that controls, is controlled by or is under common control with a FINRA member. The Company will advise the Representative and EGS if it learns that any officer, director or owner of 10% or more of the Company's outstanding Common Stock or Common Stock Equivalents is or becomes an affiliate or associated person of a Participating Member.

(k) Board of Directors. The Board of Directors is comprised of the persons set forth in the Company's definitive proxy statement on Schedule 14A, filed with the SEC on April 28, 2023. The qualifications of the persons serving as board members and the overall composition of the Board of Directors comply with the Sarbanes-Oxley Act of 2002 and the rules promulgated thereunder applicable to the Company and the rules of the Trading Market. In addition, at least a majority of the persons serving on the Board of Directors qualify as "independent" as defined under the rules of the Trading Market.

(l) D&O Questionnaires. To the Company's knowledge, all information contained in the questionnaires most recently completed by each of the Company's directors and officers is true and correct in all respects and the Company has not become aware of any information which would cause the information disclosed in such questionnaires become inaccurate and incorrect.

(m) Representations and Warranties Incorporated by Reference. Each of the representations and warranties (together with any related disclosure schedules thereto) made to the Investors in the Purchase Agreement is hereby incorporated herein by reference (as though fully restated herein) and is hereby made to, and in favor of, the Placement Agents.

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**Section 3. Delivery and Payment.** Each Closing shall occur at the offices of Ellenoff Grossman & Schole LLP, 1345 Avenue of the Americas, New York, New York 10105 ("Placement Agents' Counsel") (or at such other place as shall be agreed upon by the Placement Agents and the Company, which may include the electronic exchange of .pdf copies of executed documents). Subject to the terms and conditions hereof, at each Closing payment of the purchase price for the Securities sold on such Closing Date shall be made by Federal Funds wire transfer, against delivery of such Securities, and such Securities shall be registered in such name or names and shall be in such denominations, as the Placement Agents may request at least one business day before the Closing Date.

Deliveries of the documents with respect to the purchase of the Securities, if any, shall be made at the offices of Placement Agents' Counsel. All actions taken at a Closing shall be deemed to have occurred simultaneously.

**Section 4. Covenants and Agreements of the Company** The Company further covenants and agrees with the Placement Agents as follows:

(a) Registration Statement Matters. The Company will advise the Placement Agents promptly after it receives notice thereof of the time when any amendment to the Registration Statement has been filed or becomes effective or any supplement to the Final Prospectus has been filed and will furnish the Placement Agents with copies thereof. The Company will file promptly all reports and any definitive proxy or information statements required to be filed by the Company with the Commission pursuant to Section 13(a), 14 or 15(d) of the Exchange Act subsequent to the date of any Prospectus and for so long as the delivery of a prospectus is required in connection with the Offering. The Company will advise the Placement Agents, promptly after it receives notice thereof (i) of any request by the Commission to amend the Registration Statement or to amend or supplement any Prospectus or for additional information, (ii) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto or any order directed at any Incorporated Document, if any, or any amendment or supplement thereto or any order preventing or suspending the use of the Preliminary Prospectus or the Final Prospectus or any prospectus supplement or any amendment or supplement thereto or any post-effective amendment to the Registration Statement, of the suspension of the qualification of the Securities for offering or sale in any jurisdiction, of the institution or threatened institution of any proceeding for any such purpose, or of any request by the Commission for the amending or

supplementing of the Registration Statement or a Prospectus or for additional information, (iii) of the issuance by any state securities commission of any proceedings for the suspension of the qualification of the Securities for offering or sale in any jurisdiction or of the initiation, or the threatening, of any proceeding for that purpose; (iv) of the mailing and delivery to the Commission for filing of any amendment or supplement to the Registration Statement or Prospectus; (v) of the receipt of any comments or request for any additional information from the Commission; and (vi) of the happening of any event during the period described in this Section 4(a) that, in the judgment of the Company, makes any statement of a material fact made in the Registration Statement or the Prospectus untrue or that requires the making of any changes in the Registration Statement or the Prospectus in order to make the statements therein, in light of the circumstances under which they were made, not misleading. The Company shall use its best efforts to prevent the issuance of any such stop order or prevention or suspension of such use. If the Commission shall enter any such stop order or order or notice of prevention or suspension at any time, the Company will use its best efforts to obtain the lifting of such order at the earliest possible moment, or will file a new registration statement and use its best efforts to have such new registration statement declared effective as soon as practicable. Additionally, the Company agrees that it shall comply with the provisions of Rules 424(b), 430A, 430B and 430C, as applicable, under the Securities Act, including with respect to the timely filing of documents thereunder, and will use its reasonable efforts to confirm that any filings made by the Company under such Rule 424(b) are received in a timely manner by the Commission.

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(b) Blue Sky Compliance. The Company will cooperate with the Placement Agents and the Investors in endeavoring to qualify the Securities for sale under the securities laws of such jurisdictions (United States and foreign) as the Placement Agents and the Investors may reasonably request and will make such applications, file such documents, and furnish such information as may be reasonably required for that purpose, provided the Company shall not be required to qualify as a foreign corporation or to file a general consent to service of process in any jurisdiction where it is not now so qualified or required to file such a consent, and provided further that the Company shall not be required to produce any new disclosure document. The Company will, from time to time, prepare and file such statements, reports and other documents as are or may be required to continue such qualifications in effect for so long a period as the Placement Agents may reasonably request for distribution of the Securities. The Company will advise the Placement Agents promptly of the suspension of the qualification or registration of (or any such exemption relating to) the Securities for offering, sale or trading in any jurisdiction or any initiation or threat of any proceeding for any such purpose, and in the event of the issuance of any order suspending such qualification, registration or exemption, the Company shall use its best efforts to obtain the withdrawal thereof at the earliest possible moment.

(c) Amendments and Supplements to a Prospectus and Other Matters. The Company will comply with the Securities Act and the Exchange Act, and the rules and regulations of the Commission thereunder, so as to permit the completion of the distribution of the Securities as contemplated in this Agreement, the Registration Statement, the Time of Sale Disclosure Package and the Final Prospectus. If during the period in which a prospectus is required by law to be delivered in connection with the distribution of Securities contemplated by this Agreement, the Time of Sale Disclosure Package or the Final Prospectus (the "Prospectus Delivery Period"), any event shall occur as a result of which, in the judgment of the Company or in the opinion of the Placement Agents or counsel for the Placement Agents, it becomes necessary to amend or supplement the Registration Statement, the Time of Sale Disclosure Package or the Final Prospectus in order to make the statements therein, in the light of the circumstances under which they were made, as the case may be, not misleading, or if it is necessary at any time to amend or supplement the Registration Statement, the Time of Sale Disclosure Package or the Final Prospectus, the Company will promptly prepare and file with the Commission, and furnish at its own expense to the Placement Agents and to dealers, an appropriate amendment or supplement to the Registration Statement, the Time of Sale Disclosure Package or the Final Prospectus that is necessary in order to make the statements in the Registration Statement, the Time of Sale Disclosure Package and the Final Prospectus as so amended or supplemented, in the light of the circumstances under which they were made, as the case may be, not misleading, or so that the Registration Statement, the Time of Sale Disclosure Document or the Final Prospectus, as so amended or supplemented, will comply with law. Before amending or supplementing the Registration Statement, the Time of Sale Disclosure Package or the Final Prospectus in connection with the Offering, the Company will furnish the Placement Agents with a copy of such proposed amendment or supplement and will not file any such amendment or supplement to which any Placement Agents reasonably objects.

(d) Copies of any Amendments and Supplements to a Prospectus. The Company will furnish the Placement Agents, without charge, during the period beginning on the date hereof and ending on the later of the last Closing Date of the Offering, as many copies of any Prospectus or prospectus supplement and any amendments and supplements thereto, as the Placement Agents may reasonably request.

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(e) Free Writing Prospectus. The Company covenants that it will not, unless it obtains the prior written consent of the Placement Agents, make any offer relating to the Securities that would constitute a Company Free Writing Prospectus or that would otherwise constitute a "free writing prospectus" (as defined in Rule 405 of the Securities Act) required to be filed by the Company with the Commission or retained by the Company under Rule 433 of the Securities Act. In the event that the Placement Agents expressly consents in writing to any such free writing prospectus (a "Permitted Free Writing Prospectus"), the Company covenants that it shall (i) treat each Permitted Free Writing Prospectus as a Company Free Writing Prospectus, and (ii) comply with the requirements of Rule 164 and 433 of the Securities Act applicable to such Permitted Free Writing Prospectus, including in respect of timely filing with the Commission, legending and record keeping.

(f) Transfer Agent. Until such time as no Warrants are outstanding, the Company will maintain, at its expense, a registrar and transfer agent for the shares of Common Stock.

(g) Earnings Statement. As soon as practicable and in accordance with applicable requirements under the Securities Act, but in any event not later than 18 months after the last Closing Date, the Company will make generally available to its security holders and to the Placement Agents an earnings statement, covering a period of at least 12 consecutive months beginning after the last Closing Date, that satisfies the provisions of Section 11(a) and Rule 158 under the Securities Act.

(h) Periodic Reporting Obligations. During the Prospectus Delivery Period, the Company will duly file, on a timely basis, with the Commission and the Trading Market all reports and documents required to be filed under the Exchange Act within the time periods and in the manner required by the Exchange Act.

(i) Reserved.

(j) No Manipulation of Price. Neither the Company, nor, to its knowledge, any of its employees, directors or stockholders, has taken or will take, directly or indirectly, any action designed to or that has constituted or that might reasonably be expected to cause or result in, under the Exchange Act, or otherwise, stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Securities.

(k) Acknowledgment. The Company acknowledges that any advice given by the Placement Agents to the Company is solely for the benefit and use of the Board of Directors of the Company and may not be used, reproduced, disseminated, quoted or referred to, without the Placement Agents' prior written consent.

(l) Announcement of Offering. The Company acknowledges and agrees that the Placement Agents may, subsequent to the Closing, make public its involvement with the Offering in any "tombstone" or similar format. If the Placement Agents desire to make public their involvement with the Offering by any other means or in any other format, the Placement Agents shall first obtain with the Company's prior written consent.

(m) Reliance on Others. The Company confirms that it will rely on its own counsel and accountants for legal and accounting advice.

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(n) Research Matters. By entering into this Agreement, the Placement Agents do not provide any promise, either explicitly or implicitly, of favorable or continued research coverage of the Company and the Company hereby acknowledges and agrees that the Placement Agents' selection as a placement agent for the Offering was in no way conditioned, explicitly or implicitly, on the Placement Agents providing favorable or any research coverage of the Company. In accordance with FINRA Rule 2241(b)(2), the parties acknowledge and agree that the Placement Agents have not directly or indirectly offered favorable research, a specific rating or a specific price target, or threatened to change research, a rating or a price target, to the Company or inducement for the receipt of business or compensation. The Company hereby waives and releases, to the fullest extent permitted by law, any claims that the Company may have against the Placement Agents with respect to any conflict of interest that may arise from the fact that the views expressed by their independent research analysts and research departments may be different from or inconsistent with the views or advice communicated to the Company by the Placement Agents' investment banking divisions. The Company acknowledges that the Placement Agents are full service securities firms and as such from time to time, subject to applicable securities laws, may effect transactions for their own account or the account of their customers and hold long or short position in debt or equity securities of the Company.

(o) Subsequent Equity Sales.

(i) From the date hereof until through the date that is 180 days after the last Closing Date, in the event that the Offering results in gross proceeds of at least \$12 million, or until the date that is 90 days after the last Closing Date, in the event that the Offering results in gross proceeds of less than \$12 million, neither the Company nor any Subsidiary shall, without prior written consent of the Placement Agents, (i) issue, enter into any agreement to issue or announce the issuance or proposed issuance of any Common Stock or Common Stock Equivalents or (ii) file any registration statement or amendment or supplement thereto, other than the Prospectus or filing a registration statement on Form S-8 in connection with any employee benefit plan, in each case without prior written consent of the Placement Agent.

(ii) From the date hereof until one hundred and eighty (180) days after the Closing Date, the Company shall be prohibited from effecting or entering into an agreement to effect any issuance by the Company or any of its Subsidiaries of Common Stock or Common Stock Equivalents (or a combination of units thereof) involving a Variable Rate Transaction (as defined in the Purchase Agreement).

(iii) Notwithstanding the foregoing, this Section 4(o) shall not apply in respect of an Exempt Issuance, except that no Variable Rate Transaction (as defined in the Purchase Agreement) shall be an Exempt Issuance. An "Exempt Issuance" means the issuance of (a) Common Stock or equity awards to employees, officers or directors of the Company pursuant to any stock or option plan duly adopted for such purpose by a majority of the non-employee members of the Board of Directors or a majority of the members of a committee of non-employee directors established for such purpose for services rendered to the Company, (b) securities upon the exercise or exchange of or conversion of any Securities issued at the Closing and/or other securities upon the exercise or exchange of or conversion of securities exercisable or exchangeable for or convertible into shares of Common Stock issued and outstanding on the date of this Agreement, provided that such securities have not been amended since the date of this Agreement to increase the number of such securities or to decrease the exercise price, exchange price or conversion price of such securities (other than in connection with automatic price resets, stock splits, adjustments or combinations) or to extend the term of such securities, (c) securities issued pursuant to acquisitions or strategic transactions approved by a majority of the disinterested directors of the Company, provided that such securities are issued as "restricted securities" (as defined in Rule 144) and carry no registration rights that require or permit the filing of any registration statement in connection therewith during the prohibition period set forth in Section 4(o)(i), and provided that any such issuance shall only be to a Person (or to the equityholders of a Person) which is, itself or through its subsidiaries, an operating company or an owner of an asset in a business synergistic with the business of the Company and shall provide to the Company additional benefits in addition to the investment of funds, but shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities and (d) securities issuable pursuant to the Amended and Restated Founders Agreement dated as of September 13, 2016 by and between Fortress Biotech, Inc. and the Company.

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(p) Lock-Up Agreements. The Company shall not amend, modify, waive or terminate any provision of any of the Lock-Up Agreements except to extend the term of the lock-up period and shall enforce the provisions of each Lock-Up Agreement in accordance with its terms. If any party to a Lock-Up Agreement breaches any provision of a Lock-Up Agreement, the Company shall promptly use its best efforts to seek specific performance of the terms of such Lock-Up Agreement.

(q) FINRA. The Company shall advise the Placement Agents (who shall make an appropriate filing with FINRA) if it is aware that any officer, director, 10% or greater stockholder of the Company or Person that received the Company's unregistered equity securities in the past 180 days is or becomes an affiliate or associated person of a FINRA member firm prior to the earlier of the termination of this Agreement or the 60-day period after the Effective Date.

**Section 5. Conditions of the Obligations of the Placement Agents.** The obligations of the Placement Agents hereunder shall be subject to the accuracy of the representations and warranties on the part of the Company set forth in Section 2 hereof, in each case as of the date hereof and as of each Closing Date as though then made, to the timely performance by each of the Company of its covenants and other obligations hereunder on and as of such dates, and to each of the following additional conditions:

(a) Accountants' Comfort Letters. On the date hereof, the Placement Agents shall have received, and the Company shall have caused to be delivered to the Placement Agents, a letter from KPMG LLP (the current independent registered public accounting firm of the Company) BDO USA, P.C. (the former independent registered public accounting firm of the Company) and KPMG LLP (the independent registered public accounting firm of Baergic Bio, Inc.), addressed to the Placement Agents, dated as of the date hereof, in form and substance satisfactory to the Placement Agents. The letters shall not disclose any change in the condition (financial or other), earnings, operations, business or prospects of the Company from that set forth in the Incorporated Documents or the applicable Prospectus or prospectus supplement, which, in the Placement Agents' judgment, is material and adverse and that makes it, in the Placement Agents' judgment, impracticable or inadvisable to proceed with the Offering of the Securities as contemplated by such Prospectus.

(b) Compliance with Registration Requirements; No Stop Order; No Objection from the FINRA. Each Prospectus (in accordance with Rule 424(b)) and "free writing prospectus" (as defined in Rule 405 of the Securities Act), if any, shall have been duly filed with the Commission, as appropriate; no stop order suspending the effectiveness of the Registration Statement or any part thereof shall have been issued and no proceeding for that purpose shall have been initiated or threatened by the Commission; no order preventing or suspending the use of any Prospectus shall have been issued and no proceeding for that purpose shall have been initiated or threatened by the Commission; no order having the effect of ceasing or suspending the distribution of the Securities or any other securities of the Company shall have been issued by any securities commission, securities regulatory authority or stock exchange and no proceedings for that purpose shall have been instituted or shall be pending or, to the knowledge of the Company, contemplated by any securities commission, securities regulatory authority or stock exchange; all requests for additional information on the part of the Commission shall have been complied with; and the FINRA shall have raised no objection to the fairness and reasonableness of the placement terms and arrangements.

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( c ) Corporate Proceedings. All corporate proceedings and other legal matters in connection with this Agreement, the Registration Statement and each Prospectus, and the registration, sale and delivery of the Securities, shall have been completed or resolved in a manner reasonably satisfactory to the Placement Agents' Counsel, and such counsel shall have been furnished with such papers and information as it may reasonably have requested to enable such counsel to pass upon the matters referred to in this Section 5.

( d ) No Material Adverse Change. Subsequent to the execution and delivery of this Agreement and prior to each Closing Date, in the Placement Agents' judgment after consultation with the Company, there shall not have occurred any Material Adverse Effect or any material adverse change or development involving a prospective material adverse change in the condition or the business activities, financial or otherwise, of the Company from the latest dates as of which such condition is set forth in the Registration Statement and Prospectus ("Material Adverse Change").

( e ) Opinion of Company Counsel for the Company. The Placement Agents shall have received on each Closing Date the favorable opinion of Company Counsel, dated as of such Closing Date, including, without limitation, a negative assurance letter addressed to the Placement Agents and in form and substance satisfactory to the Placement Agents.

( f ) Opinion of IP Counsels for the Company. The Placement Agents shall have received on each Closing Date the favorable opinion of the Company's intellectual property counsels, dated as of such Closing Date addressed to the Placement Agents and in form and substance satisfactory to the Placement Agents.

( g ) Officers' Certificate. The Placement Agents shall have received on each Closing Date a certificate of the Company, dated as of such Closing Date, signed by the Chief Executive Officer and Interim Chief Financial Officer of the Company, to the effect that, and the Placement Agents shall be satisfied that, the signers of such certificate have reviewed the Registration Statement, the Time of Sale Disclosure Package, the Final Prospectus and this Agreement and to the further effect that:

(i) The representations and warranties of the Company in this Agreement are true and correct, as if made on and as of such Closing Date, and the Company has complied with all the agreements and satisfied all the conditions on its part to be performed or satisfied at or prior to such Closing Date;

(ii) No stop order suspending the effectiveness of the Registration Statement or the use of the Prospectus has been issued and no proceedings for that purpose have been instituted or are pending or, to the Company's knowledge, threatened under the Securities Act; no order having the effect of ceasing or suspending the distribution of the Securities or any other securities of the Company has been issued by any securities commission, securities regulatory authority or stock exchange in the United States and no proceedings for that purpose have been instituted or are pending or, to the knowledge of the Company, contemplated by any securities commission, securities regulatory authority or stock exchange in the United States;

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(iii) When the Registration Statement became effective, at the time of sale, and at all times subsequent thereto up to the delivery of such certificate, the Registration Statement, the Time of Sale Disclosure Package, the Final Prospectus and the Incorporated Documents, when such documents became effective or were filed with the Commission, contained all material information required to be included therein by the Securities Act and the Exchange Act and the applicable rules and regulations of the Commission thereunder, as the case may be, and in all material respects conformed to the requirements of the Securities Act and the Exchange Act and the applicable rules and regulations of the Commission thereunder, as the case may be, and the Registration Statement, the Time of Sale Disclosure Package and the Final Prospectus, did not and do not include 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, in the light of the circumstances under which they were made, not misleading (provided, however, that the preceding representations and warranties contained in this paragraph (iii) shall not apply to any statements or omissions made in reliance upon and in conformity with information furnished in writing to the Company by the Placement Agents expressly for use therein) and, since the effective date of the Registration Statement, there has occurred no event required by the Securities Act and the rules and regulations of the Commission thereunder to be set forth in the Registration Statement or the Time of Sale Disclosure Package which has not been so set forth; and

(iv) Subsequent to the respective dates as of which information is given in the Registration Statement, the Time of Sale Disclosure Package and the Final Prospectus, there has not been: (a) any Material Adverse Change; (b) any transaction that is material to the Company and the Subsidiaries taken as a whole, except transactions entered into in the ordinary course of business; (c) any obligation, direct or contingent, that is material to the Company and the Subsidiaries taken as a whole, incurred by the Company or any Subsidiary, except obligations incurred in the ordinary course of business; (d) any material change in the capital stock (except changes thereto resulting from the exercise of outstanding stock options or warrants) or outstanding indebtedness of the Company or any Subsidiary; (e) any dividend or distribution of any kind declared, paid or made on the capital stock of the Company; or (f) any loss or damage (whether or not insured) to the property of the Company or any Subsidiary which has been sustained or will have been sustained which has a Material Adverse Effect.

( h ) Bring-down Comfort Letter. On each Closing Date, the Placement Agents shall have received from each of KPMG LLP and BDO USA, P.C. letters dated as of such Closing Date, in form and substance satisfactory to the Placement Agents, to the effect that they reaffirm the statements made in the letter furnished pursuant to subsection (a) of this Section 5, except that the specified date referred to therein for the carrying out of procedures shall be no more than three business days prior to such Closing Date.

( i ) Lock-Up Agreements. On the date hereof, the Placement Agents shall have received the executed lock-up agreement from each of the Company's directors and officers as of the date hereof.

( j ) Stock Exchange Listing. The Common Stock shall be registered under the Exchange Act and shall be listed on the Trading Market, and the Company shall not have taken any action designed to terminate, or likely to have the effect of terminating, the registration of the shares of Common Stock under the Exchange Act or delisting or suspending from trading the shares of Common Stock from the Trading Market, nor shall the Company have received any information suggesting that the Commission or the Trading Market is contemplating terminating such registration or listing, other than as disclosed in the Registration Statement, the Time of Sale Disclosure Package or the Final Prospectus.

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( k ) Warrant Agency Agreement. On the Closing Date, the duly executed warrant agency agreement executed by and between the Company and the warrant agent.

( l ) Additional Documents. On or before each Closing Date, the Placement Agents and Placement Agents' Counsel shall have received such information and

documents as they may reasonably require for the purposes of enabling them to pass upon the issuance and sale of the Securities as contemplated herein, or in order to evidence the accuracy of any of the representations and warranties, or the satisfaction of any of the conditions or agreements, herein contained.

If any condition specified in this Section 5 is not satisfied when and as required to be satisfied, this Agreement may be terminated by the Placement Agents by notice to the Company at any time on or prior to a Closing Date, which termination shall be without liability on the part of any party to any other party, except that Section 6 (Payment of Expenses), Section 7 (Indemnification and Contribution) and Section 8 (Representations and Indemnities to Survive Delivery) shall at all times be effective and shall survive such termination.

**Section 6. Payment of Expenses.** The Company agrees to pay all costs, fees and expenses incurred by the Company in connection with the performance of its obligations hereunder and in connection with the transactions contemplated hereby, including, without limitation: (i) all expenses incident to the issuance, delivery and qualification of the Securities (including all printing and engraving costs); (ii) all fees and expenses of the registrar and transfer agent of the Common Stock; (iii) all necessary issue, transfer and other stamp taxes in connection with the issuance and sale of the Securities; (iv) all fees and expenses of the Company's counsel, independent public or certified public accountants and other advisors; (v) all costs and expenses incurred in connection with the preparation, printing, filing, shipping and distribution of the Registration Statement (including financial statements, exhibits, schedules, consents and certificates of experts), the Preliminary Prospectus, the Final Prospectus and each prospectus supplement, if any, and all amendments and supplements thereto, and this Agreement; (vi) all filing fees, reasonable attorneys' fees and expenses incurred by the Company or the Placement Agents in connection with qualifying or registering (or obtaining exemptions from the qualification or registration of) all or any part of the Securities for offer and sale under the state securities or blue sky laws or the securities laws of any other country; (vii) if applicable, the filing fees incident to the review and approval by the FINRA of the Placement Agents' participation in the offering and distribution of the Securities; (viii) the fees and expenses associated with including the Shares and Warrant Shares on the Trading Market; (ix) all costs and expenses incident to the travel and accommodation of the Company's and the Placement Agents' employees on the "roadshow," if any; and (x) all other fees, costs and expenses referred to in Part II of the Registration Statement; provided that expenses incurred by the Placement Agents to be reimbursed by the Company hereunder shall not exceed \$100,000 in the aggregate, unless otherwise agreed in writing by the Company and the Placement Agents.

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### Section 7. Indemnification and Contribution.

(a) The Company agrees to indemnify and hold harmless the Placement Agents, their affiliates and each person controlling the Placement Agents (within the meaning of Section 15 of the Securities Act), and the directors, officers, agents and employees of the Placement Agents, their affiliates and each such controlling person (the Placement Agents, and each such entity or person, an "Indemnified Person") from and against any losses, claims, damages, judgments, assessments, costs and other liabilities (collectively, the "Liabilities"), and shall reimburse each Indemnified Person for all fees and expenses (including the reasonable fees and expenses of one counsel for all Indemnified Persons, except as otherwise expressly provided herein) (collectively, the "Expenses") as they are incurred by an Indemnified Person in investigating, preparing, pursuing or defending any actions, whether or not any Indemnified Person is a party thereto, (i) caused by, or arising out of or in connection with, any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, the Time of Sale Disclosure Package, the Final Prospectus or by any omission or alleged omission to state therein a material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading (other than untrue statements or alleged untrue statements in, or omissions or alleged omissions from, information relating to an Indemnified Person furnished in writing by or on behalf of such Indemnified Person expressly for use in the Registration Statement, the Time of Sale Disclosure Package or the Final Prospectus) or (ii) otherwise arising out of or in connection with advice or services rendered or to be rendered by any Indemnified Person pursuant to this Agreement, the transactions contemplated hereby or any Indemnified Person's actions or inactions in connection with any such advice, services or transactions; provided, however, that, in the case of clause (ii) only, the Company shall not be responsible for any Liabilities or Expenses of any Indemnified Person that are finally judicially determined to have resulted solely from such Indemnified Person's (x) gross negligence or willful misconduct in connection with any of the advice, actions, inactions or services referred to above or (y) use of any offering materials or information concerning the Company in connection with the offer or sale of the Securities in the Offering which were not authorized for such use by the Company and which use constitutes gross negligence or willful misconduct. The Company also agrees to reimburse each Indemnified Person for all Expenses as they are incurred in connection with enforcing such Indemnified Person's rights under this Agreement.

(b) Upon receipt by an Indemnified Person of actual notice of an action against such Indemnified Person with respect to which indemnity may be sought under this Agreement, such Indemnified Person shall promptly notify the Company in writing; provided that failure by any Indemnified Person so to notify the Company shall not relieve the Company from any liability which the Company may have on account of this indemnity or otherwise to such Indemnified Person, except to the extent the Company shall have been prejudiced by such failure. The Company shall, if requested by the Placement Agents, assume the defense of any such action including the employment of counsel reasonably satisfactory to the Placement Agents, which counsel may also be counsel to the Company. Any Indemnified Person 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 Indemnified Person unless: (i) the Company has failed promptly to assume the defense and employ counsel or (ii) the named parties to any such action (including any impeded parties) include such Indemnified Person and the Company, and such Indemnified Person shall have been advised in the reasonable opinion of counsel that there is an actual conflict of interest that prevents the counsel selected by the Company from representing both the Company (or another client of such counsel) and any Indemnified Person; provided that the Company shall not in such event be responsible hereunder for the fees and expenses of more than one firm of separate counsel for all Indemnified Persons in connection with any action or related actions, in addition to any local counsel. The Company shall not be liable for any settlement of any action effected without its written consent (which shall not be unreasonably withheld). In addition, the Company shall not, without the prior written consent of the Placement Agents (which shall not be unreasonably withheld), settle, compromise or consent to the entry of any judgment in or otherwise seek to terminate any pending or threatened action in respect of which indemnification or contribution may be sought hereunder (whether or not such Indemnified Person is a party thereto) unless such settlement, compromise, consent or termination includes an unconditional release of each Indemnified Person from all Liabilities arising out of such action for which indemnification or contribution may be sought hereunder. The indemnification required hereby shall be made by periodic payments of the amount thereof during the course of the investigation or defense, as such expense, loss, damage or liability is incurred and is due and payable.

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(c) In the event that the foregoing indemnity is unavailable to an Indemnified Person other than in accordance with this Agreement, the Company shall contribute to the Liabilities and Expenses paid or payable by such Indemnified Person in such proportion as is appropriate to reflect (i) the relative benefits to the Company, on the one hand, and to the Placement Agents and any other Indemnified Person, on the other hand, of the matters contemplated by this Agreement or (ii) if the allocation provided by the immediately preceding clause is not permitted by applicable law, not only such relative benefits but also the relative fault of the Company, on the one hand, and the Placement Agents and any other Indemnified Person, on the other hand, in connection with the matters as to which such Liabilities or Expenses relate, as well as any other relevant equitable considerations; provided that in no event shall the Company contribute less than the amount necessary to ensure that all Indemnified Persons, in the aggregate, are not liable for any Liabilities and Expenses in excess of the amount of fees actually received by the Placement Agents pursuant to this Agreement. For purposes of this paragraph, the relative benefits to the Company, on the one hand, and to the Placement Agents on the other hand, of the matters contemplated by this Agreement shall be deemed to be in the same proportion as (a) the total value paid or contemplated to be paid to or received or contemplated to be received by the Company in the transaction or transactions that are within the scope of this Agreement, whether or not any such transaction is consummated, bears to (b) the fees paid to the Placement Agents under this Agreement. Notwithstanding the above, no person guilty of fraudulent misrepresentation within the meaning of Section 11(f) of the Securities Act, as amended, shall be entitled to contribution from a party who was not guilty of fraudulent misrepresentation.

(d) The Company also agrees that no Indemnified Person shall have any liability (whether direct or indirect, in contract or tort or otherwise) to the Company for or in connection with advice or services rendered or to be rendered by any Indemnified Person pursuant to this Agreement, the transactions contemplated thereby or any Indemnified Person's actions or inactions in connection with any such advice, services or transactions except for Liabilities (and related Expenses) of the Company that are finally judicially determined to have resulted solely from such Indemnified Person's gross negligence or willful misconduct in connection with any such advice, actions, inactions or services.

(e) The reimbursement, indemnity and contribution obligations of the Company set forth herein shall apply to any modification of this Agreement and shall remain in full force and effect regardless of any termination of, or the completion of any Indemnified Person's services under or in connection with, this Agreement.

**Section 8. Representations and Indemnities to Survive Delivery.** The respective indemnities, agreements, representations, warranties and other statements of the Company or any person controlling the Company, of its officers, and of the Placement Agents set forth in or made pursuant to this Agreement will remain in full force and effect, regardless of any investigation made by or on behalf of the Placement Agents, the Company, or any of its or their partners, officers or directors or any controlling person, as the case may be, and will survive delivery of and payment for the Securities sold hereunder and any termination of this Agreement. A successor to a Placement Agents, or to the Company, its directors or officers or any person controlling the Company, shall be entitled to the benefits of the indemnity, contribution and reimbursement agreements contained in this Agreement.

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**Section 9. Notices.** All communications hereunder shall be in writing and shall be mailed, hand delivered or e-mailed and confirmed to the parties hereto as follows:

If to the Placement Agents to the addresses set forth above, attention: James Siegel, email: jsiegel@maximgrp.com and [\_\_\_\_], email: [\_\_\_\_].

*With a copy to:*

Ellenoff Grossman & Schole LLP  
1345 Avenue of the Americas, 11th Floor  
New York, New York 10105  
E-mail: mbernstein@egsllp.com

If to the Company:

1111 Kane Concourse, Suite 301  
Bay Harbor Islands, Florida 33154  
Attention: David Jin, Chief Operating Officer and Interim Chief Financial Officer  
Email: djin@avenuetx.com

*With a copy to:*

McGuireWoods LLP  
201 North Tryon Street, Suite 3000  
Charlotte, North Carolina 28202  
Email: rgopalan@mcguirewoods.com

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

**Section 10. Successors.** This Agreement will inure to the benefit of and be binding upon the parties hereto, and to the benefit of the employees, officers and directors and controlling persons referred to in Section 7 hereof, and to their respective successors, and personal representative, and no other person will have any right or obligation hereunder.

**Section 11. Partial Unenforceability.** The invalidity or unenforceability of any section, paragraph or provision of this Agreement shall not affect the validity or enforceability of any other section, paragraph or provision hereof. If any Section, paragraph or provision of this Agreement is for any reason determined to be invalid or unenforceable, there shall be deemed to be made such minor changes (and only such minor changes) as are necessary to make it valid and enforceable.

**Section 12. Governing Law.** This Agreement will be governed by, and construed in accordance with, the laws of the State of New York applicable to agreements made and to be performed entirely in such State, without regard to the conflicts of laws principles thereof. This Agreement may not be assigned by either party without the prior written consent of the other party. This Agreement shall be binding upon and inure to the benefit of the parties hereto, and their respective successors and permitted assigns. Any right to trial by jury with respect to any dispute arising under this Agreement or any transaction or conduct in connection herewith is waived. Any dispute arising under this Agreement may be brought into the courts of the State of New York or into the Federal Court located in New York, New York and, by execution and delivery of this Agreement, the Company hereby accepts for itself and in respect of its property, generally and unconditionally, the jurisdiction of aforesaid courts. Each party hereto hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by delivering a copy thereof via overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. The Company agrees that a final judgment in any such action, proceeding or counterclaim brought in any such court shall be conclusive and binding upon the Company and may be enforced in any other courts to the jurisdiction of which the Company is or may be subject, by suit upon such judgment. If either party to this Agreement shall commence an action or proceeding to enforce any provisions of a Transaction Document, then the prevailing party in such action or proceeding shall be reimbursed by the other party for its attorney's fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

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**Section 13. General Provisions.**

(a) This Agreement constitutes the entire agreement of the parties to this Agreement and supersedes all prior written or oral and all contemporaneous oral agreements, understandings and negotiations with respect to the subject matter hereof, including, without limitation, the Engagement Agreement, dated August 28, 2023, as amended, between the Company and the Placement Agents. This Agreement may be executed in two or more counterparts, each one of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument. This Agreement may not be amended or modified unless in writing by all of the parties hereto, and no condition herein (express or implied) may be waived unless waived in writing by each party whom the condition is meant to benefit. Section

headings herein are for the convenience of the parties only and shall not affect the construction or interpretation of this Agreement.

(b) The Company acknowledges that in connection with the offering of the Securities: (i) the Placement Agents' responsibility to the Company is solely contractual and commercial in nature, (ii) the Placement Agents have acted at arms length, are not agents of, and owe no fiduciary duties to the Company or any other person, (iii) the Placement Agents owe the Company only those duties and obligations set forth in this Agreement and (iv) the Placement Agents may have interests that differ from those of the Company. The Company waives to the fullest extent permitted by applicable law any claims it may have against the Placement Agents arising from any breach or alleged breach of fiduciary duty in connection with the offering of the Securities.

*[The remainder of this page has been intentionally left blank.]*

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If the foregoing is in accordance with your understanding of our agreement, please sign below whereupon this instrument, along with all counterparts hereof, shall become a binding agreement in accordance with its terms.

Very truly yours,

**AVENUE THERAPEUTICS, INC.**

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

The foregoing Placement Agency Agreement is hereby confirmed and accepted as of the date first above written.

**MAXIM GROUP LLC**

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

**LAKE STREET CAPITAL MARKETS, LLC**

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

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## SECURITIES PURCHASE AGREEMENT

This Securities Purchase Agreement (this “Agreement”) is dated as of \_\_\_\_, 2023, between Avenue Therapeutics, Inc., a Delaware corporation (the “Company”), and each purchaser identified on the signature pages hereto (each, including its successors and assigns, a “Purchaser” and collectively the “Purchasers”).

WHEREAS, subject to the terms and conditions set forth in this Agreement and pursuant to an effective registration statement under the Securities Act (as defined below), the Company desires to issue and sell to each Purchaser, and each Purchaser, severally and not jointly, desires to purchase from the Company, securities of the Company as more fully described in this Agreement.

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 each Purchaser agree as follows:

### ARTICLE I. DEFINITIONS

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

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

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

“Affiliate” means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person as such terms are used in and construed under Rule 405 under the Securities Act.

“Board of Directors” means the board of directors of the Company.

“Business Day” means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed; provided, however, for clarification, commercial banks shall not be deemed to be authorized or required by law to remain closed due to “stay at home”, “shelter-in-place”, “non-essential employee” or any other similar orders or restrictions or the closure of any physical branch locations at the direction of any governmental authority so long as the electronic funds transfer systems (including for wire transfers) of commercial banks in The City of New York are generally open for use by customers on such day.

“Closing” means the closing of the purchase and sale of the Securities pursuant to Section 2.1.

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

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

“Common Stock” means the common stock of the Company, par value \$0.0001 per share, and any other class of securities into which such securities may hereafter be reclassified or changed.

“Common Stock Equivalents” means any securities of the Company or the Subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

“Common Unit” means each Common Unit consisting of (a) one Share, (b) one Series A Warrant to purchase one Common Warrant Share and (c) one Series B Warrant to purchase one Common Warrant Share.

“Common Unit Purchase Price” equals \$\_\_ per each Common Unit, subject to adjustments for reverse and forward stock splits, stock dividends, stock combinations and other similar transactions of Common Stock that occur after the date of this Agreement.

“Common Unit Subscription Amount” means, as to each Purchaser, the aggregate amount to be paid for the Common Units hereunder as specified below such Purchaser’s name on the signature page of this Agreement and next to the heading “Common Unit Subscription Amount”, in immediately available funds.

“Common Warrants” means, collectively, the Series A Warrants and the Series B Warrants.

“Common Warrant Shares” means the shares of Common Stock issuable upon exercise of the Common Warrants.

“Company Counsel” means McGuireWoods LLP with offices located at 201 N. Tryon Street, Suite 3000, Charlotte, North Carolina 28202.

“Disclosure Time” means, (i) if this Agreement is signed on a day that is not a Trading Day or after 9:00 a.m. (New York City time) and before midnight (New York City time) on any Trading Day, 9:01 a.m. (New York City time) on the Trading Day immediately following the date hereof, unless otherwise instructed as to an earlier time by the Placement Agents, and (ii) if this Agreement is signed between midnight (New York City time) and 9:00 a.m. (New York City time) on any Trading Day, no later than 9:01 a.m. (New York City time) on the date hereof, unless otherwise instructed as to an earlier time by the Placement Agents.

“EGS” means Ellenoff Grossman & Schole LLP, with offices located at 1345 Avenue of the Americas, New York, New York 10105-0302.

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



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

“Exempt Issuance” means the issuance of (a) Common Stock or equity awards to employees, officers or directors of the Company pursuant to any stock or option plan duly adopted for such purpose, by a majority of the non-employee members of the Board of Directors or a majority of the members of a committee of non-employee directors established for such purpose for services rendered to the Company, (b) securities upon the exercise or exchange of or conversion of any Securities issued hereunder or securities issued to other purchasers pursuant to the Prospectus and/or other securities upon the exercise or exchange of or conversion of securities exercisable or exchangeable for or convertible into shares of Common Stock issued and outstanding on the date of this Agreement, provided that such securities have not been amended since the date of this Agreement to increase the number of such securities or to decrease the exercise price, exchange price or conversion price of such securities (other than in connection with automatic price resets, stock splits, adjustments or combinations) or to extend the term of such securities, (c) securities issued pursuant to acquisitions or strategic transactions approved by a majority of the disinterested directors of the Company, provided that such securities are issued as “restricted securities” (as defined in Rule 144) and carry no registration rights that require or permit the filing of any registration statement in connection therewith during the prohibition period in Section 4.12(a) herein, and provided that any such issuance shall only be to a Person (or to the equityholders of a Person) which is, itself or through its subsidiaries, an operating company or an owner of an asset in a business synergistic with the business of the Company and shall provide to the Company additional benefits in addition to the investment of funds, but shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities, (d) securities issuable pursuant to the Amended and Restated Founders Agreement dated as of September 13, 2016 by and between Fortress Biotech, Inc. and the Company, as amended from time to time, and (e) up to \$\_\_\_ of Common Units issued to other purchasers pursuant to the Prospectus concurrently with the Closing at the Common Unit Purchase Price, less the aggregate Subscription Amount pursuant to this Agreement.

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

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

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

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

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

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

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“IP Counsel” means each of Davidson, Davidson & Kappel, LLC, 589 8th Avenue, 22nd Floor, New York, NY 10018, and DLA Piper LLP (US), 4365 Executive Drive, Suite 1100, San Diego, CA 92121.

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

“Lock-Up Agreement” means the Lock-Up Agreement, dated as of the date hereof, by and among the Company and the directors, officers, and 10% stockholders of the Company, in the form of Exhibit A attached hereto.

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

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

“Person” means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

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

“Placement Agents” means Maxim Group LLC and Lake Street Capital Markets, LLC.

“Pre-Funded Unit” means each Pre-Funded Unit consisting of (a) one Pre-Funded Warrant to purchase one Pre-Funded Warrant Share, (b) one Series A Warrant to purchase one Warrant Share and (c) one Series B Warrant to purchase one Warrant Share.

“Pre-Funded Unit Purchase Price” equals \$\_\_\_ per each Pre-Funded Unit, subject to adjustment for reverse and forward stock splits, stock dividends, stock combinations and other similar transactions of the Common Stock that occur after the date of this Agreement.

“Pre-Funded Unit Subscription Amount” means, as to each Purchaser, the aggregate amount to be paid for the Pre-Funded Units purchased hereunder as specified below such Purchaser’s name on the signature page of this Agreement and next to the heading “Pre-Funded Unit Subscription Amount,” in immediately available funds.

“Pre-Funded Warrants” means, collectively, the pre-funded Common Stock purchase warrants delivered to the Purchasers at the Closing in accordance with Section 2.2(a) hereof, which Pre-Funded Warrants shall be exercisable immediately and shall expire when exercised in full, in the form of Exhibit C attached hereto.

“Pre-Funded Warrant Shares” means the shares of Common Stock issuable upon exercise of the Pre-Funded Warrants.

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“Preliminary Prospectus” means any preliminary prospectus included in the Registration Statement, as originally filed or as part of any amendment thereto, or filed with the Commission pursuant to Rule 424(a) of the rules and regulations of the Commission under the Securities Act.

“Pricing Prospectus” means (i) the Preliminary Prospectus relating to the Securities that was included in the Registration Statement immediately prior to [ ] (New York City time) on the date hereof and (ii) any free writing prospectus (as defined in the Securities Act) identified on Schedule A hereto, taken together.

“Proceeding” means an action, claim, suit, investigation or proceeding (including, without limitation, an informal investigation or partial proceeding, such as a

deposition), whether commenced or threatened.

“Prospectus” means the final prospectus filed for the Registration Statement.

“Purchaser Party” shall have the meaning ascribed to such term in Section 4.8.

“Registration Statement” means the effective registration statement with Commission file No. 333-274562 which registers the sale of the Securities to the Purchasers, and includes any Rule 462(b) Registration Statement.

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

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

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

“Rule 462(b) Registration Statement” means any registration statement prepared by the Company registering additional Securities, which was filed with the Commission on or prior to the date hereof and became automatically effective pursuant to Rule 462(b) promulgated by the Commission pursuant to the Securities Act.

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

“Securities” means the Units, the Shares, the Warrants and the Warrant Shares.

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

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“Series A Warrants” means, collectively, the Series A Common Stock purchase warrants to be delivered to the Purchasers at the Closing in accordance with Section 2.2(a) hereof, which Series A Warrants shall be exercisable immediately and have a term of exercise equal to five (5) years, in the form of Exhibit B (“[Series A/Series B] Common Stock Purchase Warrant”) attached hereto.

“Series B Warrants” means, collectively, the Series B Common Stock purchase warrants to be delivered to the Purchasers at the Closing in accordance with Section 2.2(b) hereof, which Series B Warrants shall be exercisable immediately and have a term of exercise equal to eighteen (18) months, in the form of Exhibit B (“[Series A/Series B] Common Stock Purchase Warrant”) attached hereto.

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

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

“Subscription Amount” means, as to each Purchaser, the Common Unit Subscription Amount and/or Pre-Funded Unit Subscription Amount, as applicable, in accordance with Section 2.1 herein.

“Subsidiary” means any subsidiary of the Company as set forth in the SEC Reports, and shall, where applicable, also include any direct or indirect subsidiary of the Company formed or acquired after the date hereof.

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

“Trading Market” means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE American, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, the New York Stock Exchange, the Pink Open Market, OTCQB or the OTCQX (or any successors to any of the foregoing).

“Transaction Documents” means this Agreement, the Lock-Up Agreements, the Warrants, the Warrant Agency Agreement, all exhibits and schedules thereto and hereto and any other documents or agreements executed in connection with the transactions contemplated hereunder.

“Transfer Agent” means VStock Transfer, LLC, the current transfer agent of the Company, with a mailing address of 18 Lafayette Pl., Woodmere, NY 11598 and a email address of info@vstocktransfer.com, and any successor transfer agent of the Company.

“Units” means, collectively, the Common Units and Pre-Funded Units.

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“Variable Rate Transaction” shall have the meaning ascribed to such term in Section 4.12(b).

“Warrants” means, collectively, the Series A Warrants, Series B Warrants and the Pre-Funded Warrants.

“Warrant Agency Agreement” means the warrant agency agreement dated on or about the Closing Date, between the Company and the Transfer Agent.

“Warrant Shares” means the shares of Common Stock issuable upon exercise of the Warrants.

## ARTICLE II. PURCHASE AND SALE

2.1 Closing. On the Closing Date, upon the terms and subject to the conditions set forth herein, the Company agrees to sell, and the Purchasers, severally and not jointly, agree to purchase, an aggregate of \$ \_\_\_ of Common Units determined pursuant to Section 2.2(a); provided, however, that, to the extent that a Purchaser determines, in its sole discretion, that such Purchaser (together with such Purchaser’s Affiliates, and any Person acting as a group together with such Purchaser or any of such Purchaser’s

Affiliates) would beneficially own in excess of the Beneficial Ownership Limitation, or as such Purchaser may otherwise choose, in lieu of purchasing Common Units such Purchaser may elect to purchase Pre-Funded Units at the Pre-Funded Unit Purchase Price. The “Beneficial Ownership Limitation” shall be 4.99% (or, at the election of the Purchaser at Closing, 9.99%) of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of the Securities on the Closing Date. Unless otherwise directed by the Placement Agents, each Purchaser’s Subscription Amount as set forth on the signature page hereto executed by such Purchaser shall be made available for “Delivery Versus Payment” settlement with the Company or its designee. The Company shall deliver to each Purchaser its respective Shares, Common Warrants and/or Pre-Funded Warrants (as applicable to such Purchaser) as determined pursuant to Section 2.2(a), and the Company and each Purchaser shall deliver the other items set forth in Section 2.2 deliverable at the Closing. Upon satisfaction of the covenants and conditions set forth in Sections 2.2 and 2.3, the Closing shall occur remotely by electronic transfer of the Closing documentation. Each Purchaser acknowledges that, concurrently with the Closing and pursuant to the Prospectus, the Company may sell up to \$[ ] of additional Units to purchasers not party to this Agreement, less the aggregate Subscription Amount pursuant to this Agreement, and will issue to such purchasers such shares of Common Stock, Common Warrants and/or Pre-Funded Warrants in the same form and at the Common Unit Purchase Price or Pre-Funded Unit Purchase Price, as applicable. Unless otherwise directed by the Placement Agents, settlement of the Shares shall occur via “Delivery Versus Payment” (“DVP”) (i.e., on the Closing Date, the Company shall issue the Shares registered in the Purchasers’ names and addresses and released by the Transfer Agent directly to the account(s) of the Placement Agents identified by each Purchaser; upon receipt of such Shares, the Placement Agents shall promptly electronically deliver such Shares to the applicable Purchaser, and payment therefor shall be made by the Placement Agents (or its clearing firm) by wire transfer to the Company). Notwithstanding anything herein to the contrary, if at any time on or after the time of execution of this Agreement by the Company and an applicable Purchaser, through, and including the time immediately prior to the Closing (the “Pre-Settlement Period”), such Purchaser sells to any Person all, or any portion, of the Shares to be issued hereunder to such Purchaser at the Closing (collectively, the “Pre-Settlement Shares”), such Purchaser shall, automatically hereunder (without any additional required actions by such Purchaser or the Company), be deemed to be unconditionally bound to purchase such Pre-Settlement Shares at the Closing; provided, that the Company shall not be required to deliver any Pre-Settlement Shares to such Purchaser prior to the Company’s receipt of the purchase price of such Pre-Settlement Shares hereunder; and provided further that the Company hereby acknowledges and agrees that the forgoing shall not constitute a representation or covenant by such Purchaser as to whether or not during the Pre-Settlement Period such Purchaser shall sell any shares of Common Stock to any Person and that any such decision to sell any shares of Common Stock by such Purchaser shall solely be made at the time such Purchaser elects to effect any such sale, if any. Notwithstanding anything to the contrary herein and a Purchaser’s Subscription Amount set forth on the signature pages attached hereto, the number of Shares purchased by a Purchaser (and its Affiliates) hereunder shall not, when aggregated with all other shares of Common Stock owned by such Purchaser (and its Affiliates) at such time, result in such Purchaser beneficially owning (as determined in accordance with Section 13(d) of the Exchange Act) in excess of the Beneficial Ownership Limitation, and such Purchaser’s Subscription Amount, to the extent it would otherwise exceed the Beneficial Ownership Limitation immediately prior to the Closing, shall be conditioned upon the issuance of Shares at the Closing to the other Purchasers signatory hereto. To the extent that a Purchaser’s beneficial ownership of the Shares would otherwise be deemed to exceed the Beneficial Ownership Limitation, such Purchaser’s Subscription Amount shall automatically be reduced as necessary in order to comply with this paragraph. Notwithstanding the foregoing, with respect to any Notice(s) of Exercise (as defined in the Pre-Funded Warrants) delivered on or prior to 12:00 p.m. (New York City time) on the Closing Date, which may be delivered at any time after the time of execution of this Agreement, the Company agrees to deliver the Pre-Funded Warrant Shares subject to such notice(s) by 4:00 p.m. (New York City time) on the Closing Date and the Closing Date shall be the Warrant Share Delivery Date (as defined in the Pre-Funded Warrants) for purposes hereunder.

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## 2.2 Deliveries.

- (a) On or prior to the Closing Date (except as indicated below), the Company shall deliver or cause to be delivered to each Purchaser the following:
- (i) this Agreement duly executed by the Company;
  - (ii) a legal opinion of Company Counsel, substantially in the form and substance reasonably acceptable to the Placement Agents and each Purchaser;
  - (iii) a legal opinion of IP Counsel, substantially in the form and substance reasonably acceptable to the Placement Agents and each Purchaser;
  - (iv) subject to the fifth sentence of Section 2.1, the Company shall have provided each Purchaser with the Company’s wire instructions, on Company letterhead and executed by the Chief Executive Officer or Chief Financial Officer;
  - (v) subject to the fifth sentence of Section 2.1, a copy of the irrevocable instructions to the Transfer Agent instructing the Transfer Agent to deliver on an expedited basis via The Depository Trust Company Deposit or Withdrawal at Custodian system (“DWAC”) Shares equal to such Purchaser’s Subscription Amount divided by the Common Unit Purchase Price, registered in the name of such Purchaser;

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- (vi) a copy of the irrevocable instructions to the Transfer Agent instructing the Transfer Agent to deliver on an expedited basis via The Depository Trust Company or DWAC a Series A Warrant to purchase up to a number of shares of Common Stock equal to 100% of such Purchaser’s Shares (or Pre-Funded Warrant Shares), with an exercise price equal to \$[ ], subject to adjustment therein;
  - (vii) a copy of the irrevocable instructions to the Transfer Agent instructing the Transfer Agent to deliver on an expedited basis via The Depository Trust Company or DWAC a Series B Warrant to purchase up to a number of shares of Common Stock equal to 100% of such Purchaser’s Shares (or Pre-Funded Warrant Shares), with an exercise price equal to \$[ ], subject to adjustment therein;
  - (viii) for each Purchaser of Pre-Funded Warrants pursuant to Section 2.1, a copy of the irrevocable instructions to the Transfer Agent instructing the Transfer Agent to deliver on an expedited basis via The Depository Trust Company or DWAC a Pre-Funded Warrant to purchase up to a number of shares of Common Stock equal to the portion of such Purchaser’s Subscription Amount applicable to Pre-Funded Warrants divided by the Pre-Funded Unit Purchase Price, with an exercise price equal to \$0.0001 subject to adjustment therein;
  - (ix) the duly executed Warrant Agency Agreement;
  - (x) on the date hereof, the duly executed Lock-Up Agreements; and
  - (xi) the Preliminary Prospectus and Prospectus (which may be delivered in accordance with Rule 172 under the Securities Act).
- (b) On or prior to the Closing Date, each Purchaser shall deliver or cause to be delivered to the Company, the following:
- (i) this Agreement duly executed by such Purchaser; and

(ii) such Purchaser's Subscription Amount, which shall be made available for "Delivery Versus Payment" settlement with the Company or its designee.

### 2.3 Closing Conditions.

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

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

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

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

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

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

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

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

(iv) there shall have been no Material Adverse Effect with respect to the Company;

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

## ARTICLE III. REPRESENTATIONS AND WARRANTIES

3.1 Representations and Warranties of the Company. The Company hereby makes the following representations and warranties to each Purchaser:

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

(b) Organization and Qualification. The Company and each of the Subsidiaries is an entity duly incorporated or otherwise organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation or organization, with the requisite power and authority to own and use its properties and assets and to carry on its business as currently conducted. Neither the Company nor any Subsidiary is in violation nor default of any of the provisions of its respective certificate or articles of incorporation, bylaws or other organizational or charter documents. Each of the Company and the Subsidiaries is duly qualified to conduct business and is in good standing as a foreign corporation or other entity in each jurisdiction in which the nature of the business conducted or property owned by it makes such qualification necessary, except where the failure to be so qualified or in good standing, as the case may be, could not have or reasonably be expected to result in: (i) a material adverse effect on the legality, validity or enforceability of any Transaction Document, (ii) a material adverse effect on the results of operations, assets, business, prospects or condition (financial or otherwise) of the Company and the Subsidiaries, taken as a whole, or (iii) a material adverse effect on the Company's ability to perform in any material respect on a timely basis its obligations under any Transaction Document (any of (i), (ii) or (iii), a "Material Adverse Effect") 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.

(c) Authorization; Enforcement. The Company has the requisite corporate power and authority to enter into and to consummate the transactions contemplated by this Agreement and each of the other Transaction Documents and otherwise to carry out its obligations hereunder and thereunder. The execution and delivery of this Agreement and each of the other Transaction Documents by the Company and the consummation by it of the transactions contemplated hereby and thereby have been duly authorized by all necessary action on the part of the Company and no further action is required by the Company, the Board of Directors or the Company's stockholders in connection herewith or therewith other than in connection with the Required Approvals. This Agreement and each other Transaction Document to which it is a party has been (or upon delivery will have been) duly executed by the Company and, when delivered in accordance with the terms hereof and thereof, will constitute the valid and binding obligation of the Company enforceable against the Company in accordance with its terms, except (i) as limited by general equitable principles and applicable bankruptcy, insolvency, reorganization, moratorium and other laws of general application affecting enforcement of creditors' rights generally, (ii) as limited by laws relating to the availability of specific performance, injunctive relief or other equitable remedies and (iii) insofar as indemnification and contribution provisions may be limited by applicable law.

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

(e) Filings, Consents and Approvals. The Company is not required to obtain any consent, waiver, authorization or order of, give any notice to, or make any filing or registration with, any court or other federal, state, local or other governmental authority or other Person in connection with the execution, delivery and performance by the Company of the Transaction Documents, other than: (i) the filings required pursuant to Section 4.4 of this Agreement, (ii) the filing with the Commission of the Registration Statement and the Prospectus, (iii) application(s) to each applicable Trading Market for the listing of the Shares and Warrant Shares for trading thereon in the time and manner required thereby and (iv) such filings as are required to be made under applicable state securities laws (collectively, the "Required Approvals").

(f) Issuance of the Securities; Registration. The Securities are duly authorized and, when issued and paid for in accordance with the applicable Transaction Documents, will be duly and validly issued, fully paid and nonassessable, free and clear of all Liens imposed by the Company. The Warrant Shares are duly authorized and, when issued and paid for in accordance with the terms of the Warrants, will be validly issued, fully paid and nonassessable, free and clear of all Liens imposed by the Company. The Company has reserved from its duly authorized capital stock the maximum number of shares of Common Stock issuable pursuant to this Agreement and upon exercise of the Warrants. The Company has prepared and filed the Registration Statement in conformity with the requirements of the Securities Act, which became effective on \_\_\_\_\_, 2023 (the "Effective Date"), including the Prospectus, and such amendments and supplements thereto as may have been required to the date of this Agreement. The Registration Statement is effective under the Securities Act and no stop order preventing or suspending the effectiveness of the Registration Statement or suspending or preventing the use of the Preliminary Prospectus or the Prospectus has been issued by the Commission and no proceedings for that purpose have been instituted or, to the knowledge of the Company, are threatened by the Commission. The Company, if required by the rules and regulations of the Commission, shall file the Prospectus with the Commission pursuant to Rule 424(b). At the time the Registration Statement and any amendments thereto became effective, at the date of this Agreement and at the Closing Date, the Registration Statement and any amendments thereto conformed and will conform in all material respects to the requirements of the Securities Act and 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 Pricing Prospectus, the Prospectus and any amendments or supplements thereto, at the time the Pricing Prospectus, Prospectus or any amendment or supplement thereto, as applicable, was issued and at the Closing Date, conformed and will conform in all material respects to 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 the light of the circumstances under which they were made, not misleading.

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(g) Capitalization. The capitalization of the Company as of the date hereof is as set forth in the Prospectus and the SEC Reports. Except as otherwise disclosed in the SEC Reports, the Company has not issued any capital stock since its most recently filed periodic report under the Exchange Act, other than pursuant to the exercise of employee stock options under the Company's stock option plans, the issuance of shares of Common Stock to employees pursuant to the Company's employee stock purchase plans and pursuant to the conversion and/or exercise of Common Stock Equivalents outstanding as of the date of the most recently filed periodic report under the Exchange Act. No Person has any right of first refusal, preemptive right, right of participation, or any similar right to participate in the transactions contemplated by the Transaction Documents, except as have been effectively waived. Except as set forth in the SEC Reports and except with respect to certain obligations of the Company's Subsidiary, Baergic Bio, Inc., under the terms of the Stockholders Agreement dated December 17, 2019 by and among Baergic Bio, Inc. and the stockholders party thereto, there are no outstanding options, warrants, scrip rights to subscribe to, calls or commitments of any character whatsoever relating to, or securities, rights or obligations convertible into or exercisable or exchangeable for, or giving any Person any right to subscribe for or acquire, any shares of Common Stock or the capital stock of any Subsidiary, or contracts, commitments, understandings or arrangements by which the Company or Subsidiary is or may become bound to issue additional shares of Common Stock or Common Stock Equivalents or capital stock of any Subsidiary. Except as set forth in the Registration Statement or SEC Reports, the issuance and sale of the Securities will not obligate the Company or any Subsidiary to issue shares of Common Stock or other securities to any Person (other than the Purchasers). There are no outstanding securities or instruments of the Company or any Subsidiary with any provision that adjusts the exercise, conversion, exchange or reset price of such security or instrument upon an issuance of securities by the Company or any Subsidiary. There are no outstanding securities or instruments of the Company or any Subsidiary that contain any redemption or similar provisions, and there are no contracts, commitments, understandings or arrangements by which the Company or any Subsidiary is or may become bound to redeem a security of the Company or such Subsidiary. The Company does not have any stock appreciation rights or "phantom stock" plans or agreements or any similar plan or agreement. All of the outstanding shares of capital stock of the Company are duly authorized, validly issued, fully paid and nonassessable, have been issued in compliance with all federal and state securities laws, and none of such outstanding shares was issued in violation of any preemptive rights or similar rights to subscribe for or purchase securities. No further approval or authorization of any stockholder, the Board of Directors or others is required for the issuance and sale of the Securities. There are no stockholders agreements, voting agreements or other similar agreements with respect to the Company's capital stock to which the Company is a party or, to the knowledge of the Company, between or among any of the Company's stockholders.

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(h) SEC Reports; Financial Statements. The Company has filed all reports, schedules, forms, statements and other documents required to be filed by the Company under the Securities Act and the Exchange Act, including pursuant to Section 13(a) or 15(d) thereof, for the two years preceding the date hereof (or such shorter period as the Company was required by law or regulation to file such material) (the foregoing materials, including the exhibits thereto and documents incorporated by reference therein, together with the Pricing Prospectus and the Prospectus, being collectively referred to herein as the "SEC Reports"). As of their respective dates, the SEC Reports complied in all material respects with the requirements of the Securities Act and the Exchange Act, as applicable, and none of the SEC Reports, 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 Company has never been an issuer subject to Rule 144(i) under the Securities Act. The financial statements of the Company included in the SEC Reports comply in all material respects with applicable accounting requirements and the rules and regulations of the Commission with respect thereto as in effect at the time of filing. Such financial statements have been prepared in accordance with United States generally accepted accounting principles applied on a consistent basis during the periods involved ("GAAP"), except as may be otherwise specified in such financial statements or the notes thereto and except that unaudited financial statements may not contain all footnotes required by GAAP, and fairly present in all material respects the financial position of the Company and its consolidated Subsidiaries as of and for the dates thereof and the results of operations and cash flows for the periods then ended, subject, in the case of unaudited statements, to normal, immaterial, year-end audit adjustments. The agreements and documents described in the Registration

Statement, the Pricing Prospectus, the Prospectus, and the SEC Reports conform in all material respects to the descriptions thereof contained therein and there are no agreements or other documents required by the Securities Act and the rules and regulations thereunder to be described in the Registration Statement, the Pricing Prospectus, the Prospectus or the SEC Reports 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, the Pricing Prospectus, the Prospectus or the SEC Reports, 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 therefore may be brought. None of such agreements or instruments has been assigned by the Company, and neither the Company nor, to the Company's actual 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 Company's actual 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 or order or decree of any Governmental Authority or court, domestic or foreign, having jurisdiction over the Company or any of its assets or businesses, including, without limitation, those relating to environmental laws and regulations.

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

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

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

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

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

(n) Regulatory Permits. The Company and the Subsidiaries possess all certificates, authorizations and permits issued by the appropriate federal, state, local

or foreign regulatory authorities necessary to conduct their respective businesses as described in the SEC Reports, except where the failure to possess such permits could not reasonably be expected to result in a Material Adverse Effect (“Material Permits”), and neither the Company nor any Subsidiary has received any notice of proceedings relating to the revocation or modification of any Material Permit.

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

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

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(q) Insurance. The Company and the Subsidiaries are insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as are prudent and customary in the businesses in which the Company and the Subsidiaries are engaged, including, but not limited to, directors and officers insurance coverage at least equal to the aggregate Subscription Amount. Neither the Company nor any 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 without a significant increase in cost.

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

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

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

(u) Investment Company. The Company is not, and is not an Affiliate of, and immediately after receipt of payment for the Securities, will not be or be an Affiliate of, an “investment company” within the meaning of the Investment Company Act of 1940, as amended. The Company shall conduct its business in a manner so that it will not become an “investment company” subject to registration under the Investment Company Act of 1940, as amended.

(v) Registration Rights. Except as set forth in the SEC Reports, no Person has any right to cause the Company to effect the registration under the Securities Act of any securities of the Company.

(w) Listing and Maintenance Requirements. The Common Stock is registered pursuant to Section 12(b) or 12(g) of the Exchange Act, and the Company has taken no action designed to, or which to its knowledge is likely to have the effect of, terminating the registration of the Common Stock under the Exchange Act nor has the Company received any notification that the Commission is contemplating terminating such registration. Except as set forth in the SEC Reports, the Company has not, in the 12 months preceding the date hereof, received notice from any Trading Market on which the Common Stock is or has been listed or quoted to the effect that the Company is not in compliance with the listing or maintenance requirements of such Trading Market. Except as set forth in the SEC Reports, the Company is, and has

no reason to believe that it will not in the foreseeable future continue to be, in compliance with all such listing and maintenance requirements. The Common Stock is currently eligible for electronic transfer through the Depository Trust Company or another established clearing corporation and the Company is current in payment of the fees to the Depository Trust Company (or such other established clearing corporation) in connection with such electronic transfer.

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

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

(z) No Integrated Offering. Assuming the accuracy of the Purchasers' representations and warranties set forth in Section 3.2, neither the Company, nor any of its Affiliates, nor any Person acting on its or their behalf has, directly or indirectly, made any offers or sales of any security or solicited any offers to buy any security, under circumstances that would cause this offering of the Securities to be integrated with prior offerings by the Company for purposes of any applicable shareholder approval provisions of any Trading Market on which any of the securities of the Company are listed or designated.

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

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

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

(dd) Accountants. The Company's accounting firm is KPMG LLP. To the knowledge and belief of the Company, such accounting firm (i) is a registered public accounting firm as required by the Exchange Act and (ii) shall express its opinion with respect to the financial statements to be included in the Company's Annual Report for the fiscal year ending December 31, 2023.

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



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

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(gg) Regulation M Compliance. The Company has not, and to its knowledge no one acting on its behalf has, (i) taken, directly or indirectly, any action designed to cause or to result in the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of any of the 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, other than, in the case of clauses (ii) and (iii), compensation paid to the Placement Agents in connection with the placement of the Securities.

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

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

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

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

(ll) U.S. Real Property Holding Corporation. The Company is not and has never been a U.S. real property holding corporation within the meaning of Section 897 of the Internal Revenue Code of 1986, as amended, and the Company shall so certify upon Purchaser's request.

(mm) 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.

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(nn) 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 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.

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

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

(b) Understandings or Arrangements. Such Purchaser is acquiring the Securities as principal for its own account and has no direct or indirect arrangement or understandings with any other persons to distribute or regarding the distribution of such Securities (this representation and warranty not limiting such Purchaser’s right to sell the Securities pursuant to the Registration Statement or otherwise in compliance with applicable federal and state securities laws). Such Purchaser is acquiring the Securities hereunder in the ordinary course of its business.

(c) Purchaser Status. At the time such Purchaser was offered the Securities, it was, and as of the date hereof it is, and on each date on which it exercises any Warrants, it will be an “accredited investor” as defined in Rule 501(a)(1), (a)(2), (a)(3), (a)(7), (a)(8), (a)(9), (a)(12) or (a)(13) under the Securities Act.

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

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

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

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

#### ARTICLE IV. OTHER AGREEMENTS OF THE PARTIES

4.1 Warrant Shares. If all or any portion of a Warrant is exercised at a time when there is an effective registration statement to cover the issuance or resale of the Warrant Shares or if the Warrant is exercised via cashless exercise after at least six months have passed since the date the Warrant was issued by the Company or acquired from an affiliate of the Company, in each case in accordance with Rule 144, the Warrant Shares issued pursuant to any such exercise shall be issued free of all legends. If at any time following the date hereof the Registration Statement (or any subsequent registration statement registering the sale or resale of the Warrant Shares) is not effective or is not otherwise available for the sale or resale of the Warrant Shares, the Company shall immediately notify the holders of the Warrants in writing that such registration statement is not then effective and thereafter shall promptly notify such holders when the registration statement is effective again and available for the sale or resale of the Warrant Shares (it being understood and agreed that the foregoing shall not limit the ability of the Company to issue, or any Purchaser to sell, any of the Warrant Shares in compliance with

applicable federal and state securities laws). The Company shall use commercially reasonable efforts to keep a registration statement (including the Registration Statement) registering the issuance or resale of the Warrant Shares effective during the term of the Warrants.

4.2 Furnishing of Information. Until the earliest of the time that (i) no Purchaser owns Securities or (ii) the Warrants have expired, the Company covenants to timely file (or obtain extensions in respect thereof and file within the applicable grace period) all reports required to be filed by the Company after the date hereof pursuant to the Exchange Act.

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

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4.4 Securities Laws Disclosure: Publicity. The Company shall (a) by the Disclosure Time, issue a press release disclosing the material terms of the transactions contemplated hereby, and (b) file a Current Report on Form 8-K, including the Transaction Documents as exhibits thereto, with the Commission within the time required by the Exchange Act. From and after the issuance of such press release, the Company represents to the Purchasers that it shall have publicly disclosed all material, non-public information delivered to any of the Purchasers by the Company or any of its Subsidiaries, or any of their respective officers, directors, employees, Affiliates or agents, including, without limitation, the Placement Agents, in connection with the transactions contemplated by the Transaction Documents. In addition, effective upon the issuance of such press release, the Company acknowledges and agrees that any and all confidentiality or similar obligations under any agreement, whether written or oral, between the Company, any of its Subsidiaries or any of their respective officers, directors, agents, employees, Affiliates or agents, including without limitation, the Placement Agents, on the one hand, and any of the Purchasers or any of their Affiliates on the other hand, shall terminate and be of no further force or effect. The Company understands and confirms that each Purchaser shall be relying on the foregoing covenant in effecting transactions in securities of the Company. Notwithstanding the foregoing, the Company shall not publicly disclose the name of any Purchaser, or include the name of any Purchaser in any filing with the Commission or any regulatory agency or Trading Market, without the prior written consent of such Purchaser, except (a) as required by federal securities law in connection with the filing of final Transaction Documents with the Commission and (b) to the extent such disclosure is required by law or Trading Market regulations, in which case the Company shall provide the Purchasers with prior notice of such disclosure permitted under this clause (b) and reasonably cooperate with such Purchaser regarding such disclosure.

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

4.6 Non-Public Information. Except with respect to the material terms and conditions of the transactions contemplated by the Transaction Documents, which shall be disclosed pursuant to Section 4.4, the Company covenants and agrees that neither it, nor any other Person acting on its behalf will provide any Purchaser or its agents or counsel with any information that constitutes, or the Company reasonably believes constitutes, material non-public information, unless prior thereto such Purchaser shall have consented in writing to the receipt of such information and agreed in writing with the Company to keep such information confidential. The Company understands and confirms that each Purchaser shall be relying on the foregoing covenant in effecting transactions in securities of the Company. To the extent that the Company, any of its Subsidiaries, or any of their respective officers, directors, employees or Affiliates delivers any material, non-public information to a Purchaser without such Purchaser’s consent, the Company hereby covenants and agrees that such Purchaser shall not have any duty of confidentiality to the Company, any of its Subsidiaries, or any of their respective officers, directors, employees, Affiliates or agents, including, without limitation, the Placement Agents, or a duty to the Company, any of its Subsidiaries or any of their respective officers, directors, employees, Affiliates or agents including, without limitation, the Placement Agents, not to trade on the basis of, such material, non-public information, provided that the Purchaser shall remain subject to applicable law. To the extent that any notice provided pursuant to any Transaction Document constitutes, or contains, material, non-public information regarding the Company or any Subsidiaries, the Company shall simultaneously with the delivery of such notice file such notice with the Commission pursuant to a Current Report on Form 8-K. The Company understands and confirms that each Purchaser shall be relying on the foregoing covenant in effecting transactions in securities of the Company.

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4.7 Use of Proceeds. Except as set forth in the Registration Statement, Pricing Prospectus and Prospectus, the Company shall use the net proceeds from the sale of the Securities hereunder for working capital purposes and shall not use such proceeds: (a) for the satisfaction of any portion of the Company’s debt (other than payment of trade payables in the ordinary course of the Company’s business and prior practices), (b) for the redemption of any Common Stock or Common Stock Equivalents, (c) for the settlement of any outstanding litigation or (d) in violation of FCPA or OFAC regulations.

4.8 Indemnification of Purchasers. Subject to the provisions of this Section 4.8, the Company will indemnify and hold each Purchaser and its directors, officers, shareholders, members, partners, employees and agents (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title), each Person who controls such Purchaser (within the meaning of Section 15 of the Securities Act and Section 20 of the Exchange Act), and the directors, officers, shareholders, agents, members, partners or employees (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title) of such controlling persons (each, a “Purchaser Party”) harmless from any and all losses, liabilities, obligations, claims, contingencies, damages, costs and expenses, including all judgments, amounts paid in settlements, court costs and reasonable attorneys’ fees and costs of investigation that any such Purchaser Party may suffer or incur as a result of or relating to (a) any breach of any of the representations, warranties, covenants or agreements made by the Company in this Agreement or in the other Transaction Documents or (b) any action instituted against the Purchaser Parties in any capacity, or any of them or their respective Affiliates, by any stockholder of the Company who is not an Affiliate of such Purchaser Party, with respect to any of the transactions contemplated by the Transaction Documents (unless such action is based solely upon a material breach of such Purchaser Party’s representations, warranties or covenants under the Transaction Documents or any agreements or understandings such Purchaser Party may have with any such stockholder or any violations by such Purchaser Party of state or federal securities laws or any conduct by such Purchaser Party which is finally judicially determined to constitute fraud, gross negligence or willful misconduct). If any action shall be brought against any Purchaser Party in respect of which indemnity may be sought pursuant to this Agreement, such Purchaser Party shall promptly notify the Company in writing, and, the Company shall have the right to assume the defense thereof with counsel of its own choosing reasonably acceptable to the Purchaser Party. Any Purchaser Party shall have the right to employ separate counsel in any such action and participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Purchaser Party except to the extent that (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 counsel a material conflict on any material issue between the position of the Company and the position of such Purchaser Party, in which case the Company shall be responsible for the reasonable fees and expenses of no more than one such separate counsel. The Company will not be liable to any Purchaser Party under this Agreement (y) for any settlement by a Purchaser Party effected without the Company’s prior written consent, which shall not be unreasonably withheld or delayed; or (z) to the extent, but only to the extent that a loss, claim, damage or liability is attributable to any Purchaser Party’s breach of any of the representations, warranties, covenants or agreements made by the Purchaser in this Agreement or in the other Transaction Documents. The indemnification required by this Section 4.8 shall be made by periodic payments of the amount thereof during the course of the investigation or defense, as and when bills are received or are incurred; provided that, if any Purchaser Party is finally judicially determined not to be entitled to indemnification or payment under this Section 4.8, such Purchaser Party shall promptly reimburse the Company for any payments that are advanced pursuant to this provision. The indemnity agreements contained herein shall be in addition to any cause of action or similar right of any

4.9 Reservation of Common Stock. As of the date hereof, the Company has reserved and the Company shall continue to reserve and keep available at all times, free of preemptive rights, a sufficient number of shares of Common Stock for the purpose of enabling the Company to issue Shares pursuant to this Agreement and Warrant Shares pursuant to any exercise of the Warrants.

4.10 Listing of Common Stock. The Company hereby agrees to use commercially reasonable best efforts to maintain the listing or quotation of the Common Stock on the Trading Market on which it is currently listed, and concurrently with the Closing, the Company shall apply to list or quote all of the Shares and Warrant Shares on such Trading Market and promptly secure the listing of all of the Shares and Warrant Shares on such Trading Market. The Company further agrees, if the Company applies to have the Common Stock traded on any other Trading Market, it will then include in such application all of the Shares and Warrant Shares, and will take such other action as is necessary to cause all of the Shares and Warrant Shares to be listed or quoted on such other Trading Market as promptly as possible. The Company will then take all action reasonably necessary to continue the listing and trading of its Common Stock on a Trading Market and will comply in all respects with the Company's reporting, filing and other obligations under the bylaws or rules of the Trading Market. The Company agrees to use commercially reasonable best efforts to maintain the eligibility of the Common Stock for electronic transfer through the Depository Trust Company or another established clearing corporation, including, without limitation, by timely payment of fees to the Depository Trust Company or such other established clearing corporation in connection with such electronic transfer.

4.11 Reserved.

4.12 Subsequent Equity Sales.

(a) From the date hereof through the date that is one hundred and eighty (180) days after the Closing Date, in the event that the offering results in gross proceeds to the Company of at least \$12 million, or until the date that is ninety (90) days after the Closing Date, in the event that the offering results in gross proceeds to the Company of less than \$12 million, neither the Company nor any Subsidiary shall, without prior written consent of the Placement Agents, (i) issue, enter into any agreement to issue or announce the issuance or proposed issuance of any shares of Common Stock or Common Stock Equivalents or (ii) file any registration statement or amendment or supplement thereto, other than a prospectus supplement or filing a registration statement on Form S-8 in connection with any employee benefit plan.

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

(c) Notwithstanding the foregoing, this Section 4.12 shall not apply in respect of an Exempt Issuance, except that no Variable Rate Transaction shall be an Exempt Issuance.

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

4.14 Certain Transactions and Confidentiality. Each Purchaser, severally and not jointly with the other Purchasers, covenants that neither it nor any Affiliate acting on its behalf or pursuant to any understanding with it will execute any purchases or sales, including Short Sales of any of the Company's securities during the period commencing with the execution of this Agreement and ending at such time that the transactions contemplated by this Agreement are first publicly announced pursuant to the initial press release as described in Section 4.4. Each Purchaser, severally and not jointly with the other Purchasers, covenants that until such time as the transactions contemplated by this Agreement are publicly disclosed by the Company pursuant to the initial press release as described in Section 4.4, such Purchaser will maintain the confidentiality of the existence and terms of this transaction (other than as disclosed to its legal and other representatives). Notwithstanding the foregoing, and notwithstanding anything contained in this Agreement to the contrary, the Company expressly acknowledges and agrees that (i) no Purchaser makes any representation, warranty or covenant hereby that it will not engage in effecting transactions in any securities of the Company after the time that the transactions contemplated by this Agreement are first publicly announced pursuant to the initial press release as described in Section 4.4, (ii) no Purchaser shall be restricted or prohibited from effecting any transactions in any securities of the Company in accordance with applicable securities laws from and after the time that the transactions contemplated by this Agreement are first publicly announced pursuant to the initial press release as described in Section 4.4 and (iii) no Purchaser shall have any duty of confidentiality or duty not to trade in the securities of the Company to the Company, any of its Subsidiaries, or any of their respective officers, directors, employees, Affiliates or agent, including without limitation, the Placement Agents, after the issuance of the initial press release as described in Section 4.4. Notwithstanding the foregoing, in the case of a Purchaser that is a multi-managed investment vehicle whereby separate portfolio managers manage separate portions of such Purchaser's assets and the portfolio managers have no direct knowledge of the investment decisions made by the portfolio managers managing other portions of such Purchaser's assets, the covenant set forth above shall only apply with respect to the portion of assets managed by the portfolio manager that made the investment decision to purchase the Securities covered by this Agreement.

4.15 Capital Changes. Until the one year anniversary of the Closing Date, the Company shall not undertake a reverse or forward stock split or reclassification of the Common Stock without the prior written consent of the Purchasers holding a majority in interest of the Shares other than a reverse stock split that is required, in the good faith determination of the Board of Directors, to maintain the listing of the Common Stock on the Trading Market.

4.16 Exercise Procedures. The form of Notice of Exercise included in the Warrants sets forth the totality of the procedures required of the Purchasers in order to exercise the Warrants. No additional legal opinion, other information or instructions shall be required of the Purchasers to exercise their Warrants. Without limiting the preceding sentences, no ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise form be required in order to exercise the Warrants. The Company shall honor exercises of the Warrants and shall deliver Warrant Shares in accordance with the terms, conditions and time periods set forth in the Transaction Documents.

4.17 Lock-Up Agreements. The Company shall not amend, modify, waive or terminate any provision of any of the Lock-Up Agreements except to extend the term of the lock-up period and shall enforce the provisions of each Lock-Up Agreement in accordance with its terms. If any party to a Lock-Up Agreement breaches any provision of a Lock-Up Agreement, the Company shall promptly use its best efforts to seek specific performance of the terms of such Lock-Up Agreement.

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**ARTICLE V.**  
**MISCELLANEOUS**

5.1 Termination. This Agreement may be terminated by any Purchaser, as to such Purchaser's obligations hereunder only and without any effect whatsoever on the obligations between the Company and the other Purchasers, by written notice to the other parties, if the Closing has not been consummated on or before the fifth (5<sup>th</sup>) Trading Day following the date hereof; provided, however, that no such termination will affect the right of any party to sue for any breach by any other party (or parties).

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

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

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

5.5 Amendments; Waivers. No provision of this Agreement may be waived, modified, supplemented or amended except in a written instrument signed, in the case of an amendment, by the Company and Purchasers which purchased and continue to hold at least 50.1% in interest of the Shares and Pre-Funded Warrant Shares based on the initial Subscription Amounts hereunder (or, prior to the Closing, the Company and each Purchaser) or, in the case of a waiver, by the party against whom enforcement of any such waived provision is sought, provided that if any amendment, modification or waiver disproportionately and adversely impacts a Purchaser (or group of Purchasers), the consent of such disproportionately impacted Purchaser (or group of Purchasers) shall also be required. No waiver of any default with respect to any provision, condition or requirement of this Agreement shall be deemed to be a continuing waiver in the future or a waiver of any subsequent default or a waiver of any other provision, condition or requirement hereof, nor shall any delay or omission of any party to exercise any right hereunder in any manner impair the exercise of any such right. Any proposed amendment or waiver that disproportionately, materially and adversely affects the rights and obligations of any Purchaser relative to the comparable rights and obligations of the other Purchasers shall require the prior written consent of such adversely affected Purchaser. Any amendment effected in accordance with this Section 5.5 shall be binding upon each Purchaser and holder of Securities and the Company.

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

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

5.8 No Third-Party Beneficiaries. The Placement Agents shall be the third party beneficiary of the representations and warranties of the Company in Section 3.1 and the representations and warranties of the Purchasers in Section 3.2. This Agreement is intended for the benefit of the parties hereto and their respective successors and permitted assigns and is not for the benefit of, nor may any provision hereof be enforced by, any other Person, except as otherwise set forth in Section 4.8 and this Section 5.8.

5.9 Governing Law. All questions concerning the construction, validity, enforcement and interpretation of the Transaction Documents shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. Each party agrees that all legal Proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Agreement and any other Transaction Documents (whether brought against a party hereto or its respective affiliates, directors, officers, shareholders, partners, members, employees or agents) shall be commenced exclusively in the state and federal courts sitting in the City of New York. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, Borough of Manhattan for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein (including with respect to the enforcement of any of the Transaction Documents), and hereby irrevocably waives, and agrees not to assert in any Action or Proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such Action or Proceeding is improper or is an inconvenient venue for such Proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such Action or Proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by law. If any party shall commence an Action or Proceeding to enforce any provisions of the Transaction Documents, then, in addition to the obligations of the Company under Section 4.8, the prevailing party in such Action or Proceeding shall be reimbursed by the non-prevailing party for its reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such Action or Proceeding.

5.10 Survival. The representations and warranties contained herein shall survive the Closing and the delivery of the Securities.

5.11 Execution. This Agreement may be executed in two or more counterparts, all of which when taken together shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to each other party, it being understood that the parties need not sign the same counterpart. In the event that any signature is delivered by e-mail delivery of a “.pdf” format data file (including any electronic signature covered by the U.S. federal ESIGN Act of 2000, Uniform Electronic Transaction Act, the Electronic Signatures and Records Act or other applicable law, e.g., www.docuSign.com), such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such “.pdf” signature page were an original thereof.

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

5.13 Rescission and Withdrawal Right. Notwithstanding anything to the contrary contained in (and without limiting any similar provisions of) any of the other Transaction Documents, whenever any Purchaser exercises a right, election, demand or option under a Transaction Document and the Company does not timely perform its related obligations within the periods therein provided, then such Purchaser may rescind or withdraw, in its sole discretion from time to time upon written notice to the Company, any relevant notice, demand or election in whole or in part without prejudice to its future actions and rights; provided, however, that, in the case of a rescission of an exercise of a Warrant, the applicable Purchaser shall be required to return any shares of Common Stock subject to any such rescinded exercise notice concurrently with the return to such Purchaser of the aggregate exercise price paid to the Company for such shares and the restoration of such Purchaser’s right to acquire such shares pursuant to such Warrant (including, issuance of a replacement warrant certificate evidencing such restored right).

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

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

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

5.17 Independent Nature of Purchasers’ Obligations and Rights. The obligations of each Purchaser under any Transaction Document are several and not joint with the obligations of any other Purchaser, and no Purchaser shall be responsible in any way for the performance or non-performance of the obligations of any other Purchaser under any Transaction Document. Nothing contained herein or in any other Transaction Document, and no action taken by any Purchaser pursuant hereto or thereto, shall be deemed to constitute the Purchasers as a partnership, an association, a joint venture or any other kind of entity, or create a presumption that the Purchasers are in any way acting in concert or as a group with respect to such obligations or the transactions contemplated by the Transaction Documents. Each Purchaser shall be entitled to independently protect and enforce its rights including, without limitation, the rights arising out of this Agreement or out of the other Transaction Documents, and it shall not be necessary for any other Purchaser to be joined as an additional party in any Proceeding for such purpose. Each Purchaser has been represented by its own separate legal counsel in its review and negotiation of the Transaction Documents. For reasons of administrative convenience only, each Purchaser and its respective counsel have chosen to communicate with the Company through EGS. EGS does not represent any of the Purchasers and only represents the Placement Agents. The Company has elected to provide all Purchasers with the same terms and Transaction Documents for the convenience of the Company and not because it was required or requested to do so by any of the Purchasers. It is expressly understood and agreed that each provision contained in this Agreement and in each other Transaction Document is between the Company and a Purchaser, solely, and not between the Company and the Purchasers collectively and not between and among the Purchasers.

5.18 Liquidated Damages. The Company’s obligations to pay any partial liquidated damages or other amounts owing under the Transaction Documents is a continuing obligation of the Company and shall not terminate until all unpaid partial liquidated damages and other amounts have been paid notwithstanding the fact that the instrument or security pursuant to which such partial liquidated damages or other amounts are due and payable shall have been canceled.

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

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

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

(Signature Pages Follow)

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

AVENUE THERAPEUTICS, INC.

Address for Notice:

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

E-Mail:

Name:

Title:

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

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

[PURCHASER SIGNATURE PAGES TO ATXI SECURITIES PURCHASE AGREEMENT]

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

Name of Purchaser: \_\_\_\_\_

Signature of Authorized Signatory of Purchaser: \_\_\_\_\_

Name of Authorized Signatory: \_\_\_\_\_

Title of Authorized Signatory: \_\_\_\_\_

Email Address of Authorized Signatory: \_\_\_\_\_

Address for Notice to Purchaser:

Address for Delivery of Securities to Purchaser (if not same as address for notice):

Subscription Amount: \$ \_\_\_\_\_

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

Pre-Funded Warrant Shares: \_\_\_\_\_ Beneficial Ownership Blocker o 4.99% or o 9.99%

Series A Warrant Shares: \_\_\_\_\_ Beneficial Ownership Blocker o 4.99% or o 9.99%

Series B Warrant Shares: \_\_\_\_\_ Beneficial Ownership Blocker o 4.99% or o 9.99%

EIN Number: \_\_\_\_\_

o Notwithstanding anything contained in this Agreement to the contrary, by checking this box (i) the obligations of the above-signed to purchase the securities set forth in this Agreement to be purchased from the Company by the above-signed, and the obligations of the Company to sell such securities to the above-signed, shall be unconditional and all conditions to Closing shall be disregarded, (ii) the Closing shall occur on the second (2<sup>nd</sup>) Trading Day following the date of this Agreement and (iii) any condition to Closing contemplated by this Agreement (but prior to being disregarded by clause (i) above) that required delivery by the Company or the above-signed of any agreement, instrument, certificate or the like or purchase price (as applicable) shall no longer be a condition and shall instead be an unconditional obligation of the Company or the above-signed (as applicable) to deliver such agreement, instrument, certificate or the like or purchase price (as applicable) to such other party on the Closing Date.





**Consent of Independent Registered Public Accounting Firm**

We consent to the use of our report dated March 31, 2023, with respect to the consolidated financial statements of Avenue Therapeutics, Inc., incorporated herein by reference, and to the reference to our firm under the heading "Experts" in the prospectus.

/s/ KPMG LLP

New York, New York  
October 23, 2023

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Consent of Independent Registered Public Accounting Firm

Avenue Therapeutics, Inc.  
Bay Harbor Islands, FL

We hereby consent to the incorporation by reference in the Prospectus constituting a part of this Registration Statement of our report dated March 25, 2022, relating to the financial statements of Avenue Therapeutics, Inc. appearing in the Company's Annual Report on Form 10-K for the year ended December 31, 2022. Our report contains an explanatory paragraph regarding the Company's ability to continue as a going concern.

We also consent to the reference to us under the caption "Experts" in the Prospectus.

/s/ BDO USA, P.C.

New York, New York

October 23, 2023

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**Consent of Independent Registered Public Accounting Firm**

We consent to the use of our report dated August 31, 2022, with respect to the financial statements of Baergic Bio, Inc., incorporated herein by reference, and to the reference to our firm under the heading "Experts" in the prospectus.

/s/ KPMG LLP

New York, New York  
October 23, 2023

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## Calculation of Filing Fee Tables

**Form S-1**

(Form Type)

**Avenue Therapeutics, Inc.**

(Exact Name of Registrant as Specified in its Charter)

**Table 1: Newly Registered and Carry Forward Securities**

Security Type	Security Class Title	Fee Calculation or Carry Forward Rule	Proposed Maximum Offering Price Per Unit(1)(2)	Maximum Aggregate Offering Price	Fee Rate	Amount of Registration Fee
<b>Newly Registered Securities</b>						
Fees Previously Paid Equity	Units, each consisting of (A) one share of Common Stock, par value \$0.0001 per share, (B) one Series A Warrant to purchase one share of Common Stock and (C) one Series B Warrant to purchase one share of Common Stock, and Pre-funded Units, each consisting of (A) one Pre-funded Warrant to purchase one share of Common Stock, (C) one Series A Warrant to purchase one share of Common Stock and (C) one Series B Warrant to purchase one share of Common Stock(3)	457(o)		\$12,000,000	\$110.20 per \$1,000,000	\$1,322.40
Fees Previously Paid Equity	Common Stock included as part of the Units	457(g)		--(4)		
Fees Previously Paid Equity	Series A Warrants to purchase Common Stock included as part of the Units and Pre-funded Units	457(g)		--(4)		
Fees Previously Paid Equity	Common Stock underlying Series A Warrants included in the Units and Pre-funded Units	457(o)		\$12,000,000	\$110.20 per \$1,000,000	\$1,322.40
Fees to Be Paid Equity	Series B Warrants to purchase Common Stock included as part of the Units and Pre-funded Units	457(g)		--(4)		
Fees to Be Paid Equity	Common Stock underlying Series B Warrants included in the Units and Pre-funded Units	457(o)		\$12,000,000	\$147.60 per \$1,000,000	\$1,771.20
Fees Previously Paid Equity	Pre-funded Warrants to purchase Common Stock included as part of the Pre-funded Units	457(g)		--(4)		
Fees Previously Paid Equity	Common Stock underlying Pre-funded Warrants included in the Pre-funded Units	457(g)		--(4)		
<b>Total Offering Amounts</b>				\$36,000,000		\$4,416.00
<b>Total Fees Previously Paid</b>						\$2,644.80
<b>Total Fee Offsets</b>						--
<b>Net Fee Due</b>						\$1,771.20

(1) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(o) under the Securities Act of 1933, as amended (the "Securities Act").

(2) Pursuant to Rule 416 under the Securities Act, the securities being registered hereunder include such indeterminate number of additional securities as may be issuable to prevent dilution resulting from stock splits, dividends or similar transactions.

(3) The proposed maximum offering price of the Units proposed to be sold in the offering will be reduced on a dollar-for-dollar basis based on the offering price of any Pre-funded Units offered and sold in the offering, and as such the proposed aggregate maximum offering price of the Units together with the Pre-funded Units (including the Common Stock issuable upon exercise of the Pre-funded Warrants), if any, is \$12,000,000.00.

(4) No separate fee is required pursuant to Rule 457(g) under the Securities Act.