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

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

Vaccinex, 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)

16-1603202
(I.R.S. Employer Identification Number)

**1895 Mount Hope Avenue
Rochester, New York 14620
(585) 271-2700**
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Maurice Zauderer, Ph.D.
President and Chief Executive Officer
Vaccinex, Inc.
**1895 Mount Hope Avenue
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(585) 271-2700**

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

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Approximate date of commencement of proposed sale to public: As soon as practicable after this registration statement is declared 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, a 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

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 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 of 1933 or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

The information in this preliminary prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This preliminary prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED SEPTEMBER 26, 2023

PRELIMINARY PROSPECTUS



**Up to 3,229,974 Shares of Common Stock
Up to 3,229,974 Pre-Funded Warrants to Purchase up to 3,229,974 Shares of Common Stock
Up to 3,229,974 Common Warrants to Purchase up to 3,229,974 Shares of Common Stock**

**Up to 3,229,974 Shares of Common Stock Underlying such Pre-Funded Warrants
Up to 3,229,974 Shares of Common Stock Underlying such Common Warrants**

We are offering on a reasonable best efforts basis up to 3,229,974 shares of our common stock, par value \$0.0001 per share (the “common stock”) together with warrants (each, a “common warrant”) to purchase up to 3,229,974 shares of our common stock, based on an assumed public offering price of \$2.322 per share and accompanying common warrant (the last reported sale price of our common stock on The Nasdaq Capital Market (“Nasdaq”) on September 22, 2023). Each common warrant will be exercisable for one share of our common stock and have an assumed exercise price of \$2.322 per share. The common warrants will be exercisable immediately and will expire five years from the date of issuance. The shares of common stock and common warrants will be issued separately and will be immediately separable upon issuance but will be purchased together in this offering. This prospectus also relates to the shares of common stock issuable upon exercise of the common warrants sold in this offering.

We are also offering pre-funded warrants (the “pre-funded warrants” and together with the common warrants, the “warrants”) to purchase up to 3,229,974 shares of common stock to those investors whose purchase of shares of common stock in this offering would 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 common stock immediately following the consummation of this offering, in lieu of shares of common stock that would result in beneficial ownership in excess of 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding common stock. Each pre-funded warrant is exercisable for one share of common stock and has an exercise price of \$0.0001 per share. The combined purchase price per pre-funded warrant and accompanying common warrant is equal to \$2.3219, which is equal to the combined purchase price per share of common stock and accompanying common warrant less \$0.0001. Each pre-funded warrant will be exercisable immediately upon issuance and will expire when exercised in full. The pre-funded warrants and common warrants will be issued separately and will be immediately separable upon issuance but will be purchased together in this offering. For each pre-funded warrant we sell, the number of shares of common stock we are offering will be decreased on a one-for-one basis. This prospectus also relates to the shares of common stock issuable upon exercise of the pre-funded warrants sold in this offering.

We refer to the common stock and warrants to be sold in this offering collectively as the “securities.”

The securities are expected to be issued in a single closing and the combined public offering price per share of common stock or pre-funded warrant and accompanying common warrant will be fixed for the duration of this offering. We will deliver all securities to be issued in connection with this offering delivery versus payment or receipt versus payment, as the case may be, upon receipt of investor funds received by us.

Our common stock is listed on the Nasdaq Capital Market under the symbol “VCNX.” On September 22, 2023, the last reported sale price of our common stock on Nasdaq was \$2.322 per share. The actual number of securities, the combined offering price per share of common stock or pre-funded warrant and accompanying common warrant and the exercise price per share of common stock for the accompanying common warrant will be as determined between us, the placement agent and the investors in this offering based on market conditions at the time of pricing. Therefore, the recent market price used throughout this prospectus may not be indicative of the actual public offering price for the securities. There is no established public trading market for the warrants and we do not expect a market to develop. In addition, we do not intend to apply for a listing of the warrants on any national securities exchange or other trading system.

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We have engaged A.G.P./Alliance Global Partners to act as our exclusive placement agent (the “placement agent”) in connection with this offering. The placement agent has agreed to use its reasonable best efforts to arrange for the sale of the securities offered by this prospectus. The placement agent is not purchasing or selling any of the securities we are offering and the placement agent is not required to arrange the purchase or sale of any specific number of securities or dollar amount. We have agreed to compensate the placement agent as set forth in the table below, which assumes that we sell all of the securities offered by this prospectus. There is no arrangement for funds to be received in escrow, trust or similar arrangement. There is no minimum offering requirement as a condition of closing of this offering. We may sell fewer than all of the securities offered hereby, which may significantly reduce the amount of proceeds received by us. This offering will end no later than October 31, 2023 except that the shares of common stock underlying the warrants will be offered on a continuous basis pursuant to Rule 415 under the Securities Act of 1933, as amended (the “Securities Act”).

Investing in our common stock involves a high degree of risk. See “[Risk Factors](#)” beginning on page 5 of this prospectus and under similar headings in the documents incorporated by reference into this prospectus.

| | Per Share and Common Warrant | Per Pre-Funded Warrant and Common Warrant | Total |
|---|---------------------------------|--|-------|
| Offering price | \$ | \$ | \$ |
| Placement agent fees ⁽¹⁾ | \$ | \$ | \$ |
| Proceeds, before expenses, to us ^{(2) (3)} | \$ | \$ | \$ |

- (1) We have agreed to pay the placement agent a cash fee equal to 7.0% of the aggregate proceeds of this offering and to reimburse the placement agent for certain of its offering-related expenses. See “Plan of Distribution” beginning on page 21 of this prospectus for a description of the compensation to be received by the placement agent.
- (2) The amount of the proceeds to us presented in this table does not give effect to any exercise of the warrants.
- (3) The Chairman of our Board of Directors has indicated that he or entities with which he is affiliated are interested in purchasing up to \$3.0 million of securities in this offering at the same price and on the same terms as the other purchasers in this offering, except that the placement agent will receive 2.0% of the aggregate proceeds of such sales, and will not be paid for non-accountable fees and expenses with respect to such sales. Because indications of interest are not binding agreements or commitments to purchase, the placement agent may determine to sell more, fewer or no securities to any of these stockholders, or any such stockholders may determine to purchase more, fewer or no securities. This table assumes no sales to the Chairman or his affiliated entities.

Neither the Securities and Exchange Commission (the “SEC”) nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

Delivery of the shares and warrants is expected to be made on or about _____, 2023, subject to satisfaction of customary closing conditions.

Sole Placement Agent

A.G.P.

The date of this prospectus is _____, 2023

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You should carefully read this prospectus, any documents that we incorporate by reference in this prospectus and the information below under the captions “Incorporation By Reference” and “Where You Can Find More Information” before making an investment decision. You should rely only on the information contained or incorporated by reference in this prospectus. We have not authorized anyone to provide you with information other than the information that we have provided or incorporated by reference in this prospectus and your reliance on any unauthorized information or representation is at your own risk. This prospectus is not an offer to sell these securities, and it is not soliciting an offer to buy these securities, in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus, or in any document incorporated by reference herein, is accurate only as of the date of this prospectus and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference. Our business, financial condition, results of operations, and prospects may have changed since those dates. References in this prospectus to the terms “Vaccinex,” “the Company,” “we,” “our,” and “us,” or other similar terms, mean Vaccinex, Inc. and our subsidiaries, unless we state otherwise or the context indicates otherwise.

This prospectus and the documents incorporated by reference herein contain certain market data and industry statistics and forecasts based on studies and clinical trials sponsored by Vaccinex or third parties, independent industry publications, and other publicly available information. Although we believe these sources are reliable, we do not guarantee the accuracy or completeness of this information and we have not verified any of this data. Further, many of these statements involve risks and uncertainties and are subject to change based on various factors, including those discussed or referenced under the caption “Risk Factors” in this prospectus and under similar captions in the documents that are incorporated by reference herein. Accordingly, investors should not place undue reliance on this information.

We effected a 1-for-15 reverse stock split of our issued and outstanding shares of common stock (the “Reverse Stock Split”) on September 25, 2023. All historical share and per share amounts reflected throughout this prospectus have been adjusted to reflect the Reverse Stock Split.

PROSPECTUS SUMMARY

This summary highlights information contained in other parts of this prospectus and in the documents we incorporate by reference. It does not contain all of the information that you should consider before investing in our securities and it is qualified by, and should be read in conjunction with, the more detailed information appearing elsewhere in this prospectus and the documents incorporated by reference herein. You should read the following summary together with the more detailed information regarding our Company and the securities being sold in this offering, including “Risk Factors” and other information incorporated by reference herein.

Company Overview

We are a clinical-stage biotechnology company engaged in the discovery and development of targeted biotherapeutics to treat serious diseases and conditions with unmet medical needs, including neurodegenerative diseases, cancer, and autoimmune disorders. We believe we are the leader in the field of semaphorin 4D (“SEMA4D”), biology and that we are currently the only company targeting SEMA4D as a potential treatment for neurodegenerative diseases, cancer, and autoimmune disorders. SEMA4D is an extracellular signaling molecule that regulates the migration of immune and inflammatory cells to sites of injury, cancer, or infection. We are leveraging our SEMA4D antibody platform and our extensive knowledge of SEMA4D biology to develop our lead product candidate, pepinemab, an antibody that we believe utilizes novel mechanisms of action. We are focused on developing pepinemab for the treatment of Alzheimer’s disease, Huntington’s disease, head and neck cancer, and pancreatic cancer. Additionally, third-party investigators are studying pepinemab in clinical trials in breast cancer, as well as in “window of opportunity” studies in other indications, including head and neck cancer and melanoma.

We have developed multiple proprietary platform technologies and are developing product candidates to address serious diseases or conditions that have a substantial impact on day-to-day functioning and for which treatment is not addressed adequately by available therapies. We employ our proprietary platform technologies, including through our work with our academic collaborators, to identify potential product candidates for sustained expansion of our internal product pipeline, and to facilitate strategic development and commercial partnerships. Our lead platform technologies include our SEMA4D antibody platform and our ActivMAb® antibody discovery platform. Our lead product candidate pepinemab is currently in clinical development for the treatment of Alzheimer’s disease and head and neck, pancreatic, and breast cancer through our efforts or through investigator-sponsored trials. Our additional product candidate VX5 is in an earlier stage of development and was selected using our ActivMAb platform. We believe our multiple platform technologies position us well for continued pipeline expansion and partnership opportunities going forward.

Our current research and development activities primarily relate to clinical development in the following indications:

- **Huntington’s Disease.** We evaluated pepinemab for the treatment of Huntington’s disease in our Phase 2 SIGNAL trial. Topline data for this trial, consisting of 265 subjects, was reported in late September 2020. Although the study did not meet its prespecified primary endpoints, it provided important new information, including evidence of cognitive benefit and a reduction in brain atrophy and increase in brain metabolic activity in patients with manifest disease symptoms. An improved trial design would focus on patients with early signs of cognitive or functional deficits because they appeared to derive the greatest treatment benefit. We are evaluating our development strategy in terms of business opportunities and other near-term clinical activities. In August 2023, we received written responses from the U.S. Food and Drug Administration to questions we posed related to potential endpoints for a Phase 3 trial of pepinemab in Huntington’s disease. We believe these responses provide the necessary guidance for trial design.
- **Cancer Studies.** We and others have shown that SEMA4D, the target of pepinemab, is highly expressed in head and neck cancer where it impedes recruitment and activation of dendritic cells and cytotoxic T cells that can attack the tumor while also inducing differentiation of myeloid derived suppressor cells that inhibit tumoricidal immune activity. Head and neck cancer is, therefore, a cancer in which we believe immunotherapy with pepinemab in combination with a checkpoint inhibitor such as KEYTRUDA® (pembrolizumab) could have a significant therapeutic impact. We have entered into a collaboration with Merck Sharp & Dohme, which is supplying KEYTRUDA, for first-line treatment of up to 65 head and neck cancer patients in a Phase 1b/2 trial. Interim trial data indicate an approximate doubling of objective response rate and progression free survival relative to historical results with checkpoint monotherapy in patients with hard-to-treat tumors that express low levels of PD-L1. Biopsy data suggest treatment-induced formation of lymphoid structures in tumors that are known to be associated with improved outcomes in head and neck cancer. In a similar arrangement, we are collaborating with Merck KgaA (EMD Serono in the U.S.), which is supplying Bavencio® (avelumab), another checkpoint inhibitor, for evaluation in a Phase 1b/2 trial in combination with pepinemab in pancreatic cancer. Pepinemab is also being evaluated by third parties in investigator-sponsored trials for breast cancer, and in multiple “window of opportunity” studies in additional cancer indications.
- **Alzheimer’s Disease.** In April 2023, we reached our enrollment target of 40 participants for the Phase 1b/2 SIGNAL-AD study evaluating pepinemab as a potential treatment for people with mild dementia due to Alzheimer’s disease. SIGNAL-AD topline data is expected in mid-2024, after all the participants have received 12 months of treatment.

Our Corporate Information

We were incorporated under the laws of the State of Delaware in April 2001. Our principal executive offices are located at 1895 Mount Hope Avenue, Rochester, New York 14620, and our telephone number is (585) 271-2700. Our website address is www.vaccinex.com. Our website and the information contained on or accessible through our website are not incorporated by reference in, and are not considered part of, this prospectus, and any reference to our website is intended to be an inactive textual reference only. You should not rely on any such information in making your decision to purchase our common stock.

Implications of Being an Emerging Growth Company and a Smaller Reporting Company

We are an “emerging growth company,” as defined in the Jumpstart Our Business Startups Act of 2012 (the “JOBS Act”). Section 107(b) of the JOBS Act provides that an emerging growth company can leverage the extended transition period, provided in Section 102(b) of the JOBS Act, for complying with new or revised accounting standards. Thus, an emerging growth company can delay the adoption of new or revised accounting standards that have different effective dates for public and private companies until those standards apply to private companies. We have elected to use this extended transition period and, as a result, our condensed consolidated financial statements may not be comparable to companies that comply with public company effective dates of such accounting standards.

We will no longer be an “emerging growth company” after December 30, 2023 and will be unable to take advantage of the exemptions from various requirements applicable to public companies including those discussed above.

We are also a “smaller reporting company” and will remain a smaller reporting company while we have determined that either (i) the market value of our stock held by non-affiliates was less than \$250 million as of the last business day of our most recently completed second fiscal quarter or (ii) our annual revenue was less than \$100 million during our most recently completed fiscal year and the market value of our stock held by non-affiliates was less than \$700 million as of the last business day of our most recently completed second fiscal quarter. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies, including many of the same exemptions from disclosure obligations that are available to emerging growth companies, such as reduced disclosure obligations regarding executive compensation. We may take advantage of one or more of these reporting exemptions until we are no longer a smaller reporting company.

The Offering

| | |
|--|---|
| Issuer | Vaccinex, Inc. |
| Common stock offered by us | Up to 3,229,974 shares of common stock based on an assumed combined public offering price of \$2.322 per share of common stock and accompanying common warrant, which is equal to the last sale price of our common stock as reported by Nasdaq on September 22, 2023. |
| Pre-funded warrants | We are also offering up to 3,229,974 pre-funded warrants to purchase up to 3,229,974 shares of common stock in lieu of shares of common stock to any purchaser whose purchase of shares of common stock 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 purchaser's election, 9.99%) of our outstanding common stock immediately following the consummation of this offering. Each pre-funded warrant will be exercisable for one share of common stock, will have an exercise price of \$0.0001 per share, will be immediately exercisable, and will not expire prior to exercise. This prospectus also relates to the offering of the shares of common stock issuable upon exercise of the pre-funded warrants. |
| Common warrants | We are also offering up to 3,229,974 common warrants to purchase up to 3,229,974 shares of common stock. Each common warrant will be exercisable for one share of common stock, will have an exercise price of \$2.322 per share, will be exercisable immediately, and will expire five years from the date of issuance. This prospectus also relates to the offering of the shares of common stock issuable upon exercise of the common warrants. |
| Common stock to be outstanding following the offering | 7,607,866 shares (assuming the sale of 3,229,974 shares of common stock and no exercise of any of the warrants issued in this offering). |
| Use of proceeds | <p>We estimate the net proceeds to us from this offering, after deducting placement agent fees and estimated offering expenses payable by us, will be approximately \$6.6 million, assuming a public offering price of \$2.322 per share of common stock and accompanying common warrant, based on the last reported sale price of our common stock on Nasdaq on September 22, 2023 of \$2.322, and assuming no exercise of any of the warrants. 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 these securities offered pursuant to this prospectus; as a result, we may receive significantly less in net proceeds. The actual offering price for the offered securities will be as determined between us, the placement agent, and the investors in this offering at the time of pricing.</p> <p>We intend to use the net proceeds to fund the ongoing development and clinical trials of our lead drug candidate, pepinemb, in cancer and neurodegenerative disease, and for working capital and other general corporate purposes. See "Use of Proceeds" on page 10 of this prospectus for more information.</p> |
| Reasonable best efforts offering | We have agreed to offer and sell the securities offered hereby to the purchasers through the placement agent. The placement agent is not required to buy or sell any specific number or dollar amount of the securities offered hereby, but will use its reasonable best efforts to solicit offers to purchase the securities offered by this prospectus. See "Plan of Distribution" on page 21 of this prospectus. |
| Risk factors | Investing in our common stock involves a high degree of risk. You should read information contained and incorporated by reference in the "Risk Factors" section beginning on page 5 of this prospectus and the similarly entitled sections in the documents incorporated by reference into this prospectus. |
| Nasdaq Capital Market symbol | Our common stock is listed on The Nasdaq Capital Market under the symbol "VCNX." We do not intend to list the warrants on any securities exchange or nationally recognized trading system. |

Outstanding Shares

The number of shares of our common stock to be outstanding after this offering is based on 4,377,892 shares of common stock outstanding as of June 30, 2023 and excludes:

- 209,339 shares of common stock issued in a private placement on August 22, 2023;
- 248,931 shares of common stock issued in a private placement on September 22, 2023;
- 22,240 shares of common stock issued under our Open Market Sales Agreement with Jefferies LLC (the “Open Market Sales Agreement”) after June 30, 2023 and through September 22, 2023;
- 206,043 shares of common stock issuable upon the exercise of stock options outstanding as of June 30, 2023 at a weighted-average exercise price of \$32.25 per share; and
- 4,925 shares of common stock available for issuance pursuant to future grants under our 2018 Omnibus Incentive Plan as of June 30, 2023.

The information discussed above is illustrative only and will adjust based on the actual public offering price and other terms of this offering determined at pricing. Unless we specifically state otherwise, all information in this prospectus reflects the Reverse Stock Split and no exercise of stock options or warrants.

Indication of Interest

The Chairman of our Board of Directors has indicated that he or entities with which he is affiliated are interested in purchasing up to \$3.0 million of securities in this offering at the same price and on the same terms as the other purchasers in this offering, except that the placement agent will receive a cash transaction fee equal to 2.0% of the aggregate gross cash proceeds to us from such sales, and will not receive non-accountable fees and expenses with respect to such sales. Because indications of interest are not binding agreements or commitments to purchase, the placement agent may determine to sell more, fewer or no securities to any of these stockholders, or such stockholders may determine to purchase more, fewer or no securities.

RISK FACTORS

Investing in our common stock involves a high degree of risk. You should carefully consider and evaluate the risks described below together with all of the information contained in this prospectus and in the documents incorporated by reference in this prospectus before you decide to purchase our common stock. In particular, you should carefully consider and evaluate the risks and uncertainties described in “Part I – Item 1A. Risk Factors” of our most recent Annual Report on Form 10-K, as updated by our subsequent Quarterly Reports on Form 10-Q and the additional risks and uncertainties set forth or incorporated by reference herein. Additional risks and uncertainties that we are unaware of or that we believe are not material at this time could also materially adversely affect our business, financial condition, or results of operations. Any of these risks and uncertainties could materially and adversely affect our business, results of operations, and financial condition, which in turn could materially and adversely affect the trading price or value of our common stock. As a result, you could lose all or part of your investment.

This prospectus also contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain factors, including the risks faced by us described below and elsewhere in this prospectus. See “Special Note Regarding Forward-Looking Statements” for information relating to these 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 agent has agreed to use its reasonable best efforts to solicit offers to purchase the securities in this offering. The placement agent has 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. As there is no minimum offering amount required as a condition to the closing of this offering, the actual offering amount, aggregate placement agent fees and proceeds to us are not presently determinable and may be substantially less than the maximum amounts set forth above. We may sell fewer than all of the securities offered hereby, which may significantly reduce the amount of proceeds received by us, and investors in this offering will not receive a refund in the event that we do not sell all of the securities offered by us in this offering. The success of this offering will impact our ability to use the proceeds to execute our business plans. We may have insufficient capital to implement our business plans, potentially resulting in greater operating losses unless we are able to raise the required capital from alternative sources. There is no assurance that alternative capital, if needed, would be available on terms acceptable to us, or at all.

We will need to raise additional funding to fund our working capital needs or consummate potential future acquisitions. Additional financing may not be available on acceptable terms, or at all. Failure to obtain additional capital may force us to limit or terminate our operations.

Even if we sell all securities offered hereby, the expected net proceeds of this offering may not be sufficient for us to fund the working capital needs of our business. We will continue to seek funds through equity or debt financings, collaborative or other arrangements, or through other sources of financing. Additional funding may not be available to us on acceptable terms, or at all. Any failure to raise capital as and when needed would have a material adverse impact on our financial condition and on our ability to pursue our business plans and strategies.

Management will have broad discretion as to the use of the proceeds from this offering and we may not use the proceeds effectively.

Our management will have broad discretion with respect to the use of proceeds of this offering, including for any of the purposes described in the section entitled “Use of Proceeds” beginning on page 10 of this prospectus. You will be relying on the judgment of our management regarding the application of the proceeds of this offering. The results and effectiveness of the use of proceeds are uncertain, and we could spend the proceeds in ways that you do not agree with or that do not improve our results of operations or enhance the value of our common stock. Our failure to apply these funds effectively could harm our business and cause the price of our common stock to decline.

This offering may cause the trading price of our common stock to decrease.

The price per share, together with the number of shares of common stock we issue if this offering is completed, may result in an immediate decrease in the market price of our common stock. This decrease may continue after the completion of this offering.

You will experience immediate and substantial dilution in the book value per share of the common stock you purchase.

You will incur immediate and substantial dilution as a result of this offering. After giving effect to the sale by us of securities offered in this offering at an assumed public offering price of \$2.322 per share of common stock and common warrant, and after deducting placement agent fees and estimated offering expenses payable by us, investors in this offering can expect an immediate dilution of approximately \$1.39 per share, representing the difference between our as adjusted net tangible book value per share after giving effect to this offering and the public offering price per share. See “Dilution” on page 14 for a more detailed discussion of the dilution you may incur in connection with this offering.

You may experience future dilution as a result of future equity offerings.

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities exercisable for, convertible into, or exchangeable for our common stock that could result in further dilution to investors purchasing securities in this offering or result in downward pressure on the price of our common stock. For example, we have conducted numerous private placements of our common stock and are party to the Open Market Sales Agreement, pursuant to which we may offer and sell shares of our common stock through Jefferies, as sales agent, from time to time, in one or more “at the market offerings.” We may sell shares of our common stock or other securities in any other offering, including in a private placement or pursuant to the Open Market Sales Agreement, at prices that are higher or lower than the prices paid by investors in this offering, and investors purchasing shares of common stock or other securities in the future could have rights superior to existing stockholders.

The trading price of our common stock may continue to be volatile, which could cause you to lose part or all of your investment.

The trading price of our common stock has been highly volatile and could continue to be subject to wide fluctuations in response to various factors, some of which are beyond our control. In addition, the stock market in general, and the market for biopharmaceutical companies in particular, have experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of particular companies. As a result of this volatility, our securities could experience rapid and substantial decreases in price, and you may be able to sell securities you purchase in this offering only at a substantial loss to the price at which you purchased the securities in this offering. Many factors may have a material adverse effect on the market price of our securities, including, but not limited to:

- the commencement, enrollment, delay, or results of our ongoing or future clinical trials, or changes in the development status of our product candidates;
- our decision to initiate, not to initiate, or to terminate a clinical trial;
- unanticipated serious safety concerns related to the use of our product candidates;
- regulatory actions, including failure to receive regulatory approval, with respect to our product candidates or our competitors’ products or product candidates;
- the success of competitive products or technologies;
- announcements by us or our competitors of significant acquisitions, strategic collaborations, joint ventures, collaborations, capital commitments, significant development milestones, or product approvals;
- our failure to obtain new commercial partners;
- significant lawsuits, including without limitation patent or stockholder litigation;
- actual or anticipated fluctuations in our cash position or operating results;
- changes in financial estimates or recommendations by securities analysts;
- fluctuations in the valuation or financial results of companies perceived by investors to be comparable to us;
- inconsistent trading volume levels of our shares;
- announcement or expectation of additional financing efforts;
- sales of shares by us, our executive officers or directors or our stockholders generally;
- fluctuations and market conditions in the U.S. equity markets generally and in the biotechnology sector;
- general economic, political and social conditions; and
- other events or factors, many of which are beyond our control, or unrelated to our operating performance or prospects.

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In recent years, the stock market in general has experienced significant price and volume fluctuations that have often been unrelated or disproportionate to changes in the operating performance of the companies whose stock is experiencing those price and volume fluctuations. Broad market and industry factors may seriously affect the market price of our common stock, regardless of actual operating performance. These fluctuations may be even more pronounced in the trading markets for our common stock shortly following this offering.

There is no public market for the warrants.

There is no established public trading market for the warrants, and we do not expect a market to develop. In addition, we do not intend to apply to list the warrants on any national securities exchange or other nationally recognized trading system, including Nasdaq. Without an active market, the liquidity of the warrants will be limited.

Holders of our warrants will have no rights as common stockholders until they acquire our common stock.

Until holders of warrants acquire shares of our common stock upon exercise thereof, holders of warrants will have no rights with respect to the shares of our common stock underlying such warrants. Upon exercise of the warrants, the holders will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

The warrants are speculative in nature.

The warrants do not confer any rights of ownership of our shares of common stock on their holders, such as voting rights or the right to receive dividends, but rather merely represent the right to acquire shares of common stock at a fixed price. Specifically, commencing on the initial exercise date, holders of the common warrants may acquire shares of common stock issuable upon exercise of such warrants at an exercise price of \$2.322 per share of common stock and holders of the pre-funded warrants may acquire shares of common stock issuable upon exercise of such warrants at an exercise price of \$0.0001 per share of common stock. There can be no assurance that the market value of the common warrants and pre-funded warrants will equal or exceed their public offering price. In the event the market price per our shares of common stock does not exceed the exercise price of the common warrants during the period when the common warrants are exercisable, the common warrants may not have any value.

Management will have broad discretion as to the use of the net proceeds from this offering, and we may not use the proceeds effectively.

Our management will have broad discretion as to the application of the net proceeds and could use them for purposes other than those contemplated at the time of this offering. Our stockholders may not agree with the manner in which our management chooses to allocate and spend the net proceeds. Moreover, our management may use the net proceeds for corporate purposes that may not increase our results of operations or the market value of our common stock. Our failure to apply these funds effectively could have a material adverse effect on our business, delay the development and approval of our product candidates and cause the price of our common stock to decline.

We have never paid dividends on our capital stock, and we do not anticipate paying dividends in the foreseeable future.

We have never paid dividends on any of our capital stock and currently intend to retain any future earnings to fund the growth of our business. We may also enter into credit agreements or other borrowing arrangements in the future that will restrict our ability to declare or pay cash dividends on our common stock. Any determination to pay dividends in the future will be 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. As a result, capital appreciation, if any, of the securities will be the sole source of gain, if any, for the foreseeable future.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus contains forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), which statements involve substantial risks and uncertainties. All statements, other than statements of historical fact, included in this prospectus or the documents incorporated herein by reference, including statements regarding our future results of operations and financial position, our business strategy and plans, and our objectives for future operations, are forward-looking statements. The words “may,” “will,” “should,” “expects,” “plans,” “anticipates,” “believes,” “estimates,” “predicts,” “potential,” “intends,” “continue,” and similar expressions that convey uncertainty of future events or outcomes are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

The forward-looking statements in this prospectus include, among other things, statements about:

- our ability to continue as a going concern;
- our ability to regain compliance with the Nasdaq listing requirements;
- our ability to service our outstanding debt obligations;
- our estimates regarding our expenses, future revenues, anticipated capital requirements and our needs for additional financing;
- the implementation of our business model and strategic plans for our business and technology;
- the timing and success of the commencement, progress and receipt of data from any of our preclinical and clinical trials;
- interim and preliminary data and our expectations for later clinical trials based on such data;
- our expectations regarding the potential safety, efficacy, or clinical utility of our product candidates;
- the expected results of any clinical trial and the impact on the likelihood or timing of any regulatory approval;
- the difficulties in obtaining and maintaining regulatory approval of our product candidates;
- the rate and degree of market acceptance of any of our product candidates;
- the success of competing therapies and products that are or become available;
- regulatory developments in the United States and foreign countries;
- current and future legislation regarding the healthcare system;
- the scope of protection we establish and maintain for intellectual property rights covering our technology;
- developments relating to our competitors and our industry;
- our ability to recruit or retain key scientific or management personnel or to retain our executive officers;
- the performance of third parties, including collaborators, contract research organizations and third-party manufacturers;
- the development of our commercialization capabilities, including the need to develop or obtain additional capabilities; and
- our use of the proceeds from the offering.

These statements are only current predictions and are subject to known and unknown risks, uncertainties, and other factors that may cause our or our industry’s actual results, levels of activity, performance, or achievements to be materially different from those anticipated by the forward-looking statements. We discuss many of these risks in greater detail in the risk factors under the section entitled “Risk Factors” and elsewhere in this prospectus, as well as in our most recent Annual Report on Form 10-K, our subsequent Quarterly Reports on Form 10-Q, and other filings we make with the SEC pursuant to Section 13(a), 13(c), 14, or 15(d) of the Exchange Act. You should not rely upon forward-looking statements as predictions of future events. Some of the factors that could cause actual results to differ materially from the anticipated results or other expectations expressed, anticipated or implied in our forward-looking statements include risks related to:

- our history of net losses and anticipated net losses for the foreseeable future;
- our lack of product revenue and that we may never achieve or maintain profitability;
- our need for additional capital to finance our operations to continue as a going concern;

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- the uncertain development pathway for evaluating our lead product candidate, pepinemab, for the treatment of Huntington’s Disease;
- our dependence on the success of pepinemab;
- our product candidates are in preclinical development or early stages of clinical development;
- delays and disruptions in progressing and completing the development of our product candidates;
- the lengthy, time-consuming, and unpredictable FDA regulatory process;
- the expensive, time consuming, and difficult to design and implement nature of preclinical studies and clinical trials, and their uncertain outcome;
- our dependence in key personnel;
- our dependence on third-party collaborators;
- our inability to obtain, maintain, and protect our intellectual property rights;
- substantial competition that may result in others discovering, developing, or commercializing products before or more successfully than us;
- our non-compliance with the Nasdaq continued listing standards; and
- other factors detailed under the section entitled “Risk Factors” and elsewhere in this prospectus and in the documents incorporated herein by reference.

Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance, or achievements. Except as required by law, after the date of this prospectus, we are under no duty to update or revise any of the forward-looking statements, whether as a result of new information, future events, or otherwise.

USE OF PROCEEDS

We estimate that the net proceeds from our issuance and sale of the securities in this offering (assuming the sale of the maximum number of shares of common stock offered hereby), after deducting placement agent's fees and estimated offering expenses payable by us, assuming a combined assumed public offering price per share and accompanying common warrant of \$2.322, which was the last reported sale price of our common stock on Nasdaq on September 22, 2023, and excluding the proceeds, if any, from the exercise of any warrants, will be approximately \$6.6 million. 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. In addition, the actual offering price for the offered securities will be as determined between us, the placement agent, and the investors in this offering at the time of pricing.

We intend to use the net proceeds from this offering to fund the ongoing development and clinical trials of our lead drug candidate, pepinemab, in cancer and neurodegenerative disease, and for working capital and other general corporate purposes. This expected use of net proceeds from this offering represents our intentions based upon our current plans and business conditions, which could change in the future as our plans and business conditions evolve. As of the date of this prospectus, we cannot predict with certainty all the uses for the net proceeds to be received upon the completion of this offering or the amounts we will spend on the uses set forth above. Our management will have broad discretion in the application of the net proceeds from this offering and could use them for purposes other than those contemplated at the time of this offering. Our stockholders may not agree with the manner in which our management chooses to allocate and spend the net proceeds. Moreover, our management may use the net proceeds for corporate purposes that may not result in our being profitable or increase our market value.

Pending our use of the net proceeds from this offering, we intend to invest the net proceeds in a variety of capital preservation investments, including short-term, investment-grade, interest-bearing instruments and U.S. government securities.

DIVIDEND POLICY

We have never declared or paid cash dividends on our common stock. We currently intend to retain all available funds and any future earnings, if any, to fund the development of our business, and we do not intend to declare or pay any cash dividends in the foreseeable future. As a result, you will likely need to sell your shares of common stock to realize a return on your investment, and you may not be able to sell your shares at or above the price you paid for them. Any future determination related to dividend policy will be made at the discretion of our board of directors and will depend upon, among other factors, our results of operations, financial condition, capital requirements, contractual restrictions, business prospects and other factors our board of directors may deem relevant. Our future ability to pay cash dividends on our common stock may be limited by the terms of any future debt or preferred securities.

CAPITALIZATION

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

- on an actual basis;
- on a pro forma basis to give effect to the issuances of 209,339 shares of common stock issued in a private placement on August 22, 2023, 248,931 shares of common stock issued in a private placement on September 22, 2023, and 22,240 shares of common stock issued under the Open Market Sales Agreement after June 30, 2023 and through September 22, 2023, and the receipt of net proceeds of \$1.3 million in the aggregate therefrom;
- on a pro forma as adjusted basis to give further effect to the issuance and sale of shares of our common stock in this offering at an assumed public offering price of \$2.322 per share, which is the last reported sale price for our common stock on Nasdaq on September 22, 2023, after deducting the placement agent fees and estimated offering expenses payable by us, and assuming no sale of pre-funded warrants and no exercise of warrants.

Our capitalization following the closing 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 table in conjunction with “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and our financial statements and related notes incorporated by reference into this prospectus.

| | <u>Actual</u> | <u>Pro Forma</u> <u>(in thousands)</u> | <u>Pro Forma</u> <u>As Adjusted</u> |
|---|-----------------|---|--|
| Cash and cash equivalents | \$ 1,908 | \$ 3,225 | \$ 9,830 |
| Stockholders’ equity: | | | |
| Common stock, par value \$0.0001 per share: 100,000,000 shares authorized as of June 30, 2023; 4,377,892 shares issued and outstanding as of June 30, 2023; 4,609,471 shares issued and outstanding pro forma | 7 | 7 | 7 |
| Additional paid-in capital | 331,279 | 332,596 | 339,201 |
| Treasury stock, at cost; 56 shares of common stock as of June 30, 2023 | (11) | (11) | (11) |
| Accumulated deficit | (331,698) | (331,698) | (331,698) |
| Total stockholders’ equity | <u>(423)</u> | <u>894</u> | <u>7,499</u> |
| Total capitalization | <u>\$ (423)</u> | <u>\$ 894</u> | <u>\$ 7,499</u> |

- (1) An \$0.25 increase or decrease in the assumed public offering price of \$2.322 per share and accompanying common warrant, which is the last reported sale price of our common stock on Nasdaq on September 22, 2023, would increase or decrease, respectively, our pro forma as adjusted cash and cash equivalents, additional paid-in capital, total stockholders’ equity, and total capitalization by approximately \$0.8 million, assuming the number of securities offered by us, as set forth on the cover page of this prospectus, remains the same, assuming no sale of any pre-funded warrants and no exercise of warrants, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of securities to be issued in this offering. An increase or decrease of 300,000 in the number of shares of common stock and common warrants offered by us would increase or decrease, respectively, our pro forma as adjusted cash and cash equivalents, additional paid-in capital, total stockholders’ equity, and total capitalization by \$0.6 million, assuming that the assumed public offering price remains the same, assuming no sale of any pre-funded warrants and no exercise of warrants, and after deducting estimated placement agent fees and estimated offering expenses payable by us. The information discussed above is illustrative only and will be adjusted based on the actual public offering price and other terms of this offering as determined between us, the placement agent, and the investors at pricing.

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The number of shares of our common stock to be outstanding after this offering is based on 4,377,892 shares of our common stock outstanding as of June 30, 2023 and excludes:

- 206,043 shares of common stock issuable upon the exercise of stock options outstanding as of June 30, 2023 at a weighted-average exercise price of \$32.25 per share; and
- 4,925 shares of common stock available for issuance pursuant to future grants under our 2018 Omnibus Incentive Plan as of June 30, 2023.

DILUTION

If you invest in our securities in this offering, your ownership interest will be diluted immediately to the extent of the difference between the combined public offering price per share of common stock and accompanying common warrant and the as adjusted net tangible book value per share of our common stock after this offering.

Our historical net tangible book value as of June 30, 2023 was \$(0.4) million, or \$(0.10) per share of our common stock. Historical net tangible book value per share represents the amount of our total tangible assets less total liabilities, divided by the number of shares of our common stock outstanding as of June 30, 2023.

Our pro forma net tangible book value as of June 30, 2023 was \$0.9 million, or \$0.18 per share of our common stock. Pro forma net tangible book value per share represents total tangible assets less total liabilities, divided by the number of shares of our common stock outstanding as of June 30, 2023, after giving effect to the issuances of 209,339 shares of common stock issued in a private placement on August 22, 2023, 248,931 shares of common stock issued in a private placement on September 22, 2023, and 22,240 shares of common stock issued under the Open Market Sales Agreement after June 30, 2023 and through September 22, 2023, and the receipt of net proceeds of \$1.3 million in the aggregate therefrom.

After giving further effect to the assumed issuance and sale of the maximum of 3,229,974 shares of common stock and common warrants in this offering at an assumed public offering price of \$2.322 per share and accompanying common warrant, which is the last reported sale price of our common stock on Nasdaq on September 22, 2023, and after deducting the placement agent fees and estimated offering expenses payable by us, and assuming no sale of any pre-funded warrants and no exercise of warrants, our pro forma as adjusted net tangible book value as of June 30, 2023 would have been \$7.5 million, or \$0.93 per share. This represents an immediate increase in net tangible book value per share of \$0.74 to existing stockholders, compared to the pro forma net tangible book value per share, and immediate dilution of \$1.39 per share to investors purchasing securities in this offering. Dilution per share to investors is determined by subtracting pro forma as adjusted net tangible book value per share after this offering from the public offering price per share paid by investors in this offering. The following table illustrates this dilution on a per share basis:

| | | |
|---|-----------|----------------|
| Assumed public offering price per share and accompanying common warrant | | \$2.322 |
| Historical net tangible book value per share | \$ (0.10) | |
| Increase per share attributable to pro forma adjustments | 0.28 | |
| Pro forma net tangible book value per share at June 30, 2023 | \$ 0.18 | |
| Increase in pro forma net tangible book value per share attributable to new investors | | 0.74 |
| Pro forma as adjusted net tangible book value per share after this offering | | \$ 0.93 |
| Dilution per share to new investors purchasing securities in this offering | | <u>\$ 1.39</u> |

An \$0.25 increase or decrease in the assumed public offering price of \$2.322 per share and accompanying common warrant, which is the last reported sale price of our common stock on Nasdaq on September 22, 2023, would increase or decrease, respectively, our pro forma as adjusted net tangible book value per share after this offering by approximately \$0.09 and the dilution per share to investors purchasing securities in this offering by \$0.16 assuming the number of securities offered by us, as set forth on the cover page of this prospectus, remains the same, assuming no sale of any pre-funded warrants and no exercise of warrants, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We may also increase or decrease the number of securities to be issued in this offering. An increase of 300,000 in the number of shares of common stock and warrants offered by us would increase our pro forma as adjusted net tangible book value per share and decrease the dilution per share to investors purchasing securities in this offering by \$0.04 and \$0.04, respectively, and each decrease of 300,000 in the number of shares of common stock and warrants offered by us would decrease our pro forma as adjusted net tangible book value per share and increase the dilution per share to investors purchasing securities in this offering by \$0.05 and \$0.05, respectively, assuming that the assumed public offering price remains the same, assuming no sale of any pre-funded warrants and no exercise of warrants, and after deducting underwriting discounts and commissions and estimated offering expenses payable by us. The information discussed above is illustrative only and will be adjusted based on the actual public offering price and other terms of this offering as determined between us, the placement agent, and the investors at pricing.

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The number of shares of our common stock to be outstanding after this offering is based on 4,377,892 shares of our common stock outstanding as of June 30, 2023 and excludes:

- 206,043 shares of common stock issuable upon the exercise of stock options outstanding as of June 30, 2023 at a weighted-average exercise price of \$32.25 per share; and
- 4,925 shares of common stock available for issuance pursuant to future grants under our 2018 Omnibus Incentive Plan as of June 30, 2023.

The discussion and table above assume no exercise of the warrants. To the extent that the warrants are exercised, you may experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

DESCRIPTION OF CAPITAL STOCK

The following is a brief description of our common stock, par value \$0.0001 per share. This description is qualified by reference to our amended and restated certificate of incorporation and our amended and restated bylaws.

Our certificate of incorporation authorizes us to issue 110,000,000 shares of capital stock, divided into two classes:

- 100,000,000 shares of common stock; and
- 10,000,000 shares of preferred stock, par value \$0.001 per share (the “preferred stock”).

Common Stock

Each holder of common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders. The affirmative vote of holders of at least 66% of the voting power of all of the then outstanding shares of capital stock, voting as a single class, is required to amend certain provisions of our amended and restated certificate of incorporation, including provisions relating to amending our amended and restated bylaws, the classified board, the size of our board, removal of directors, director liability, vacancies on our board, special meetings, stockholder notices, actions by written consent and exclusive jurisdiction.

Directors are elected by a plurality vote of the shares represented in person or by proxy. All other actions by stockholders will be approved by a majority of votes cast except as otherwise required by law.

The holders of common stock are entitled to receive dividends ratably when, as and if declared by the board of directors out of funds legally available therefor. In the event of our liquidation, dissolution or winding up, the holders of common stock are entitled to share equally and ratably in all assets remaining available for distribution after payment of liabilities and after provision is made for each class of stock, if any, having preference over the common stock. Holders of common stock have no preemptive, subscription, redemption, sinking fund, or conversion rights. The outstanding shares of common stock are validly issued, fully paid and non-assessable.

Effects on our Common Stock if We Issue Preferred Stock

Our board of directors has authority, without further action by the stockholders, to issue up to 10,000,000 shares of preferred stock in one or more series. Our board of directors has the authority to determine the terms of each series of preferred stock, within the limits of the certificate of incorporation and the laws of the state of Delaware. These terms include the number of shares in a series, dividend rights, liquidation preferences, terms of redemption, conversion rights and voting rights.

The issuance of any preferred stock may negatively affect the holders of our common stock. These possible negative effects include diluting the voting power of shares of our common stock and affecting the market price of our common stock.

Anti-Takeover Effects of Provisions of our Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

Our amended and restated certificate of incorporation and amended and restated bylaws include a number of provisions that may deter or impede hostile takeovers or changes of control or management. These provisions include:

- *Issuance of undesignated preferred stock.* Our board of directors has the authority, without further action by the stockholders, to issue up to 10,000,000 shares of undesignated preferred stock with rights and preferences, including voting rights, designated from time to time by our board of directors. The existence of authorized but unissued shares of preferred stock enables our board of directors to make it more difficult or to discourage an attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise.

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- *Classified board.* Our amended and restated certificate of incorporation provides for a classified board of directors consisting of three classes of directors, with staggered three-year terms. Only one class of directors is elected at each annual meeting of our stockholders, with the other classes continuing for the remainder of their respective three-year terms. This provision may have the effect of delaying a change in control of our board.
- *Board of directors vacancies.* Our amended and restated certificate of incorporation and amended and restated bylaws authorize only our board of directors to fill vacant directorships, unless our board of directors determines by resolution that any such vacancies shall be filled by stockholders. In addition, the number of directors constituting our board of directors may be set only by resolution adopted by a majority vote of our entire board of directors. These provisions prevent a stockholder from increasing the size of our board of directors and gaining control of our board of directors by filling the resulting vacancies with its own nominees.
- *Stockholder action; special meetings of stockholders.* Our amended and restated certificate of incorporation provides that our stockholders may not take action by written consent but may only take action at annual or special meetings of our stockholders. Stockholders will not be permitted to cumulate their votes for the election of directors. Our amended and restated certificate of incorporation further provides that only the chairman of our board of directors or a majority of our board of directors may call special meetings of our stockholders.
- *Advance notice requirements for stockholder proposals and director nominations.* Our amended and restated bylaws provide advance notice procedures for stockholders seeking to bring business before our annual meeting of stockholders, or to nominate candidates for election as directors at our annual meeting of stockholders. Our amended and restated bylaws also specify certain requirements as to the form and content of a stockholder's notice. These provisions may make it more difficult for our stockholders to bring matters before our annual meeting of stockholders or to nominate directors at annual meetings of stockholders.

We designed these provisions to enhance the likelihood of continued stability in the composition of our board of directors and its policies, to discourage certain types of transactions that may involve an actual or threatened acquisition of us, and to reduce our vulnerability to an unsolicited acquisition proposal. We also designed these provisions to discourage certain tactics that may be used in proxy fights. However, these provisions could have the effect of discouraging others from making tender offers for our shares and, as a consequence, they may also reduce fluctuations in the market price of our shares that could result from actual or rumored takeover attempts.

Choice of Forum

Our amended and restated certificate of incorporation provides that the Court of Chancery of the State of Delaware is the exclusive forum for any derivative action or proceeding brought on our behalf, any action asserting a breach of fiduciary duty owed by any current or former director, officer, employee or agent to us or our stockholders, any action asserting a claim against us arising pursuant to the Delaware General Corporation Law or our amended and restated certificate of incorporation or amended and restated bylaws, any action to interpret, apply, enforce or determine the validity of our amended and restated certificate of incorporation or amended and restated bylaws, or any action asserting a claim against us that is governed by the internal affairs doctrine.

DESCRIPTION OF SECURITIES WE ARE OFFERING

We are offering on a reasonable best efforts basis up to 3,229,974 shares of common stock and up to 3,229,974 common warrants to purchase up to 3,229,974 shares of common stock. The shares of common stock and the accompanying common warrants can only be purchased together in this offering but will be issued separately and will be immediately separable upon issuance. We are also offering to purchasers whose purchase of shares 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 common stock immediately following the consummation of this offering, the opportunity to purchase, in lieu of shares that otherwise would result in such purchaser's beneficial ownership exceeding 4.99% (or, at the election of the purchaser, 9.99%) of our outstanding common stock, up to 3,229,974 pre-funded warrants. For each pre-funded warrant we sell, the number of shares we are offering will be decreased on a one-for-one basis.

We are also registering the shares of common stock issuable from time to time upon exercise of the warrants offered hereby.

Common Stock

The material terms and provisions of our common stock and each other class of our securities that qualifies or limits our common stock are described in the section entitled "Description of Capital Stock" beginning on page 16 of this prospectus.

Pre-Funded Warrants

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

Duration and Exercise Price

Each pre-funded warrant offered hereby will have an initial exercise price per share equal to \$0.0001 per share. The pre-funded warrants will be immediately exercisable and may be exercised at any time until the pre-funded warrants are exercised in full. The exercise price and number of shares of common stock issuable upon exercise is subject to appropriate adjustment in the event of stock dividends, stock splits, reorganizations or similar events affecting our common stock and the exercise price. The pre-funded warrants will be issued separately from the common stock and may be transferred separately immediately thereafter.

Exercisability

The pre-funded warrants will be exercisable, at the option of each holder, in whole or in part, by delivering a duly executed exercise notice accompanied by payment in full for the number of shares of our common stock purchased upon such exercise (except in the case of a cashless exercise as discussed below). Except as agreed with individual holders of pre-funded warrants, a holder (together with its affiliates) may not exercise any portion of the pre-funded warrant to the extent that the holder would own more than 4.99% of the outstanding common stock immediately after exercise (the "Beneficial Ownership Limitation"), except that upon at least 61 days' prior notice from the holder to us, the holder may increase the Beneficial Ownership Limitation to a percentage not to exceed 9.99%. 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.

Cashless Exercise

If, at the time a holder exercises its pre-funded warrants, a registration statement registering the issuance of the shares of common stock underlying the pre-funded warrants under the Securities Act is not then effective or available for the issuance of such shares, then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of shares of common stock determined according to a formula set forth in the pre-funded warrants.

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Fundamental Transaction

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, the acquisition of more than 50% of our outstanding common stock, or any person or group becoming the beneficial owner of more than 50% of the voting power represented by our outstanding common 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.

Transferability

Subject to applicable laws, a pre-funded warrant may be transferred at the option of the holder upon surrender of the pre-funded warrant together with the appropriate instruments of transfer and funds sufficient to pay any transfer taxes payable upon such transfer.

Exchange Listing

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

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 holders of the pre-funded warrants do not have the rights or privileges of holders of our common stock, including any voting rights, until they exercise their pre-funded warrants.

Common Warrants

The following summary of certain terms and provisions of the common warrants that are being offered hereby is not complete and is subject to, and qualified in its entirety by, the provisions of the common warrants, the form of which is filed as an exhibit to the registration statement of which this prospectus forms a part. Prospective investors should carefully review the terms and provisions of the form of common warrant for a complete description of the terms and conditions of the common warrants.

Duration and Exercise Price

Each common warrant offered hereby will have an initial exercise price per share equal to \$2.322 per share. The common warrants will be exercisable immediately and will expire five years from the date of issuance. The exercise price and number of shares of common stock issuable upon exercise is subject to appropriate adjustment in the event of stock dividends, stock splits, reorganizations or similar events affecting our common stock and the exercise price. The common warrants will be issued separately from the common stock and may be transferred separately immediately thereafter.

Exercisability

The common warrants will be exercisable, at the option of each holder, in whole or in part, by delivering a duly executed exercise notice accompanied by payment in full for the number of shares of our common stock purchased upon such exercise (except in the case of a cashless exercise as discussed below). Except as agreed with individual holders of common warrants, a holder (together with its affiliates) may not exercise any portion of the common warrant to the extent that the holder would own more than 4.99% of the outstanding common stock immediately after exercise, except that upon at least 61 days' prior notice from the holder to us, the holder may increase the Beneficial Ownership Limitation to a percentage not to exceed 9.99%. No fractional shares of common stock will be issued in connection with the exercise of a common 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.

Cashless Exercise

If, at the time a holder exercises its common warrants, a registration statement registering the issuance of the shares of common stock underlying the common warrants under the Securities Act is not then effective or available, then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of shares of common stock determined according to a formula set forth in the common warrants.

Fundamental Transaction

In the event of a fundamental transaction, as described in the common 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, the acquisition of more than 50% of our outstanding common stock, or any person or group becoming the beneficial owner of more than 50% of the voting power represented by our outstanding common stock, the holders of the common warrants will be entitled to receive upon exercise of the common warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the common warrants immediately prior to such fundamental transaction.

Transferability

Subject to applicable laws, a common warrant may be transferred at the option of the holder upon surrender of the common warrant together with the appropriate instruments of transfer and funds sufficient to pay any transfer taxes payable upon such transfer.

Exchange Listing

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

Rights as a Stockholder

Except as otherwise provided in the common warrants or by virtue of such holder's ownership of shares of our common stock, the holders of the common warrants do not have the rights or privileges of holders of our common stock, including any voting rights, until they exercise their common warrants.

Call Option

We have the option to "call" the exercise of any or all of a holder's common warrants, from time to time, by giving a call notice to the holder after (i) any 10-consecutive trading day period during which the daily VWAP of the common stock (as defined in the common warrants) exceeds \$3.483 and (ii) the holder of the common warrant is not in possession of any material non-public information that was provided by use or any of our officers, directors, employees, agents, or affiliates. During the call period, the holder may exercise the common warrant and purchase the called shares of common stock underlying the common warrant. If the holder fails to timely exercise the common warrant for a number of shares of common stock equal to the number of called shares during the call period, our sole remedy will be to cancel an amount of called shares of common stock underlying the common warrant equal to such shortfall, with the common warrant no longer being exercisable with respect to such shares. The call period is a period of 20 trading days following the date on which the holder receives the call notice.

PLAN OF DISTRIBUTION

A.G.P./Alliance Global Partners has agreed to act as our placement agent in connection with this offering subject to the terms and conditions of the placement agent agreement dated _____, 2023. The placement agent is not purchasing or selling any of the securities offered by this prospectus, nor is it required to arrange the purchase or sale of any specific number or dollar amount of securities, but has agreed to use its reasonable best efforts to arrange for the sale of all of the securities offered hereby. We will enter into a securities purchase agreement (the “purchase agreement”) directly with the investors who purchase our securities in this offering, at the investors’ option. Investors who do not enter into the purchase agreement shall rely solely on this prospectus in connection with the purchase of our securities in this offering.

We expect this offering to be completed not later than two business days following the commencement of the offering and we will deliver the securities being issued to each investor upon receipt of such investor’s funds for the purchase of the securities offered pursuant to this prospectus and we will deliver all securities to be issued in connection with this offering delivery versus payment (DVP)/receipt versus payment (RVP) upon receipt of investor funds received by us. We expect to deliver the securities being offered pursuant to this prospectus on or about _____, 2023.

We have agreed to indemnify the placement agent against specified liabilities, including liabilities under the Securities Act, and to contribute to payments the placement agent may be required to make in respect thereof.

Placement Agent Fees, Commissions and Expenses

This offering is being conducted on a reasonable best efforts basis and the placement agent has 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 securities. Upon the closing of this offering, we will pay the placement agent a cash transaction fee equal to 7.0% of the aggregate gross cash proceeds to us from the sale of the securities in the offering. In addition, we will reimburse the placement agent for up to \$75,000 for the placement agent’s legal fees and up to 1.0% of the aggregate gross proceeds of the offering for certain reasonable non-accountable fees and expenses. The Chairman of our Board of Directors has indicated that he or entities with which he is affiliated are interested in purchasing up to \$3.0 million of securities in this offering at the same price and on the same terms as the other purchasers in this offering, except that the placement agent will receive a cash transaction fee equal to 2.0% of the aggregate gross cash proceeds to us from such sales, and will not receive non-accountable fees and expenses with respect to such sales.

The following table shows the public offering price, placement agent fees and proceeds, before expenses, to us, assuming the sale of all the shares of common stock we are offering and no exercise of any warrants, and assuming no sales to our Chairman or his affiliated entities.

| | Per Share and Accompanying Common Warrant | Per Pre-Funded Warrant and Accompanying Common Warrant | Total |
|----------------------------------|--|---|-------|
| Public offering price | \$ | \$ | \$ |
| Placement agent fees | \$ | \$ | \$ |
| Proceeds, before expenses, to us | \$ | \$ | \$ |

We estimate that the total expenses of the offering payable by us, excluding the total placement agent fees, will be approximately \$220,000.

Lock-Up Agreements

Our directors and executive officers and certain beneficial owners of 5% or more of our outstanding common stock have entered into lock-up agreements. Under these agreements, these individuals have agreed, subject to specified exceptions, not to sell or transfer any shares of common stock or securities convertible into, or exchangeable or exercisable for, our shares of common stock during a period ending 60 days after the closing of this offering, without first obtaining the written consent of the placement agent. Specifically, these individuals have agreed, in part, not to:

- sell, offer, contract or grant any option to sell (including any short sale), pledge, transfer, establish an open “put equivalent position” within the meaning of Rule 16a-1(h) under the Securities Exchange Act of 1934, as amended;
- enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of our securities, whether any such transaction is to be settled by delivery of our shares of common stock, in cash or otherwise;
- make any demand for or exercise any right with respect to the registration of any of our securities;

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- publicly disclose the intention to make any offer, sale, pledge or disposition, or to enter into any transaction, swap, hedge;
- or other arrangement relating to any of our securities.

Notwithstanding these limitations, these shares of common stock may be transferred under limited circumstances, including, without limitation, by gift, will or intestate succession.

In addition, we have agreed that, subject to certain exceptions, we will not (i) conduct any issuances of our common stock for a period of 30 days following closing of this offering or (ii) enter into a variable rate transaction (as defined in the purchase agreement) for a period of 180 days following closing of this offering.

Regulation M

The placement agent 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 shares sold by it while acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. As an underwriter, the placement agent would be required to comply with the requirements of the Securities Act and the Exchange Act, including, without limitation, Rule 415(a)(4) under the Securities Act and Rule 10b-5 and Regulation M under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of shares by the placement agent acting as principal. Under these rules and regulations, the placement agent

- may not engage in any stabilization activity in connection with our securities; and
- 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.

Listing

Our common stock is listed on The Nasdaq Capital Market under the symbol “VCNX.” There is no established public market for the warrants, and we do not expect a market to develop. In addition, we do not intend to apply for listing of the warrants on any national securities exchange.

Discretionary Accounts

The placement agent does not intend to confirm sales of the securities offered hereby to any accounts over which they have discretionary authority.

Other Relationships

The placement agent and certain of its affiliates are full service financial institutions engaged in various activities, which may include securities trading, commercial and investment banking, financial advisory, investment management, investment research, principal investment, hedging, financing and brokerage activities. The placement agent and certain of its affiliates may in the future perform various commercial and investment banking and financial advisory services for us and our affiliates, for which they will receive customary fees and expenses.

In the ordinary course of their various business activities, the placement agent and certain of its affiliates may make or hold a broad array of investments and actively trade debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers, and such investment and securities activities may involve securities and/or instruments issued by us and our affiliates. If the placement agent or its affiliates have a lending relationship with us, they routinely hedge their credit exposure to us consistent with their customary risk management policies. The placement agent and its affiliates may hedge such exposure by entering into transactions that consist of either the purchase of credit default swaps or the creation of short positions in our securities or the securities of our affiliates, including potentially the common stock offered hereby. Any such short positions could adversely affect future trading prices of the common stock offered hereby. The placement agent and certain of its affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such securities or instruments and may at any time hold, or recommend to clients that they acquire, long and/or short positions in such securities and instruments.

LEGAL MATTERS

The validity of the securities offered hereby is being passed upon for us by Hogan Lovells US LLP, Baltimore, Maryland. Thompson Hine LLP, New York, New York, is acting as counsel for the placement agent in connection with this offering.

EXPERTS

The financial statements of Vaccinex, Inc. (the “Company”) as of December 31, 2022 and 2021, and for each of the two years in the period ended December 31, 2022, incorporated by reference in this prospectus have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report (which report expresses an unqualified opinion and includes an explanatory paragraph describing conditions that raise substantial doubt about our ability to continue as a going concern). Such financial statements are incorporated by reference in reliance upon the report of such firm given their authority as experts in accounting and auditing.

INCORPORATION BY REFERENCE

The SEC allows us to “incorporate by reference” information into this prospectus, which means that we can disclose important information to you by referring you to another document filed separately with the SEC. The SEC file number for each of the documents incorporated by reference in this prospectus is 001-38624. The documents incorporated by reference into this prospectus contain important information that you should read about us.

The following documents are incorporated by reference into this document:

- our Annual Report on Form 10-K for the year ended December 31, 2022, filed with the SEC on [March 31, 2023](#);
- our Quarterly Report on Form 10-Q for the fiscal quarters ended March 31, 2023 and June 30, 2023, filed with the SEC on [May 15, 2023](#) and [August 14, 2023](#);
- our Current Reports on Form 8-K (other than portions thereof furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits accompanying such reports that relate to such items) filed with the SEC on [March 23, 2023](#), [April 3, 2023](#), [May 12, 2023](#), [May 15, 2023](#), [May 19, 2023](#), [May 30, 2023](#), [August 22, 2023](#), [September 13, 2023](#), [September 22, 2023](#), and [September 22, 2023](#); and
- the description of our capital stock included under the caption “Description of Capital Stock” contained in our Registration Statement on Form 8-A filed with the SEC on [August 8, 2018](#), including any amendments or reports filed for the purpose of updating such description, including [Exhibit 4.1](#) to our Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on March 9, 2020.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14, or 15(d) of the Exchange Act prior to the time that all of the securities offered by this prospectus are sold or the earlier termination of this offering (including all such reports or documents filed after the date of the initial registration statement of which this prospectus forms a part and prior to the effectiveness of the registration statement) will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents. We are not, however, incorporating by reference any documents or portions thereof, whether specifically listed above or filed in the future, that are not deemed “filed” with the SEC, including any information furnished pursuant to Items 2.02 or 7.01 of Form 8-K or related exhibits furnished pursuant to Item 9.01 of Form 8-K.

Any statement contained herein or in a document incorporated or deemed to be incorporated by reference into this document will be deemed to be modified or superseded for purposes of the document to the extent that a statement contained in this document or any other subsequently filed document that is deemed to be incorporated by reference into this document modifies or supersedes the statement.

You may request, orally or in writing, a copy of any or all of the documents incorporated herein by reference. These documents will be provided to you at no cost by contacting us in writing at Vaccinex, Inc., Attn: Corporate Secretary, 1895 Mount Hope Avenue, Rochester, New York 14620 or by telephone at (585) 271-2700. In addition, copies of any or all of the documents incorporated herein by reference may be accessed at our website at www.vaccinex.com.

WHERE YOU CAN FIND MORE INFORMATION

We are a reporting company and file annual, quarterly, and current reports, proxy and information statements, and other information with the SEC. This prospectus is part of a registration statement that we have filed with the SEC relating to the securities to be offered under this prospectus.

The SEC maintains an internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC, where you may read and copy the registration statement, as well as our reports, proxy and information statements, and other information. The address of the SEC's web site is www.sec.gov.

Our Internet address is www.vaccinex.com. There we make available free of charge, on or through the investor relations section of our website, annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after we electronically file such material with the SEC.



Up to 3,229,974 Shares of Common Stock

Up to 3,229,974 Pre-Funded Warrants to Purchase up to 3,229,974 Shares of Common Stock

Up to 3,229,974 Common Warrants to Purchase up to 3,229,974 Shares of Common Stock

Up to 3,229,974 Shares of Common Stock Underlying such Pre-Funded Warrants

Up to 3,229,974 Shares of Common Stock Underlying such Common Warrants

PRELIMINARY PROSPECTUS

Sole Placement Agent

A.G.P.

_____, 2023

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

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

| | <u>Amount</u> |
|---|-------------------|
| Securities and Exchange Commission registration fee | \$ 1,653 |
| Financial Industry Regulatory Authority filing fee | 2,750 |
| Accounting fees and expenses | 50,000 |
| Legal fees and expenses | 150,000 |
| Miscellaneous expenses | 15,597 |
| Total Expenses | <u>\$ 220,000</u> |

Item 14. Indemnification of Directors and Officers.

Section 102(b)(7) of the Delaware General Corporation Law (the "DGCL") provides that a Delaware corporation, in its certificate of incorporation, may limit the personal liability of a director or officer to the corporation or its stockholders for monetary damages for breach of fiduciary duties as a director or officer, except for liability for any:

- transaction from which the director or officer derived an improper personal benefit;
- act or omission not in good faith or that involved intentional misconduct or a knowing violation of law;
- unlawful payment of dividends or redemption of shares; or
- breach of the director's or officer's duty of loyalty to the corporation or its stockholders.

Section 145(a) of the DGCL provides, in general, that a Delaware corporation may indemnify any person who was or is a party, or is threatened to be made a party, to any threatened, pending, or completed action, suit, or proceeding, whether civil, criminal, administrative, or investigative (other than an action by or in the right of the corporation) because that person is or was a director, officer, employee, or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee, or agent of another corporation or other enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines, and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, so long as the person acted in good faith and in a manner he or she reasonably believed was in or not opposed to the corporation's best interests, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful.

Section 145(b) of the DGCL provides, in general, that a Delaware corporation may indemnify any person who was or is a party, or is threatened to be made a party, to any threatened, pending, or completed action or suit by or in the right of the corporation to obtain a judgment in its favor because the person is or was a director, officer, employee, or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee, or agent of another corporation or other enterprise. The indemnity may include expenses (including attorneys' fees) actually and reasonably incurred by the person in connection with the defense or settlement of such action, so long as the person acted in good faith and in a manner the person reasonably believed was in or not opposed to the corporation's best interests, except that no indemnification shall be permitted without judicial approval if a court has determined that the person is to be liable to the corporation with respect to such claim. Section 145(c) of the DGCL provides that, if a present or former director or officer has been successful in defense of any action referred to in Sections 145(a) and (b) of the DGCL, the corporation must indemnify such officer or director against the expenses (including attorneys' fees) he or she actually and reasonably incurred in connection with such action.

Section 145(g) of the DGCL provides, in general, that a corporation may purchase and maintain insurance on behalf of any person who is or was a director, officer, employee, or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee, or agent of another corporation or other enterprise against any liability asserted against and incurred by such person, in any such capacity, or arising out of his or her status as such, whether or not the corporation could indemnify the person against such liability under Section 145 of the DGCL.

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Our amended and restated certificate of incorporation (our “Charter”), and our amended and restated bylaws provide for the indemnification of our directors and officers to the fullest extent permitted under the DGCL.

We have entered into separate indemnification agreements with all of our directors and officers in addition to the indemnification provided for in our Charter and our amended and restated bylaws. These indemnification agreements provide, among other things, that we will indemnify our directors and officers for certain expenses, including damages, judgments, fines, penalties, settlements and costs, and attorneys’ fees and disbursements, incurred by a director or officer in any claim, action, or proceeding arising in his or her capacity as a director or officer of our company, or in connection with service at our request for another corporation or entity. The indemnification agreements also provide for procedures that will apply in the event that a director or officer makes a claim for indemnification.

We also maintain a directors’ and officers’ insurance policy pursuant to which our directors and officers are insured against liability for actions taken in their capacities as directors and officers.

Item 15. Recent Sales of Unregistered Securities

On January 27, 2022, we entered into a stock purchase agreement pursuant to which we issued and sold an aggregate of 583,182 shares of common stock to the investors named therein for aggregate gross proceeds of approximately \$9.7 million. The closing of the sale of shares occurred on January 31, 2022.

On November 18, 2022, we entered into a stock purchase agreement pursuant to which we issued and sold an aggregate of 476,166 shares of common stock to the investors named therein for aggregate gross proceeds of approximately \$3.8 million. The closing of the sale of shares occurred on November 23, 2022.

On March 30, 2023, we entered into a stock purchase agreement pursuant to which we issued and sold an aggregate of 331,707 shares of common stock to the investors named therein for aggregate gross proceeds of approximately \$2.0 million. The closing of the sale of shares occurred on March 31, 2023.

On May 12, 2023, we entered into a stock purchase agreement pursuant to which we issued and sold an aggregate of 527,234 shares of common stock to the investors named therein for aggregate gross proceeds of approximately \$3.0 million. The closing of the sale of shares occurred on May 15, 2023.

In December 2019, we were granted an award (the “ADDF Award”), in the form of an investment in our common stock, in two installments, from Alzheimer’s Drug Discovery Foundation (“ADDF”) to evaluate our lead drug candidate, pepinemab, in Alzheimer’s disease. On May 16, 2023, in connection with the second installment of the ADDF Award, we entered into a stock purchase agreement with ADDF pursuant to which we sold an aggregate of 168,074 shares of our common stock to ADDF for aggregate gross proceeds of approximately \$1.0 million.

On August 18, 2023, we entered into a stock purchase agreement pursuant to which we issued and sold an aggregate of 209,339 shares of common stock to the investors named therein for aggregate gross proceeds of approximately \$650,000. The closing of the sale of shares occurred on August 22, 2023.

On September 20, 2023, we entered into a stock purchase agreement pursuant to which we issued and sold an aggregate of 248,931 shares of common stock to the investors named therein for aggregate gross proceeds of approximately \$582,500. The closing of the sale of shares occurred on September 22, 2023.

The shares listed above were issued and sold in private placements pursuant to Section 4(a)(2) of the Securities Act and Rule 506 of Regulation D under the Securities Act. Each of the investors represented that it was an “accredited investor” within the meaning of Rule 501 of Regulation D, was acquiring the shares for its own account, and had no arrangement or understanding with any other persons to distribute or regarding the distribution of such shares. The shares were offered and sold without any general solicitation by us or our representatives. All share amounts listed above have been adjusted to reflect the Reverse Stock Split.

Item 16. Exhibits.

EXHIBIT INDEX

| Exhibit No. | Description |
|--------------------|---|
| 1.1* | Form of Placement Agent Agreement. |
| 3.1 | Amended and Restated Certificate of Incorporation of Vaccinex, Inc. (incorporated herein by reference from Exhibit 3.1 to the Company's Current Report on Form 8-K filed on August 13, 2018). |
| 3.2 | Certificate of Amendment to the Amended and Restated Certificate of Incorporation of Vaccinex, Inc. (incorporated herein by reference from Exhibit 3.1 to the Company's Current Report on Form 8-K filed on September 22, 2023). |
| 3.3 | Amended and Restated Bylaws of Vaccinex, Inc. (incorporated herein by reference from Exhibit 3.2 to the Company's Current Report on Form 8-K filed on August 13, 2018). |
| 4.1 | Description of Common Stock (incorporated herein by reference from Exhibit 4.1 to the Company's Annual Report on Form 10-K for the year ended December 31, 2019). |
| 4.2 | Specimen Common Stock Certificate (incorporated herein by reference from Exhibit 4.1 to the Company's Registration Statement on Form S-1 filed on July 9, 2018). |
| 4.3* | Form of Pre-Funded Warrant. |
| 4.4* | Form of Common Stock Purchase Warrant. |
| 5.1* | Opinion of Hogan Lovells US LLP. |
| 10.1 | First Amended and Restated Investor Rights Agreement, dated August 22, 2003, by and among the Company and the parties thereto (incorporated herein by reference from Exhibit 10.1 to the Company's Registration Statement on Form S-1 filed on July 9, 2018). |
| 10.2+ | Vaccinex, Inc. 2011 Employee Equity Plan (incorporated herein by reference from Exhibit 10.4 to the Company's Registration Statement on Form S-1 filed on July 9, 2018). |
| 10.3+ | May 15, 2014 Amendment to the Vaccinex, Inc. 2011 Employee Equity Plan (incorporated herein by reference from Exhibit 10.4(a) to the Company's Registration Statement on Form S-1 filed on August 8, 2018). |
| 10.4+ | Vaccinex, Inc. 2018 Omnibus Incentive Plan (incorporated herein by reference from Exhibit 10.6 to the Company's Registration Statement on Form S-1 filed on July 23, 2018). |
| 10.5+ | Form of Incentive Stock Option Agreement under the Vaccinex, Inc. 2018 Omnibus Incentive Plan (incorporated herein by reference from Exhibit 10.7 to the Company's Registration Statement on Form S-1 filed on July 23, 2018). |
| 10.6+ | Form of Non-Qualified Stock Option Agreement under the Vaccinex, Inc. 2018 Omnibus Incentive Plan (incorporated herein by reference from Exhibit 10.8 to the Company's Registration Statement on Form S-1 filed on July 23, 2018). |
| 10.7+ | Severance Pay Plan (incorporated herein by reference from Exhibit 10.9 to the Company's Registration Statement on Form S-1 filed on July 9, 2018). |
| 10.8+ | Director Compensation Program (incorporated herein by reference from Exhibit 10.10 to the Company's Registration Statement on Form S-1 filed on July 23, 2018). |
| 10.9+ | Form of Indemnification Agreement by and between the Company and each of its directors and officers (incorporated herein by reference from Exhibit 10.11 to the Company's Registration Statement on Form S-1 filed on July 9, 2018). |
| 10.10† | Exclusive License Agreement, dated December 29, 1998, by and between the Company and the University of Rochester (incorporated herein by reference from Exhibit 10.12 to the Company's Registration Statement on Form S-1 filed on July 9, 2018). |
| 10.11† | GPEX® Development and Manufacturing Agreement, dated January 13, 2010, by and between the Company and Catalent Pharma Solutions, LLC (incorporated herein by reference from Exhibit 10.13 to the Company's Registration Statement on Form S-1 filed on July 9, 2018). |
| 10.12† | GPEX® – Derived Cell Line Sale Agreement, dated January 13, 2010, by and between the Company and Catalent Pharma Solutions, LLC (incorporated herein by reference from Exhibit 10.14 to the Company's Registration Statement on Form S-1 filed on July 9, 2018). |

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|--------|--|
| 10.13† | <u>Clinical Trial Collaboration and Supply Agreement, dated October 4, 2016, by and between the Company and Ares Trading S.A. (incorporated herein by reference from Exhibit 10.16 to the Company's Registration Statement on Form S-1 filed on July 9, 2018).</u> |
| 10.14 | <u>Open Market Sale AgreementSM by and between the Company and Jefferies LLC, dated March 27, 2020 (incorporated herein by reference from Exhibit 10.1 to the Company's Current Report on Form 8-K filed on March 27, 2020).</u> |
| 10.15 | <u>Note by and between the Company and Five Star Bank, dated May 8, 2020 (incorporated herein by reference from Exhibit 10.6 to the Company's Quarterly Report on Form 10-Q filed on May 14, 2020).</u> |
| 10.16 | <u>Registration Rights Agreement by and between the Company and the Investors, dated as of August 18, 2023 (incorporated herein by reference from Exhibit 10.2 to the Company's Current Report on Form 8-K filed on August 22, 2023).</u> |
| 10.17 | <u>Registration Rights Agreement by and between the Company and the Investors, dated as of September 22, 2023 (incorporated herein by reference from Exhibit 10.2 to the Company's Current Report on Form 8-K filed on September 22, 2023).</u> |
| 10.18* | <u>Form of Securities Purchase Agreement.</u> |
| 23.1* | <u>Consent of Independent Registered Public Accounting Firm, Deloitte & Touche LLP.</u> |
| 23.2* | <u>Consent of Hogan Lovells US LLP (included in Exhibit 5.1).</u> |
| 24.1# | <u>Power of Attorney.</u> |
| 107# | <u>Filing Fee Table.</u> |

Previously filed.

* Filed herewith.

+ Management or compensatory contract or arrangement.

† We have been granted confidential treatment for certain information contained in this exhibit. Such information was filed separately with the Securities and Exchange Commission.

Item 17. Undertakings.

The undersigned registrant hereby undertakes:

(1) 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 Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent 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) 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 SEC by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) 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.

(3) 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.

(4) 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.

(5) That, for the purpose of determining liability of the registrant under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) the portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) any other communication that is an offer in the offering made by the undersigned registrant to the purchaser

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(6) 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 Act and will be governed by the final adjudication of such issue.

(7) (A) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b) (1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(B) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus 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.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Rochester, in the State of New York, on September 26, 2023.

VACCINEX, INC.

By: /s/ Maurice Zauderer, Ph.D.

Name: Maurice Zauderer, Ph.D.

Title: President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

| Signature | Title | Date |
|--|--|--------------------|
| <u>/s/ Maurice Zauderer, Ph.D.</u> Maurice Zauderer, Ph.D. | President, Chief Executive Officer and Director (Principal Executive Officer) | September 26, 2023 |
| <u>/s/ Scott E. Royer, CFA, MBA</u> Scott E. Royer, CFA, MBA | Chief Financial Officer (Principal Financial and Accounting Officer) | September 26, 2023 |
| <u>*</u> Albert D. Friedberg | Chairman of the Board | September 26, 2023 |
| <u>*</u> Chrystyna Bedrij Stecyk | Director | September 26, 2023 |
| <u>*</u> Jacob B. Frieberg | Director | September 26, 2023 |
| <u>*</u> Bala S. Manian, Ph.D. | Director | September 26, 2023 |
| <u>*</u> Gerald E. Van Strydonck | Director | September 26, 2023 |
| <u>*</u> Barbara Yanni | Director | September 26, 2023 |

* By: /s/ Maurice Zauderer, Ph.D.
Maurice Zauderer, Ph.D.
Attorney-in-Fact

Vaccinex, Inc.
Attention: Mr. Maurice Zauderer, Ph.D.
1895 Mount Hope Avenue
Rochester, New York 14620

Dear Dr. Zauderer:

This letter (the “**Agreement**”) constitutes the agreement between A.G.P./Alliance Global Partners (the “**Placement Agent**” or “**A.G.P.**”) and Vaccinex, Inc., a Delaware corporation (the “**Company**”), that the Placement Agent shall serve as the exclusive placement agent for the Company, on a reasonable “best efforts” basis, in connection with the proposed placement (the “**Placement**”) of (i) shares (the “**Shares**”) of common stock of the Company, par value \$0.0001 per share (the “**Common Stock**”), (ii) warrants (the “**Common Warrants**”) to purchase shares of Common Stock (the “**Common Warrant Shares**”) and (iii) pre-funded warrants (the “**Pre-Funded Warrants**” and together with the Shares and Common Warrants, the “**Securities**”) to purchase shares of Common Stock (the “**Pre-Funded Warrant Shares**”). The Securities actually placed by the Placement Agent are referred to herein as the “**Placement Agent Securities**.” The terms of the Placement shall be mutually agreed upon by the Company and the purchasers of the Securities (each, a “**Purchaser**” and collectively, the “**Purchasers**”), and nothing herein constitutes that the Placement Agent would have the power or authority to bind the Company or any Purchaser, or an obligation for the Company to issue any Securities or complete the Placement. The Company expressly acknowledges and agrees that the Placement Agent’s obligations hereunder are on a reasonable “best efforts” basis only and that the execution of this Agreement does not constitute a commitment by the Placement Agent to purchase the Securities and does not ensure the successful placement of the Securities or any portion thereof or the success of the Placement Agent with respect to securing any other financing on behalf of the Company. The Securities shall be offered and sold under the Company’s registration statement on Form S-1 (File No. 333-274520). The Placement Agent may retain other brokers or dealers to act as sub-agents or selected dealers on its behalf in connection with the Placement. Certain affiliates of the Placement Agent may participate in the Placement by purchasing some of the Placement Agent Securities. The sale of Placement Agent Securities to any Purchaser will be evidenced by a securities purchase agreement (the “**Purchase Agreement**”) between the Company and such Purchaser, in a form reasonably acceptable to the Company and the Purchaser. Capitalized terms that are not otherwise defined herein have the meanings given to such terms in the Purchase Agreement. Prior to the signing of any Purchase Agreement, officers of the Company will be available to answer inquiries from the prospective Purchasers.

SECTION 1. REPRESENTATIONS AND WARRANTIES OF THE COMPANY; COVENANTS OF THE COMPANY.

A. Representations of the Company. With respect to the Placement Agent Securities, each of the representations and warranties (together with any related disclosure schedules thereto) and covenants made by the Company to the Purchasers in the Purchase Agreement in connection with the Placement, is hereby incorporated herein by reference into this Agreement (as though fully restated herein) and is, as of the date of this Agreement and as of the date of the sale of the Placement Agent Securities (the “**Closing Date**”), hereby made to, and in favor of, the Placement Agent. In addition to the foregoing, the Company represents and warrants that there are no affiliations with any Financial Industry Regulatory Authority (“**FINRA**”) member firm among the Company’s officers, directors or, to the knowledge of the Company, any five percent (5.0%) or greater stockholder of the Company, except as set forth in the Purchase Agreement.

B. Covenants of the Company. The Company covenants and agrees to continue to retain (i) a firm of Public Company Accounting Oversight Board independent registered public accountants for a period of at least two (2) years after the Closing Date and (ii) a reputable transfer agent with respect to the Common Stock for a period of two (2) years after the Closing Date, provided in each case that the Company is then subject to the reporting requirement of the Securities Exchange Act of 1934, as amended (the “**Exchange Act**”). Furthermore, from the date hereof until thirty (30) days after the Closing Date, without the prior written consent of the Placement Agent, neither the Company nor any Subsidiary shall (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 filing the final Prospectus and a registration statement on Form S-8 in

connection with any employee benefit plan; provided, however, such restrictions shall not apply with respect to an Exempt Issuance. In addition, from the date hereof until the six (6) month anniversary of the Closing Date, the Company shall not effect or enter into an agreement to effect any issuance of Common Stock or Common Stock Equivalents involving an at-the-market offering or Variable Rate Transaction (as defined in the Purchase Agreement); provided, however, that commencing thirty (30) days following the Closing Date, the Company may issue and sell shares of Common Stock in an at-the-market offering under the Company's existing at-the-market sales program pursuant to the Open Market Sale AgreementSM, by and between the Company and Jefferies LLC, dated March 27, 2020. No Variable Rate Transaction shall be an Exempt Issuance.

SECTION 2. REPRESENTATIONS OF THE PLACEMENT AGENT. The Placement Agent represents and warrants that it (i) is a member in good standing of FINRA, (ii) is registered as a broker/dealer under the Exchange Act and the securities laws of each state in which an offer or sale of Placement Agent Securities is made (unless excepted from the respective state's broker-dealer registration requirements), (iii) is licensed as a broker/dealer under the laws of the United States of America applicable to the offers and sales of the Placement Agent Securities by the Placement Agent, (iv) is and will be a corporate body validly existing under the laws of its place of incorporation, and (v) has full power and authority to enter into and perform its obligations under this Agreement. The Placement Agent will immediately notify the Company in writing of any change in its status with respect to subsections (i) through (v) above. The Placement Agent covenants that it will use its best efforts to conduct the Placement hereunder in compliance with the provisions of this Agreement and the requirements of applicable law.

SECTION 3. COMPENSATION. In consideration of the services to be provided for hereunder, the Company shall pay to the Placement Agent and/or its respective designees a cash fee of 7.0% of the aggregate gross proceeds raised from the sale of the Placement Agent Securities (the "**Cash Fee**"); provided, however, that with respect to the gross proceeds raised from the sale of Placement Agent Securities to certain investors set forth on Exhibit A at the Closing Date, the Cash Fee will be reduced to 2.00%. The Placement Agent reserves the right to reduce any item of compensation or adjust the terms thereof as specified herein in the event that a determination is made by FINRA to the effect that the Placement Agent's aggregate compensation is in excess of that permitted by FINRA Rules or that the terms thereof require adjustment.

SECTION 4. 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 Placement Agent Securities (including all printing and engraving costs); (ii) all fees and expenses of the registrar and transfer agent of the Shares; (iii) all necessary issue, transfer and other stamp taxes in connection with the issuance and sale of the Placement Agent 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), Preliminary Prospectus and the Prospectus, and all amendments and supplements thereto, and this Agreement; (vi) all filing fees, reasonable attorneys' fees and expenses incurred by the Company in connection with qualifying or registering (or obtaining exemptions from the qualification or registration of) all or any part of the Placement Agent Securities for offer and sale under the state securities or blue sky laws or the securities laws of any other country; (vii) the fees and expenses associated with including the Placement Agent Securities on the Trading Market; (viii) up to \$75,000 for the reasonable, documented, and accountable expenses related to legal fees of counsel to the Placement Agent specifically incurred in connection with the Placement; (ix) non-accountable expenses in an amount of not more than 1.00% of the aggregate purchase price paid by the purchasers of the Placement Agent Securities sold in this Offering (other than Placement Agent Securities sold to purchasers listed on Exhibit A herein); and (x) closing costs, which shall include the reimbursement of the reasonable out-of-pocket cost of the escrow agent or clearing agent, as applicable, in an amount up to \$10,000; provided, that this sentence in no way limits or impairs the indemnification or contribution provisions contained herein. The Placement Agent reserves the right to reduce any item of compensation or adjust the terms thereof as specified herein in the event that a determination shall be made by FINRA to the effect that the Placement Agent's aggregate compensation is in excess of FINRA Rules or that the terms thereof require adjustment.

SECTION 5. INDEMNIFICATION.

A. To the extent permitted by law, with respect to the Placement Agent Securities, the Company will indemnify the Placement Agent and its affiliates, stockholders, directors, officers, employees, members, counsel and controlling persons (within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act) (each such person, an “**Indemnified Person**”) against all losses, claims, damages, expenses and liabilities, as the same are incurred (including the reasonable and documented fees and expenses of counsel) (“**Claims**”), relating to or arising out of its activities hereunder, its status, title or role as Placement Agent, pursuant to this Agreement, except to the extent that any losses, claims, damages, expenses or liabilities (or actions in respect thereof) are found in a final judgment (not subject to appeal) by a court of law to have resulted from the Placement Agent’s fraud, willful misconduct, gross negligence, recklessness, or violation of law or insofar as such Claims arise out of or are based upon an untrue statement or omission or alleged untrue statement or omission in disclosure in the Registration Statement, the Preliminary Prospectus, or the Prospectus furnished to the Company in writing by the Placement Agent expressly for use therein. Notwithstanding anything set forth herein to the contrary, the Company agrees to indemnify the Placement Agent and its counsel, Thompson Hine LLP, to the fullest extent set forth in this Section 5, against any and all claims asserted by any or person or entity alleging that the Placement Agent was not permitted or entitled to act as a placement agent herein, or that the Company was not permitted to hire or retain the Placement Agent herein, including but not limited to any claims arising out of any purported right of first refusal another person or entity claims to have to act as a placement agent or any similar role with respect to the Company or its securities.

B. Promptly after receipt by the Placement Agent of notice of any claim or the commencement of any action or proceeding with respect to which the Placement Agent is entitled to indemnity hereunder, the Placement Agent will notify the Company in writing of such claim or of the commencement of such action or proceeding, but failure to so notify the Company shall not relieve the Company from any obligation it may have hereunder, except and only to the extent such failure results in the forfeiture by the Company of substantial rights and defenses. If the Company so elects or is requested by the Placement Agent, the Company will assume the defense of such action or proceeding and will employ counsel reasonably satisfactory to the Placement Agent and will pay the reasonable fees and expenses of such counsel. Notwithstanding the preceding sentence, the Placement Agent will be entitled to employ counsel separate from counsel for the Company and from any other party in such action if counsel for the Placement Agent reasonably determines that it would be inappropriate under the applicable rules of professional responsibility for the same counsel to represent both the Company and the Placement Agent. In such event, the reasonable and documented fees and disbursements of no more than one (1) such separate counsel will be paid by the Company, in addition to fees of local counsel. The Company will have the right to settle the claim or proceeding, provided that the Company will not settle any such claim, action or proceeding without the prior written consent of the Placement Agent (which will not be unreasonably withheld or delayed) unless such settlement provides for an unconditional and irrevocable release of the Indemnified Persons from any and all liability arising out of such claim or proceeding.

C. The Company agrees to notify the Placement Agent promptly of the assertion against it or any other person of any claim or the commencement of any action or proceeding relating to a transaction contemplated by this Agreement.

D. If for any reason the foregoing indemnity is unavailable to the Placement Agent or insufficient to hold the Placement Agent harmless, then the Company shall contribute to the amount paid or payable by the Placement Agent as a result of such losses, claims, damages or liabilities in such proportion as is appropriate to reflect not only the relative benefits received by the Company on the one hand and the Placement Agent on the other, but also the relative fault of the Company on the one hand and the Placement Agent on the other that resulted in such losses, claims, damages or liabilities, as well as any relevant equitable considerations. The amounts paid or payable by a party in respect of losses, claims, damages and liabilities referred to above shall be deemed to include any legal or other fees and expenses incurred in defending any litigation, proceeding or other action or claim. Notwithstanding the provisions hereof, the Placement Agent’s share of the liability hereunder shall not be in excess of the amount of fees actually received, or to be received, by the Placement Agent under this Agreement.

E. These indemnification provisions shall remain in full force and effect whether or not the transaction contemplated by this Agreement is completed and shall survive the termination of this Agreement, and shall be in addition to any liability that the Company might otherwise have to any indemnified party under this Agreement or otherwise.

SECTION 6. ENGAGEMENT TERM. The Placement Agent's engagement hereunder will be until the earlier of (i) October 31, 2023 and (ii) the Closing Date (such earlier date, the "**Termination Date**"). In the event, however, in the course of the Placement Agent's performance of due diligence it deems it necessary to terminate the engagement, the Placement Agent may do so prior to the Termination Date. The Company may elect to terminate the engagement hereunder for any reason prior to the Termination Date but will remain responsible for fees and expenses pursuant to Section 3 and Section 4 hereof and fees and expenses with respect to the Placement Agent Securities, if sold in the Placement. Notwithstanding anything to the contrary contained herein, the provisions concerning the Company's obligation to pay any fees or expenses actually earned pursuant to Section 3 and Section 4 hereof and the provisions concerning confidentiality, indemnification and contribution, no fiduciary duty and governing law (including the waiver of the right to trial by jury) contained herein will survive any expiration or termination of this Agreement. If this Agreement is terminated prior to the completion of the Placement, all fees or expenses due to the Placement Agent shall be paid by the Company to the Placement Agent on or before the Termination Date (in the event such fees or expenses are earned or owed as of the Termination Date). The Placement Agent agrees not to use any confidential information concerning the Company provided to the Placement Agent by the Company for any purposes other than those contemplated under this Agreement.

SECTION 7. PLACEMENT AGENT INFORMATION. The Company agrees that any information or advice rendered by the Placement Agent in connection with this engagement is for the confidential use of the Company only in their evaluation of the Placement and, except as otherwise required by law, the Company will not disclose or otherwise refer to the advice or information in any manner without the Placement Agent's prior written consent.

SECTION 8. NO FIDUCIARY RELATIONSHIP. This Agreement does not create, and shall not be construed as creating rights enforceable by any person or entity not a party hereto, except those entitled hereto by virtue of the indemnification provisions hereof. The Company acknowledges and agrees that the Placement Agent is not and shall not be construed as a fiduciary of the Company and shall have no duties or liabilities to the equity holders or the creditors of the Company or any other person by virtue of this Agreement or the retention of the Placement Agent hereunder, all of which are hereby expressly waived.

SECTION 9. CLOSING. The obligations of the Placement Agent, and the closing of the sale of the Placement Agent Securities hereunder, are subject to the accuracy, when made and on the Closing Date, of the representations and warranties on the part of the Company contained herein and in the Purchase Agreement, to the performance by the Company of its obligations hereunder and in the Purchase Agreement, and to each of the following additional terms and conditions, except as otherwise disclosed to and acknowledged and waived by the Placement Agent:

A. All corporate proceedings and other legal matters incident to the authorization, form, execution, delivery and validity of each of this Agreement, the Placement Agent Securities, and all other legal matters relating to this Agreement and the transactions contemplated hereby with respect to the Placement Agent Securities shall have been completed or resolved in a manner reasonably satisfactory in all material respects to the Placement Agent.

B. The Placement Agent shall have received from the Company's outside legal counsel, Hogan Lovells US LLP, such counsel's written opinion and negative assurance letter with respect to the Placement Agent Securities, addressed to the Placement Agent and dated as of the Closing Date, in form and substance reasonably satisfactory to the Placement Agent.

C. The Placement Agent shall have received from the Company's special intellectual property counsel and special regulatory counsel such counsels' favorable opinion and negative assurance letter addressed to the Placement Agent and dated as of the Closing Date, in form and substance reasonably satisfactory to the Placement Agent.

D. The Placement Agent shall have received customary certificate of the Company's Chief Executive Officer, as to the accuracy of the representations and warranties contained in the Purchase Agreement, and a certificate of the Company's secretary certifying (i) that each of the Company's charter documents are true and complete, have not been modified and are in full force and effect; (ii) that the resolutions of the Company's Board of Directors (or any authorized committee thereof) relating to the Placement are in full force and effect and have not been modified; and (iii) as to the incumbency of the officers of the Company.

E. The Shares shall be registered under the Exchange Act. The Company shall have taken no action designed to terminate, or likely to have the effect of terminating, the registration of the Shares under the Exchange Act or delisting or suspending from trading the Shares from the Trading Market or other applicable U.S. national exchange, nor has the Company received any information suggesting that the Commission or the Trading Market or other U.S. applicable national exchange is contemplating terminating such registration or listing except as otherwise publicly disclosed.

F. No action shall have been taken and no statute, rule, regulation or order shall have been enacted, adopted or issued by any governmental agency or body which would, as of the Closing Date, prevent the issuance or sale of the Placement Agent Securities or materially and adversely affect or potentially and adversely affect the business or operations of the Company; and no injunction, restraining order or order of any other nature by any federal or state court of competent jurisdiction shall have been issued as of the Closing Date which would prevent the issuance or sale of the Placement Agent Securities or materially and adversely affect or potentially and adversely affect the business or operations of the Company.

G. The Company shall have entered into a Purchase Agreement with each of the several Purchasers of the Placement Agent Securities and such agreements shall be in full force and effect and shall contain representations, warranties and covenants of the Company as agreed upon between the Company and the Purchasers.

H. FINRA shall have raised no objection to the fairness and reasonableness of the terms and arrangements of this Agreement. In addition, the Company shall, if requested by the Placement Agent, make or authorize Placement Agent's counsel to make on the Company's behalf, any filing with the FINRA Corporate Financing Department pursuant to FINRA Rule 5110 with respect to the Placement and pay all filing fees required in connection therewith.

I. The Placement Agent shall have received an executed lock-up agreement from each of the Company's executive officers and directors prior to the Closing Date.

J. On the date hereof, the Placement Agent shall have received, and the Company shall have caused to be delivered to the Placement Agent, a letter from Deloitte & Touche LLP (the independent registered public accounting firm of the Company), addressed to the Placement Agent, dated as of the date hereof, in form and substance satisfactory to the Placement Agent. The letter 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 Registration Statement, Preliminary Prospectus, and Prospectus, in the Placement Agent's sole judgment, is material and adverse and that makes it, in the Placement Agent's sole judgment, impracticable or inadvisable to proceed with the offering of the Placement Agent Securities. On the Closing Date, the Placement Agent shall have received from Deloitte & Touche LLP, or such other independent registered public accounting firm of the Company, a letter dated as of the Closing Date, in form and substance satisfactory to the Placement Agent, to the effect that they reaffirm the statements made in the letter furnished pursuant to this Section 9(I), 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.

If any of the conditions specified in this Section 9 shall not have been fulfilled when and as required by this Agreement, all obligations of the Placement Agent hereunder may be cancelled by the Placement Agent at, or at any time prior to, the Closing Date. Notice of such cancellation shall be given to the Company in writing or orally. Any such oral notice shall be confirmed promptly thereafter in writing.

SECTION 10. 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 its conflict of laws principles. 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. If either party shall commence an action or proceeding to enforce any provisions of this Agreement, 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.

SECTION 11. ENTIRE AGREEMENT/MISCELLANEOUS. This Agreement embodies the entire agreement and understanding between the parties hereto, and supersedes all prior agreements and understandings, relating to the subject matter hereof. If any provision of this Agreement is determined to be invalid or unenforceable in any respect, such determination will not affect such provision in any other respect or any other provision of this Agreement, which will remain in full force and effect. This Agreement may not be amended or otherwise modified or waived except by an instrument in writing signed by both the Placement Agent and the Company. The representations, warranties, agreements and covenants contained herein shall survive the Closing Date of the Placement and delivery of the Placement Agent Securities for three years after the Closing Date. This Agreement may be executed in two or more counterparts, all of which when taken together shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to the other party, it being understood that both parties need not sign the same counterpart. In the event that any signature is delivered by facsimile transmission or a .pdf format file, such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such facsimile or .pdf signature page were an original thereof.

SECTION 12. 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 date of transmission, if such notice or communication is sent to the email address specified on the signature pages attached hereto prior to 6:30 p.m. (New York City time) on a business day, (b) the next business day after the date of transmission, if such notice or communication is sent to the email address on the signature pages attached hereto on a day that is not a business day or later than 6:30 p.m. (New York City time) on any business day, (c) the third business day following the date of mailing, if sent by an internationally recognized air 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 hereto.

SECTION 13. PRESS ANNOUNCEMENTS. The Company agrees that the Placement Agent shall, on and after the Closing Date, have the right to reference the Placement and the Placement Agent's role in connection therewith in the Placement Agent's marketing materials and on its website and to place advertisements in financial and other newspapers and journals, in each case at its own expense.

Please confirm that the foregoing correctly sets forth our agreement by signing and returning to the Placement Agent the enclosed copy of this Agreement.

Very truly yours,

A.G.P./ALLIANCE GLOBAL PARTNERS

By: _____
Name: Thomas J. Higgins
Title: Managing Director

Address for notice:

590 Madison Avenue 28th Floor
New York, New York 10022
Attn: Thomas J. Higgins
Email: thiggins@allianceg.com

Accepted and Agreed to as of
the date first written above:

VACCINEX, INC.

By: _____
Name: Maurice Zauderer, Ph.D.
Title: President & Chief Executive Officer

Address for notice:

1895 Mount Hope Avenue
Rochester, New York 14620
Attn: Maurice Zauderer, Ph.D.
Email: mzauderer@vaccinex.com

[Signature Page to Placement Agency Agreement]

FORM OF PRE-FUNDED COMMON STOCK PURCHASE WARRANT

VACCINEX, INC.

Warrant Shares:

Initial Exercise Date: [], 2023

Issue Date: [], 2023

THIS PRE-FUNDED COMMON STOCK PURCHASE WARRANT (the "Warrant") certifies that, for value received, _____ or its assigns (the "Holder") is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after the date hereof (the "Initial Exercise Date") and until this Warrant is exercised in full (the "Termination Date"), but not thereafter, to subscribe for and purchase from **Vaccinex, Inc.**, a Delaware corporation (the "Company"), up to _____ shares of common stock, par value \$0.0001 per share (the "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).

Section 1. Definitions. Capitalized terms used and not otherwise defined herein shall have the meanings set forth in that certain Securities Purchase Agreement (the "Purchase Agreement"), dated [], 2023, between the Company and each purchaser signatory thereto.

Section 2. Exercise.

a) Exercise of Warrant. Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date 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 **Exhibit A** (the "Notice of Exercise"). 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 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 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 this 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.** For the avoidance of doubt, there is no circumstance that would require the Company to net cash settle this Warrant.

b) Exercise Price. The aggregate exercise price of this Warrant, except for a nominal exercise price of \$0.0001 per Warrant Share, was pre-funded to the Company on or prior to the Initial Exercise Date and, consequently, no additional consideration (other than the nominal exercise price of \$0.0001 per Warrant Share) shall be required to be paid by the Holder to any Person to effect any exercise of this Warrant. The Holder shall not be entitled to the return or refund of all, or any portion, of such pre-paid aggregate exercise price under any circumstance or for any reason whatsoever, including in the event this Warrant shall not have been exercised prior to the Termination Date. The remaining unpaid exercise price per Warrant Share under this Warrant shall be \$0.0001, subject to adjustment hereunder (the "Exercise Price").

c) Cashless Exercise. If at the time of exercise hereof there is no effective registration statement registering or the prospectus contained therein is not available for the issuance of the Warrant Shares to the Holder, then this Warrant may only 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 Common Stock on the principal Trading Market as reported by Bloomberg L.P. ("Bloomberg") 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, 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 Warrant. The Company agrees not to take any position contrary to this Section 2(c), except to the extent required by applicable law, rules, or regulations.

“Bid Price” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the bid price of the Common Stock for the time in question (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg (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 the Common Stock is not then listed or quoted on a Trading Market and if prices for the Common Stock are then reported on OTCQB or OTCQX and OTCQB or OTCQX, as applicable, is not a Trading Market, the VWAP of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX, as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported on The Pink Open Market (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by 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.

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

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg (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 the Common Stock is not then listed or quoted on a Trading Market and if prices for the Common Stock are then reported on OTCQB or OTCQX, and OTCQB or OTCQX, as applicable, is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX, as applicable, (c) if the Common Stock is not then listed or quoted

for trading on OTCQB or OTCQX and prices for the Common Stock are then reported on The Pink Open Market (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the holders of a majority in interest of the Common Warrants then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

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 the Holder or (B) this Warrant is being exercised via cashless exercise, and otherwise by physical delivery of a certificate representing the Warrant Shares, registered in the Company's share register in the name of the Holder or its designee, for the number of Warrant Shares set forth in the Notice of Exercise to the address specified by the Holder in such 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, (ii) one (1) Trading Day after delivery of the aggregate Exercise Price to the Company, and (iii) 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 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 (which may be the Transfer Agent) that is a participant in the FAST program so long as this Warrant remains outstanding and exercisable. As used herein, "Standard

Settlement Period” means the standard settlement period, expressed in a number of Trading Days, on the Company’s primary Trading Market with respect to the Common Stock as in effect on the date of delivery of the Notice of Exercise. Notwithstanding the foregoing, with respect to any Notice(s) of Exercise delivered on or prior to 9:00 a.m. (New York City time) on the Initial Exercise Date, which may be delivered at any time after the time of execution of the Purchase Agreement, the Company agrees to deliver, or cause to be delivered, the Warrant Shares subject to such notice(s) by 4:00 p.m. (New York City time) on the Initial Exercise Date, and the Initial Exercise Date shall be the Warrant Share Delivery Date for purposes hereunder, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received by such Warrant Share Delivery Date. 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 will be less than the amount stated on the face hereof.

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.

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 that 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 Warrant Shares 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 this 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 Warrants 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 this 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 that 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 of Common Stock.

vi. Charges, Taxes and Expenses. The issuance and delivery 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 **Exhibit 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 that 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 (i) the Holder's Affiliates, (ii) any other Persons acting as a group together with the Holder or any of the Holder's Affiliates, and (iii) any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder's for the purposes of determination of beneficial ownership pursuant to Section 13(d) and Rule 13d-3 of the Exchange Act (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 Warrant Shares issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of Warrant Shares that would be issuable upon (i) exercise of the remaining, nonexercised 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 nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates 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 and shall have no liability for exercises of this Warrant that are not in compliance with the Beneficial Ownership Limitation, except to the extent the Holder has detrimentally relied on the number of outstanding shares of Common Stock that was provided in writing by the Company. 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, and the Company shall have no obligation to verify or confirm the accuracy of such determination and shall have no liability for exercises of this Warrant that are not in compliance with the Beneficial Ownership Limitation, except to the extent the Holder relies on the number of outstanding

shares of Common Stock that was provided by the Company. 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 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 [4.99/9.99]% of the Common Stock outstanding immediately after giving effect to the issuance of Warrant Shares 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 Common Stock outstanding immediately after giving effect to the issuance of Warrant Shares 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 61st day after such notice is delivered to the Company. The provisions of this paragraph shall not 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) that 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. To the extent that this Warrant is unexercisable as a result of the Holder's Beneficial Ownership Limitation, no alternate consideration is owing to the Holder.

Section 3. Certain Adjustments.

a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any Warrant Shares issued by the Company upon exercise of this Warrant), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the aggregate Exercise Price of this Warrant remains 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) Reserved.

c) 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 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 that 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).

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

e) Fundamental Transaction. If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person in which the Company is not the surviving entity (other than a reincorporation in a different state, a transaction for changing the Company's name, or a similar transaction pursuant to which the surviving company remains a public company), (ii) the Company, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of the Company's assets in one or a series of related transactions (which, for the avoidance of doubt, shall not include such transactions that do not require approval of the Company's stockholders), (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of more than 50% of the voting power of the common equity of the Company, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off, merger or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the voting power of the common equity of the Company, other than by Albert D. Friedberg through securities purchased by Mr. Friedberg or one or more entities affiliated with him from the Company in a capital raising transaction (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, at the option of the Holder (without regard to any limitation in Section 2(e) on the exercise of this Warrant), the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the "Alternate Consideration") receivable 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 Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any exercise of this Warrant following such Fundamental Transaction. The Company shall cause any successor entity in a Fundamental Transaction in which the Company is not the survivor (the "Successor Entity") to assume in writing all of the obligations of the Company under this Warrant and the other Transaction Documents in accordance with the

provisions of this Section 3(a) pursuant to written agreements in form and substance reasonably satisfactory to the Holder and approved by the Holder (without unreasonable delay) prior to such Fundamental Transaction and shall, at the option of the Holder, deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant that 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 that 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 that is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Warrant and the other Transaction Documents referring to the "Company" shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant and the other Transaction Documents with the same effect as if such Successor Entity had been named as the Company herein.

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

g) Notice to Holder.

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

ii. Notice to Allow Exercise by Holder. If, while this Warrant is outstanding, (A) the Company declares a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Company declares a special nonrecurring cash dividend on, or a redemption of, the Common Stock, (C) the Company authorizes the granting to all holders of 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 is required in connection with a Fundamental Transaction, or (E) the Company authorizes the voluntary or involuntary

dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered by email to the Holder at its last email address as it shall appear upon the Warrant Register of the Company, at least three calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the 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; and provided, further, that no notice shall be required if the information is disseminated in a press release or a document filed with the Commission. 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.

iii. Voluntary Adjustment by the Company. Subject to the rules and regulations of the Trading Market on which the Common Stock is then listed, 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.

Section 4. Transfer of Warrant.

a) Transferability. Subject to compliance with applicable securities law, this Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company unless the Holder has assigned this Warrant in full, in which case, the Holder shall surrender this Warrant to the Company on the date on which the Holder delivers an assignment form to the Company assigning this Warrant in full. This 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. Subject to compliance with applicable securities law, 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 that 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 Issue Date and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

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

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) or 2(d)(iv) herein, in no event shall the Company be required to net cash settle an exercise of this Warrant.

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 this Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of this Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

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

d) Authorized Shares.

The Company covenants that, during the period this 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 underlying 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 this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued and delivered as provided herein without violation of any applicable law or regulation, or of any requirements of the Trading Market upon which the Common Stock may be listed. The Company covenants that all Warrant Shares that may be issued and delivered upon the exercise this Warrant will, upon exercise of 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 shares of Common Stock 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 shares of Common Stock 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 that would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

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

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

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

h) Notices. Any notice, request or other document required or permitted to be given or delivered hereunder shall be delivered in accordance with the notice provisions of the Purchase Agreement.

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

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

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

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

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

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

(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.

VACCINEX, INC.

By: _____

Name: Maurice Zauderer, Ph.D.

Title: President and Chief Executive Officer

NOTICE OF EXERCISE

TO: VACCINEX, 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:

ASSIGNMENT FORM

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

FORM OF COMMON STOCK PURCHASE WARRANT

VACCINEX, INC.

Warrant Shares:

Initial Exercise Date: [], 2023

Issue Date: [], 2023

THIS COMMON STOCK PURCHASE WARRANT (the "Warrant") certifies that, for value received, _____ or its assigns (the "Holder") is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after [], 2023 (the "Initial Exercise Date") and on or prior to 5:00 p.m. (New York City time) on [], 20[] (the "Termination Date"), but not thereafter, to subscribe for and purchase from **Vaccinex, Inc.**, a Delaware corporation (the "Company"), up to _____ shares of common stock, par value \$0.0001 per share (the "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).

Section 1. Definitions. Capitalized terms used and not otherwise defined herein shall have the meanings set forth in that certain Securities Purchase Agreement (the "Purchase Agreement"), dated [], 2023, between the Company and each purchaser signatory thereto.

Section 2. Exercise.

a) Exercise of Warrant. Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date 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 **Exhibit A** (the "Notice of Exercise"). 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 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 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 this 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.** For the avoidance of doubt, there is no circumstance that would require the Company to net cash settle this Warrant.

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

c) Cashless Exercise. If at the time of exercise hereof there is no effective registration statement registering or the prospectus contained therein is not available for the issuance of the Warrant Shares to the Holder, then this Warrant may only 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 Common Stock on the principal Trading Market as reported by Bloomberg L.P. (“Bloomberg”) 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, 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 Warrant. The Company agrees not to take any position contrary to this Section 2(c), except to the extent required by applicable law, rules, or regulations.

“Bid Price” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the bid price of the Common Stock for the time in question (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg (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 the Common Stock is not then listed or quoted on a Trading Market and if prices for the Common Stock are then reported on OTCQB or OTCQX and OTCQB or OTCQX, as applicable, is not a Trading Market, the VWAP of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX, as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported on The Pink Open Market (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by 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.

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

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg (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 the Common Stock is not then listed or quoted on a Trading Market and if prices for the Common Stock are then reported on OTCQB or OTCQX, and OTCQB or OTCQX, as applicable, is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX, as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and prices for the Common Stock are then reported on The Pink Open Market (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the holders of a majority in interest of the Common Warrants then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

d) **Call Option.** Subject to the provisions of Section 2(f), the Company reserves the right to call for cancellation of all or any portion of this Warrant for which a Notice of Exercise has not yet been delivered (such right, a “Call”), for consideration equal to \$0.0001 per Warrant Share, by delivering a notice of call in writing (a “Call Notice”) to the Holder, indicating the unexercised portion of this Warrant to which such notice applies, within one Trading Day after the end of any ten (10) consecutive Trading Day period (the “Measurement Period”) for which the VWAP is \$ ____¹ (subject to adjustment for forward and reverse stock splits, recapitalizations, stock dividends and the like after the Initial Exercise Date), provided at the time of delivery of the Call Notice the holder is not in possession of any material non-public information that was provided by the Company or any of its officers, directors, employees, agents, or affiliates. If the conditions set forth below for such Call are satisfied for the period from the date of the Call Notice through and including the Call Date (as defined below), then any portion of this Warrant subject to such Call Notice for which a Notice of Exercise shall not have been received by the Call Date will be cancelled at 6:30 p.m. (New York City time) on the twentieth Trading Day after the date the Call Notice is received by the Holder (such date and time, the “Call Date”). Any unexercised portion of this Warrant to which the Call Notice does not pertain will be unaffected by such Call Notice. In furtherance thereof, the Company covenants and agrees that it will honor all Notices of Exercise with respect to Warrant Shares subject to a Call Notice that are tendered by 6:30 p.m. (New York City time) on the Call Date. The parties agree that any Notice of Exercise delivered following a Call Notice that calls less than all of this Warrant shall first reduce to zero the number of Warrant Shares subject to such Call Notice prior to reducing the remaining Warrant Shares available for purchase under this Warrant. For example, if (A) this Warrant then permits the Holder to acquire 100 Warrant Shares, (B) a Call Notice pertains to 75 Warrant Shares, and (C) prior to 6:30 p.m. (New York City time) on the Call Date the Holder tenders a Notice of Exercise in respect of 50 Warrant Shares, then (x) on the Call Date the right under this Warrant to acquire 25 Warrant Shares will be automatically cancelled, (y) the Company, in the time and manner required under this Warrant, will have issued and delivered to the Holder 50 Warrant Shares in respect of the exercises following receipt of the Call Notice, and (z) the Holder may, until the Termination Date, exercise this Warrant for 25 Warrant Shares (subject to adjustment as herein provided and subject to subsequent Call Notices). Subject again to the provisions of this Section 2(d), the Company may deliver subsequent Call Notices for any portion of this Warrant for which the Holder shall not have delivered a Notice of Exercise. Notwithstanding anything to the contrary set forth in this Warrant, the Company may not deliver a Call Notice or require the cancellation of this Warrant (and any such Call Notice shall be void) unless, from the beginning of the Measurement Period through the Call Date, (1) the Company shall have honored in accordance with the terms of this Warrant all Notices of Exercise delivered by 6:30 p.m. (New York City time) on the Call Date, (2) a registration statement shall be effective as to all Warrant Shares and the prospectus thereunder available for use by the Company for the sale of all such Warrant Shares to the Holder, (3) the Common Stock shall be listed or quoted for trading on a Trading Market, (4) there is a sufficient number of authorized shares of Common Stock for issuance of all Securities under the Transaction Documents, and (5) the issuance of all Warrant Shares subject to a Call Notice shall not cause a breach of any provision of Section 2(f) herein. The Company’s right to call the Warrant under this Section 2(d) shall be exercised ratably among the holders of a majority in interest of the Common Warrants then outstanding.

¹ Price to be 150% of the Exercise Price.

e) 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 the Holder or (B) this Warrant is being exercised via cashless exercise, and otherwise by physical delivery of a certificate representing the Warrant Shares, registered in the Company's share register in the name of the Holder or its designee, for the number of Warrant Shares set forth in the Notice of Exercise to the address specified by the Holder in such 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, (ii) one (1) Trading Day after delivery of the aggregate Exercise Price to the Company, and (iii) 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 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 (which may be the Transfer Agent) that is a participant in the FAST program so long as this Warrant remains outstanding and exercisable. As used herein, "Standard Settlement Period" means the standard settlement period, expressed in a number of Trading Days, on the Company's primary Trading Market with respect to the Common Stock as in effect on the date of delivery of the Notice of Exercise. Notwithstanding the foregoing, with respect to any

Notice(s) of Exercise delivered on or prior to 9:00 a.m. (New York City time) on the Initial Exercise Date, which may be delivered at any time after the time of execution of the Purchase Agreement, the Company agrees to deliver, or cause to be delivered, the Warrant Shares subject to such notice(s) by 4:00 p.m. (New York City time) on the Initial Exercise Date, and the Initial Exercise Date shall be the Warrant Share Delivery Date for purposes hereunder, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received by such Warrant Share Delivery Date. 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 will be less than the amount stated on the face hereof.

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.

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 that 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 Warrant Shares 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 this 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 Warrants 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 this 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 that 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 of Common Stock.

vi. Charges, Taxes and Expenses. The issuance and delivery 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 **Exhibit 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 that prevents the timely exercise of this Warrant, pursuant to the terms hereof.

f) **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 (i) the Holder's Affiliates, (ii) any other Persons acting as a group together with the Holder or any of the Holder's Affiliates, and (iii) any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder's for the purposes of determination of beneficial ownership pursuant to Section 13(d) and Rule 13d-3 of the Exchange Act (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 Warrant Shares issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of Warrant Shares that would be issuable upon (i) exercise of the remaining, nonexercised 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 nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 2(f), 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(f) 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 and shall have no liability for exercises of this Warrant that are not in compliance with the Beneficial Ownership Limitation, except to the extent the Holder has detrimentally relied on the number of outstanding shares of Common Stock that was provided in writing by the Company. 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, and the Company shall have no obligation to verify or confirm the accuracy of such determination and shall have no liability for exercises of this Warrant that are not in compliance with the Beneficial Ownership Limitation, except to the extent the Holder relies on the number of outstanding shares of Common Stock that was provided by the Company. For purposes of this Section 2(f), 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 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 [4.99/9.99]% of the Common Stock outstanding immediately after giving effect to the issuance of Warrant Shares 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(f), provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the Common Stock outstanding immediately after giving effect to the issuance of Warrant Shares upon exercise of this Warrant held by the Holder and the provisions of this Section 2(f) shall continue to apply. Any increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such notice is delivered to the Company. The provisions of this paragraph shall not be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 2(f) to correct this paragraph (or any portion hereof) that 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. To the extent that this Warrant is unexercisable as a result of the Holder’s Beneficial Ownership Limitation, no alternate consideration is owing to the Holder.

Section 3. Certain Adjustments.

a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any Warrant Shares issued by the Company upon exercise of this Warrant), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the aggregate Exercise Price of this Warrant remains 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) Reserved.

c) 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 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 that 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).

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

e) Fundamental Transaction. If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person in which the Company is not the surviving entity (other than a reincorporation in a different state, a transaction for changing the Company's name, or a similar transaction pursuant to which the surviving

company remains a public company), (ii) the Company, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of the Company's assets in one or a series of related transactions (which, for the avoidance of doubt, shall not include such transactions that do not require approval of the Company's stockholders), (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of more than 50% of the voting power of the common equity of the Company, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off, merger or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the voting power of the common equity of the Company, other than by Albert D. Friedberg through securities purchased by Mr. Friedberg or one or more entities affiliated with him from the Company in a capital raising transaction (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, at the option of the Holder (without regard to any limitation in Section 2(f) on the exercise of this Warrant), the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the "Alternate Consideration") receivable 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(f) on the exercise of this Warrant). For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any exercise of this Warrant following such Fundamental Transaction. 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 thirty (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, as described below, an amount of consideration equal to the Black Scholes Value (as defined below) of the remaining unexercised portion of this Warrant on the date of 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 as of the date of consummation of such Fundamental Transaction the same type or form of consideration (and in the same proportion), valued 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 shares of the Successor Entity (which Successor 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 "QV" 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 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 Fundamental Transaction, (C) the underlying price per share used in such calculation shall be the greater of (i) the sum of the price per share being offered in cash, if any, plus the value of any non-cash consideration, if any, being offered in such Fundamental Transaction and (ii) the greater of (x) the last VWAP immediately prior to the public announcement of such Fundamental Transaction and (y) the last VWAP immediately prior to the consummation of such Fundamental Transaction, (D) a remaining option time equal to the time between the date of the public announcement of the applicable 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 within five Trading Days of the Holder's election (or, if later, on the effective date 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 and the other Transaction Documents in accordance with the provisions of this Section 3(a) pursuant to written agreements in form and substance reasonably satisfactory to the Holder and approved by the Holder (without unreasonable delay) prior to such Fundamental Transaction and shall, at the option of the Holder, deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant that 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 that 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 that is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Warrant and the other Transaction Documents referring to the "Company" shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant and the other Transaction Documents with the same effect as if such Successor Entity had been named as the Company herein.

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

g) Notice to Holder.

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

ii. Notice to Allow Exercise by Holder. If, while this Warrant is outstanding, (A) the Company declares a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Company declares a special nonrecurring cash dividend on, or a redemption of, the Common Stock, (C) the Company authorizes the granting to all holders of 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 is required in connection with a Fundamental Transaction, or (E) the Company authorizes the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered by email to the Holder at its last email address as it shall appear upon the Warrant Register of the Company, at least three calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the 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; and provided, further, that no notice shall be required if the information is disseminated in a press release or a document filed with the Commission. 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.

iii. Voluntary Adjustment by the Company. Subject to the rules and regulations of the Trading Market on which the Common Stock is then listed, 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.

Section 4. Transfer of Warrant.

a) Transferability. Subject to compliance with applicable securities law, this Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company unless the Holder has assigned this Warrant in full, in which case, the Holder shall surrender this Warrant to the Company on the date on which the Holder delivers an assignment form to the Company assigning this Warrant in full. This 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. Subject to compliance with applicable securities law, 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 that 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 Issue Date and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

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

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) or 2(d)(iv) herein, in no event shall the Company be required to net cash settle an exercise of this Warrant.

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 this Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of this Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

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

d) Authorized Shares.

The Company covenants that, during the period this 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 underlying 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 this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued and delivered as provided herein without violation of any applicable law or regulation, or of any requirements of the Trading Market upon which the Common Stock may be listed. The Company covenants

that all Warrant Shares that may be issued and delivered upon the exercise this Warrant will, upon exercise of 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 shares of Common Stock 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 shares of Common Stock 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 that would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

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

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

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

collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

h) Notices. Any notice, request or other document required or permitted to be given or delivered hereunder shall be delivered in accordance with the notice provisions of the Purchase Agreement.

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

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

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

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

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

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

(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.

VACCINEX, INC.

By: _____

Name: Maurice Zauderer, Ph.D.

Title: President and Chief Executive Officer

NOTICE OF EXERCISE

TO: VACCINEX, 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:

ASSIGNMENT FORM

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

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

Name: _____
(Please Print)

Address: _____
(Please Print)

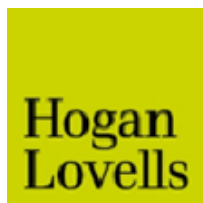
Phone Number: _____

Email Address: _____

Dated: _____, _____

Holder's Signature: _____

Holder's Address: _____



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September 26, 2023

Board of Directors
 Vaccinex, Inc.
 1895 Mount Hope Avenue
 Rochester, NY 14620

To the addressee referred to above:

We are acting as counsel to Vaccinex, Inc., a Delaware corporation (the “**Company**”), in connection with its registration statement on Form S-1 (the “**Registration Statement**”), filed with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the “**Act**”), relating to the proposed public offering of (i) up to 3,229,974 shares of the common stock, par value \$0.0001 per share (the “**Common Stock**”) of the Company (the “**Shares**”), (ii) pre-funded warrants to purchase up to 3,229,974 shares of Common Stock (the “**Pre-Funded Warrants**”), and (iii) warrants to purchase up to 3,229,974 shares of Common Stock (together with the Pre-Funded Warrants, the “**Warrants**”). The Shares and the Warrants are to be sold pursuant to a Securities Purchase Agreement between the Company and each purchaser signatory thereto (the “**Agreement**”). This opinion letter is furnished to you at your request to enable you to fulfill the requirements of Item 601(b)(5) of Regulation S-K, 17 C.F.R. § 229.601(b)(5), in connection with the Registration Statement.

For purposes of this opinion letter, we have examined copies of such agreements, instruments and documents as we have deemed an appropriate basis on which to render the opinions hereinafter expressed. In our examination of the aforesaid documents, we have assumed the genuineness of all signatures, the legal capacity of all natural persons, the accuracy and completeness of all documents submitted to us, the authenticity of all original documents, and the conformity to authentic original documents of all documents submitted to us as copies (including pdfs). As to all matters of fact, we have relied on the representations and statements of fact made in the documents so reviewed, and we have not independently established the facts so relied on. We have also assumed upon the issuance of the shares of Common Stock issuable upon exercise of the Warrants (the “**Warrant Shares**”), the total number of shares of Common Stock issued and outstanding will not exceed the total number of shares of Common Stock that the Company is then authorized to issue under its certificate of incorporation and by the Board of Directors of the Company (the “**Board**”) in connection with the offering contemplated by the Registration Statement. This opinion letter is given, and all statements herein are made, in the context of the foregoing.

Hogan Lovells US LLP is a limited liability partnership registered in the state of Delaware. “Hogan Lovells” is an international legal practice that includes Hogan Lovells US LLP and Hogan Lovells International LLP, with offices in: Alicante Amsterdam Baltimore Beijing Birmingham Boston Brussels Colorado Springs Denver Dubai Dusseldorf Frankfurt Hamburg Hanoi Ho Chi Minh City Hong Kong Houston Johannesburg London Los Angeles Luxembourg Madrid Mexico City Miami Milan Minneapolis Monterrey Munich New York Northern Virginia Paris Philadelphia Rome San Francisco São Paulo Shanghai Silicon Valley Singapore Sydney Tokyo Warsaw Washington, D.C. Associated Offices: Budapest Jakarta Riyadh Shanghai FTZ Ulaanbaatar. Business Service Centers: Johannesburg Louisville. Legal Services Center: Berlin. For more information see www.hoganlovells.com

This opinion letter is based as to matters of law solely on the Delaware General Corporation Law, as amended, and as to the opinion expressed in paragraph (b) below, the laws of the State of New York (but not including any laws, statutes, ordinances, administrative decisions, rules or regulations of any political subdivision below the state level). We express no opinion herein as to any other statutes, rules or regulations.

Based upon, subject to and limited by the foregoing, we are of the opinion that following (i) execution and delivery by the Company of the Agreement and (ii) effectiveness of the Registration Statement:

- (a) upon (1) issuance of the Shares pursuant to the terms of the Agreement and (2) receipt by the Company of the consideration for the Shares specified in the resolutions of the Board or a duly authorized committee thereof (the “**Committee**”), the Shares will be validly issued, fully paid, and nonassessable.
- (b) upon (1) execution and delivery by the Company of the Warrants pursuant to the terms of the Agreement and (2) receipt by the Company of the consideration for the Warrants specified in the resolutions of the Board or the Committee, the Warrants will constitute valid and binding obligations of the Company.
- (c) following (1) execution and delivery by the Company of the Warrants pursuant to the terms of the Agreement, (2) receipt by the Company of the consideration for the Warrants specified in the resolutions of the Board or the Committee, and (3) exercise of the Warrants pursuant to their terms, including receipt by the Company of the consideration for the Warrant Shares specified therein, and issuance of the Warrant Shares thereunder, the Warrant Shares will be validly issued, fully paid, and nonassessable.

The opinion expressed in paragraph (b) above with respect to the valid and binding nature of obligations may be limited by bankruptcy, insolvency, reorganization, receivership, moratorium or other laws affecting creditors’ rights (including, without limitation, the effect of statutory and other law regarding fraudulent conveyances, fraudulent transfers and preferential transfers) and by the exercise of judicial discretion and the application of principles of equity, good faith, fair dealing, reasonableness, conscionability and materiality (regardless of whether the Warrants are considered in a proceeding in equity or at law).

This opinion letter has been prepared for use in connection with the Registration Statement. We assume no obligation to advise of any changes in the foregoing subsequent to the effective date of the Registration Statement.

We hereby consent to the filing of this opinion letter as Exhibit 5.1 to the Registration Statement and to the reference to this firm under the caption “Legal Matters” in the prospectus constituting a part of the Registration Statement. In giving this consent, we do not thereby admit that we are an “expert” within the meaning of the Act.

Very truly yours,

/s/ HOGAN LOVELLS US LLP

HOGAN LOVELLS US LLP

SECURITIES PURCHASE AGREEMENT

This Securities Purchase Agreement (this “Agreement”) is dated as of September [●], 2023, between Vaccinex, 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:

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

“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.

“Applicable Laws” shall have the meaning ascribed to such term in Section 3.1(qq).

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

“Beneficial Ownership Limitation” shall have the meaning ascribed to such term in Section 2.1(a).

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

“Board of Directors” means the board of directors, or any authorized committee thereof, of the Company.

“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 (2nd) Trading Day following the date hereof.

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

“Common Warrants” means, collectively, the Common Stock purchase warrants delivered to the Purchasers at the Closing in accordance with Section 2.3(a) hereof, which warrants shall be exercisable immediately upon issuance and have terms equal to five (5) years, in substantially the form of Exhibit B attached hereto.

“Company Counsel” means Hogan Lovells US LLP, with offices located at 100 International Drive, Suite 2000, Baltimore, MD 21202.

“Disclosure Schedules” means the Disclosure Schedules of the Company delivered concurrently herewith.

“Disclosure Time” means, (i) if this Agreement is signed on a day that is not a Trading Day or after 9:00 a.m. (New York City time) and before midnight (New York City time) on any Trading Day, 9:01 a.m. (New York City time) on the Trading Day immediately following the date hereof, unless otherwise instructed as to an earlier time by the Placement Agent, 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 Agent.

“DVP” shall have the meaning ascribed to such term in Section 2.1(a).

“DWAC” shall have the meaning ascribed to such term in Section 2.1(a).

“EDGAR” means the Commission’s Electronic Data Gathering, Analysis and Retrieval System.

“Environmental Law” shall have the meaning ascribed to such term in Section 3.1(p).

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

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

“Exempt Issuance” means the issuance of (a) shares of Common Stock, options, restricted stock units, or other equity awards to employees, consultants, contractors, advisors, officers, or directors of the Company pursuant to any equity incentive 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 and upon exercise of other securities exercisable or exchangeable for or convertible into shares of Common Stock issued and outstanding on the date of this Agreement, provided that such securities have not been amended since the date of this Agreement to increase the number of such securities or to decrease the exercise price, exchange price or conversion price of such securities (other than in connection with stock splits or combinations) or to extend the term of such securities, (c) shares of Common Stock or securities exercisable or exchangeable for or convertible into shares of Common Stock sold to employees, directors, consultants, or any of their affiliated entities in the ordinary course of business or pursuant to agreements or in connection with commitments in place as of the date hereof, (d) securities issued pursuant to acquisitions, joint ventures, strategic alliances, or other strategic transactions, including without limitation collaborations or arrangements involving research and development or the sale or licensing of intellectual property, approved by a majority of the disinterested directors of the Company, except for 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 (for avoidance of doubt, securities issued to a venture arm of a strategic investor shall be deemed an “Exempt Issuance”), and (e) warrants to purchase shares of Common Stock or shares of Common Stock underlying such warrants to purchasers of Common Stock of the Company in private placements conducted by the Company within sixty (60) days prior to the date of this Agreement, provided in the case of each of clauses (c) through (e), 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.

“FCPA” means the Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder.

“Federal Reserve” shall have the meaning ascribed to such term in Section 3.1(nm).

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

“Hazardous Substances” shall have the meaning ascribed to such term in Section 3.1(p).

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

“Issuer Free Writing Prospectus” shall have the meaning ascribed to such term in Section 3.1(f)(ii).

“IT Systems” shall have the meaning ascribed to such term in Section 3.1(pp).

“Lien” means a lien, charge, mortgage, pledge, security interest, claim, right of first refusal, pre-emptive right, or other encumbrance of any kind whatsoever.

“Lock-Up Agreements” means the lock-up agreements, each dated as of the date hereof in substantially the form of Exhibit A.

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

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

“Money Laundering Laws” shall have the meaning assigned to such term in Section 3.1(oo).

“OFAC” means the Office of Foreign Assets Control of the U.S. Treasury Department

“Offering” means the offering of the Securities hereunder.

“Per Pre-Funded Warrant Purchase Price” means the Per Share Purchase Price minus \$0.0001.

“Per Share Purchase Price” equals \$[●], 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.

“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.

“Personal Data” shall have the meaning ascribed to such term in Section 3.1(pp).

“Placement Agency Agreement” means that certain Placement Agency Agreement by and between the Company and the Placement Agent, dated as of the date hereof.

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

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

“Pre-Funded Warrants” means, collectively, the pre-funded Common Stock purchase warrants delivered to the Purchasers at the Closing in accordance with Section 2.3(a) hereof, in substantially the form of Exhibit C attached hereto.

“Preliminary Prospectus” means the preliminary prospectus included in the Registration Statement at the time the Registration Statement is declared effective.

“Pre-Settlement Period” shall have the meaning ascribed to such term in Section 2.1(b).

“Pre-Settlement Securities” shall have the meaning ascribed to such term in Section 2.1(b).

“Proceeding” means an action, claim, suit, investigation or proceeding (including, without limitation, an informal investigation or partial proceeding, such as a deposition) pending or, to the Company’s knowledge, threatened in writing against the Company, a 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).

“Prospectus” means the final prospectus filed under the Registration Statement complying with Rule 424(b).

“Purchaser Party” shall have the meaning ascribed to such term in Section 4.9.

“Registration Statement” means the effective registration statement with the Commission on Form S-1 (File No. 333-274520), as amended, including all information, documents and exhibits filed with or incorporated by reference into such registration statement, that registers the sale of the Securities 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.

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

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

“Securities” means for each Purchaser, the Shares, the Warrants and the Warrant Shares purchased pursuant to this Agreement.

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

“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 aggregate amount to be paid for Shares or Pre-Funded Warrants (in lieu of Shares) and Common Warrants purchased hereunder as specified below such Purchaser’s name on the signature page of this Agreement and next to the heading “Subscription Amount,” in U.S. dollars and in immediately available funds.

“Subsidiary” and “Subsidiaries” 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 Trading Market is open for trading.

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

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

“Transfer Agent” means Computershare Trust Company, N.A., the current transfer agent of the Company, with a mailing address of 150 Royall Street, Canton, Massachusetts 0201, and any successor transfer agent of the Company.

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

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

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

ARTICLE II PURCHASE AND SALE

2.1 Closing.

(a) On the Closing Date, upon the terms and subject to the conditions set forth herein, Company agrees to sell, and each Purchaser, severally and not jointly, agrees to purchase, (i) the number of shares of Common Stock set forth under the heading “Subscription Amount” on the Purchaser’s signature page hereto, at the Per Share Purchase Price, and (ii) Common Warrants

exercisable for shares of Common Stock as calculated pursuant to Section 2.2(a). Notwithstanding anything herein to the contrary, to the extent that a Purchaser determines, in its sole discretion, that as a result of such Purchaser's Subscription Amount, 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 shares of Common Stock in excess of the Beneficial Ownership Limitation, the Purchaser may elect to purchase Pre-Funded Warrants in lieu of the Shares as determined pursuant to Section 2.3(a). The "Beneficial Ownership Limitation" shall be 4.99% (or, at the election of the Purchaser, 9.99%) of the number of shares of Common Stock outstanding immediately after giving effect to the issuance of the Securities on the Closing Date. In each case, the election to receive Pre-Funded Warrants is solely at the option of the Purchaser; provided, however, the Purchaser shall receive Pre-Funded Warrants at the option of the Company if necessary to avoid a stockholder vote in connection with the purchase.

Each Purchaser shall deliver to the Company, via wire transfer, immediately available funds equal to such Purchaser's Subscription Amount as set forth on the signature page hereto executed by such Purchaser shall be made available for Delivery Versus Payment ("DVP") settlement with the Company or its designees. The Company shall deliver to each Purchaser its respective Shares and Warrants as determined pursuant to Section 2.3(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 via the exchange of documents and signatures or such other location as the parties shall mutually agree. Unless otherwise directed by the Placement Agent, settlement of the Shares shall occur via 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) at the Placement Agent identified by each Purchaser; upon receipt of such Shares, the Placement Agent shall promptly electronically deliver such Shares to the applicable Purchaser, and payment therefor shall be made by the Placement Agent (or its clearing firm) by wire transfer to the Company). Unless otherwise directed by the Placement Agent, the Warrants shall be issued to each Purchaser in originally signed form.

(b) 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 any Securities to be issued hereunder to such Purchaser at the Closing (collectively, the "Pre-Settlement Securities"), such Person shall, automatically hereunder (without any additional required actions by such Purchaser or the Company), be deemed to be a Purchaser under this Agreement unconditionally bound to purchase, and the Company shall be deemed unconditionally bound to sell, such Pre-Settlement Securities to such Purchaser at the Closing; provided, that the Company shall not be required to deliver any Pre-Settlement Securities to such Person prior to the Company's receipt of the purchase price for such Pre-Settlement Securities hereunder; and provided, further, that the Company hereby acknowledges and agrees (i) that the foregoing shall not constitute a representation or covenant by such Purchaser as to whether or not such Purchaser will elect to sell any Pre-Settlement Securities during the Pre-Settlement Period and (ii) 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.

2.2 Deliveries.

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

(i) this Agreement duly executed by the Company;

(ii) a legal opinion of Company Counsel, in form and substance reasonably satisfactory to the Placement Agent;

(iii) a legal opinion of the Company's special intellectual property counsel, in form and substance reasonably satisfactory to the Placement Agent;

(iv) the Company's wire instructions, on Company letterhead and executed by the Company's Chief Executive Officer or Chief Financial Officer;

(v) subject to the penultimate sentence of Section 2.1(a), 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 the number of shares of Common Stock set forth on such Purchaser's signature page hereto, registered in the name of such Purchaser;

(vi) an originally signed Common Warrant registered in the name of such Purchaser to purchase up to the number of shares of Common Stock equal to 100% of such Purchaser's Shares plus the Prefunded Warrant Shares underlying such Purchaser's Pre-Funded Warrant on the date hereof, with an exercise price equal to \$[●], subject to adjustment as set forth therein;

(vii) if applicable, an originally signed Pre-Funded Warrant registered in the name of such Purchaser 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 Per Pre-Funded Warrant Purchase Price, with an exercise price equal to \$0.0001, subject to adjustment therein;

(viii) the Preliminary Prospectus and the Prospectus (which may be delivered in accordance with Rule 172 under the Securities Act);

(ix) Lock-up Agreements, in form and substance reasonably acceptable to the Placement Agent and the Purchasers, executed by each of the Company's executive officers, directors and stockholders beneficially owning 5% or more of the issued and outstanding shares of Common Stock as of the date hereof.

(x) an Officer's Certificate, in form and substance reasonably satisfactory to the Placement Agent; and

(xi) a Secretary's Certificate, in form and substance reasonably satisfactory to the Placement Agent.

- (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 DVP settlement with the Company or its designees.

2.3 Closing Conditions.

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

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

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

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

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

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

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

(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 since the date hereof; and

(v) from the date hereof to the Closing Date, trading in the Common Stock shall not have been suspended by the Commission or the Trading Market on which it is currently listed, 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 U.S. 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 in addition to the information included in the Disclosure Schedules attached hereto, which Disclosure Schedules shall be deemed a part hereof and shall qualify any representation or warranty made herein to the extent of the disclosure contained in the corresponding section of the Disclosure Schedules:

(a) Subsidiaries. All of the direct and indirect subsidiaries of the Company (each, a “Subsidiary”, and collectively, the “Subsidiaries”) are as set forth in the SEC Reports. The Company owns, directly or indirectly, all of the capital stock or other equity interests of each Subsidiary free and clear of any Liens, and all of the issued and outstanding shares of capital stock or equity interests, as applicable, of each Subsidiary are validly issued and are fully paid, non-assessable and free of preemptive rights. There are no outstanding options, warrants, scrips or 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 capital stock or equity interests, as applicable, of any Subsidiary, or contracts, commitments, understandings or arrangements by which any Subsidiary is or may become bound to issue capital stock or equity interests, as applicable. If the Company has no Subsidiaries, all other references to the Subsidiaries or any of them in the Transaction Documents shall be disregarded.

(b) Organization and Qualification. Each of the Company and the Subsidiaries has been duly organized and validly exists as a corporation, limited partnership or company in good standing (or the foreign equivalent thereof, if any) under the laws of its jurisdiction of organization. The Company and each of the Subsidiaries is duly qualified to do business and is in good standing as a foreign or extra-provincial corporation, partnership, company or limited liability company in each jurisdiction in which the character or location of its properties (owned, leased or licensed) or the nature or conduct of its business makes such qualification necessary, except for those failures to be so qualified or in good standing which (individually and in the aggregate) would not have a Material Adverse Effect. No Proceeding has been instituted in any such jurisdiction revoking, limiting or curtailing or seeking to revoke, limit or curtail such power and authority or qualification. 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. The term “Material Adverse Effect” means a material adverse effect on (i) the business, general affairs, management, condition (financial or otherwise), results of operations, stockholders’ equity, assets, properties or prospects of the Company and the Subsidiaries, taken as a whole, (ii) the legality, validity or enforceability of any Transaction Document, or (iii) the Company’s ability to perform in any material respect on a timely basis its obligations under any Transaction Document.

(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 (as defined below). This Agreement and each other Transaction Document to which the Company 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, (ii) as limited by general equitable principles and 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 (ii) and (iii), such as could not have or reasonably be expected to result in a Material Adverse Effect.

(e) Filings, Consents and Approvals. Except as has been obtained, given, or made prior to the date hereof, 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 (including state blue sky law), 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 4.5 of this Agreement, (ii) the filing with the Commission of the Prospectus, and (iii) notices and/or 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) filings required by the Financial Industry Regulatory Authority (collectively, the "Required Approvals").

(f) Issuance of the Shares and Warrant Shares; Qualification; Registration.

(i) The Shares and Warrant Shares 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 non-assessable, free and clear of all Liens imposed by the Company, except for restrictions set forth in the Transaction Documents. The Warrants are duly authorized and, when issued in accordance with this Agreement, will be binding obligations of the Company under the law of the jurisdiction governing the Warrants, duly and validly issued, and free and clear of all Liens imposed by the Company, except for restrictions set forth in the Transaction Documents. The Company has reserved from its duly authorized capital stock the maximum number of shares of Common Stock issuable pursuant to this Agreement and the Warrants. The Securities are not and will not be subject to the preemptive rights of any holders of any security of the Company or similar contractual rights granted by the Company.

(ii) The Company has prepared and filed the Registration Statement in conformity with the requirements of the Securities Act, which Registration Statement was declared effective on September [●], 2023, including the Preliminary 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 shall file the Preliminary Prospectus and the Prospectus with the Commission pursuant to Rule 424(b). At the time the Registration Statement and any amendments thereto became effective as determined under the Securities Act, 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 Prospectus and any amendments or supplements thereto, at the time the Preliminary Prospectus, the Prospectus or any amendment or supplement thereto 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.

Any “issuer free writing prospectus” (as defined in Rule 433 under the Securities Act) relating to the Securities is hereafter referred to as an “Issuer Free Writing Prospectus”. Any reference herein to the Preliminary Prospectus and the Prospectus shall be deemed to refer to and include the documents incorporated by reference therein as of the date of filing thereof; and any reference herein to any “amendment” or “supplement”

with respect to any of the Preliminary Prospectus and the Prospectus shall be deemed to refer to and include (i) the filing of any document with the Commission incorporated or deemed to be incorporated therein by reference after the date of filing of such Preliminary Prospectus or Prospectus and (ii) any such document so filed.

All references in this Agreement to the Registration Statement, the Preliminary Prospectus, the Prospectus, or any Issuer Free Writing Prospectus, or any amendments or supplements to any of the foregoing, shall be deemed to include any copy thereof filed with the Commission on EDGAR.

(g) Securities Act Compliance. The Registration Statement complies, and the Prospectus and any further amendments or supplements to the Registration Statement or the Prospectus will comply, in all material respects, with the applicable provisions of the Securities Act. Each part of the Registration Statement, when such part became effective, did not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. The Prospectus, as of its filing date, and any amendment thereof or supplement thereto, did not and will not contain an untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(h) No Stop Orders. No order preventing or suspending the use of the Registration Statement, the Preliminary Prospectus or any Issuer Free Writing Prospectus has been issued by the Commission.

(i) Capitalization. The equity capitalization of the Company is as set forth in the Registration Statement and the SEC Reports as of the dates indicated therein. All of the issued and outstanding shares of Common Stock are fully paid and non-assessable and have been duly and validly authorized and issued, in compliance with all applicable federal and state securities laws and not in violation of or subject to any preemptive or similar right that entitles any person to acquire from the Company any Common Stock or other security of the Company or any security convertible into, or exercisable or exchangeable for, Common Stock or any other such security, except for such rights as may have been fully satisfied or waived prior to the date hereof. Except as set forth on Schedule 3.1(i), or as a result of the issuance and sale of the Securities, the Company has not issued any capital stock since its most recently filed SEC Report. Except as set forth in the SEC Reports or on Schedule 3.1(i), or as a result of the issuance and sale of the Securities, the Company has no outstanding options, warrants, scrips or 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 Common Stock, or contracts, commitments, understandings or arrangements by which the Company is or may become bound to issue additional Common Stock or Common Stock Equivalents and no Person has any right of first refusal, pre-emptive right, right of participation, or any similar right to participate in the transactions contemplated by the Transaction Documents, except for such rights as may have been fully satisfied or waived prior to the date hereof. Except as set forth in the SEC Reports or on Schedule 3.1(i), the issuance and sale of the Securities will not obligate the Company to issue Common Stock or other securities to any Person (other than the Purchasers) and will not result in a right of any holder of Company securities to adjust the exercise, conversion, exchange or reset price under any of such securities. There are no outstanding

securities or instruments of the Company 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 (other than in connection with a stock split, recapitalization, or similar transaction). There are no outstanding securities or instruments of the Company that contain any redemption or similar provisions, and there are no contracts, commitments, understandings or arrangements by which the Company is or may become bound to redeem an equity security of the Company. The Company does not have any stock appreciation rights or “phantom share” plans or agreements or any similar plan or agreement. Except as set forth in the SEC Reports, 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.

(j) Reports. The Company has filed all reports, schedules, forms, statements and other documents required to be filed by the Company under the Securities Act and Exchange Act, including pursuant to Section 13(a) or 15(d) thereof, for the two (2) years preceding the date hereof (or such shorter period as the Company was required by law or regulation to file such materials) (the foregoing materials, including the exhibits thereto and documents incorporated by reference therein, together with the Preliminary Prospectus and the Prospectus, being collectively referred to herein as the “SEC Reports”) on a timely basis or has received a valid extension (or waiver from the Commission) of such time of filing and has filed any such SEC Reports prior to the expiration of any such extension. 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.

(k) Financial Statements. The consolidated financial statements of the Company, including the notes thereto, included or incorporated by reference in the Registration Statement and the Prospectus 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 accounting principles generally accepted in the United States (“GAAP”) applied on a consistent basis during the periods involved, 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.

(l) Material Changes; Undisclosed Events, Liabilities or Developments. Since the date of the latest consolidated financial statements included in or incorporated by reference into the Registration Statement, the Preliminary Prospectus and the Prospectus, except as set forth in the SEC Filings, (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) neither the Company nor any Subsidiary has 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 in any material respect, (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 executive officer, director or Affiliate, except pursuant to existing Company stock option or omnibus incentive 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, 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 one (1) Trading Day prior to the date that this representation is made.

(m) 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") that (i) adversely affects or challenges the legality, validity or enforceability of any of the Transaction Documents or the Securities or (ii) would, if there were an unfavorable decision, have or reasonably be expected to result in a Material Adverse Effect. Neither the Company nor any Subsidiary, nor any director or executive 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, which could result in a Material Adverse Effect. 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 executive 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.

(n) Labor Relations. No labor dispute exists or, to the knowledge of the Company, is imminent with respect to any of the employees of the Company, which would reasonably be expected to result in a Material Adverse Effect. None of the Company's or its Subsidiaries' employees is a member of a union that relates to such employee's relationship with the Company or such Subsidiary, and neither the Company nor any of its Subsidiaries is a party to a collective bargaining agreement. To the 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 applicable U.S. federal, state, local and foreign laws and regulations relating to employment and employment practices, terms and conditions of employment and wages and hours, except where the failure to be in compliance would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(o) 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 of (i), (ii) and (iii) as would not have or reasonably be expected to result in a Material Adverse Effect.

(p) Environmental Law. There has been no storage, generation, transportation, handling, use, treatment, disposal, discharge, emission, contamination, release or other activity involving any kind of hazardous, toxic or other wastes, pollutants, contaminants, petroleum products or other hazardous or toxic substances, chemicals or materials (“Hazardous Substances”) by, due to, on behalf of, or caused by the Company or any Subsidiary (or, to the Company’s knowledge, any other entity for whose acts or omissions the Company is or may be liable) upon any property now or previously owned, operated, used or leased by the Company or any Subsidiary, or upon any other property, that would be a violation of or give rise to any liability under any applicable law, rule, regulation, order, judgment, decree or permit, common law provision or other legally binding standard relating to pollution or protection of human health and the environment (“Environmental Law”), except for violations and liabilities which, individually or in the aggregate, would not have a Material Adverse Effect. There has been no disposal, discharge, emission contamination or other release of any kind at, onto or from any such property or into the environment surrounding any such property of any Hazardous Substances with respect to which the Company or any Subsidiary has knowledge, except as would not, individually or in the aggregate, have a Material Adverse Effect. There is no pending or, to the best of the Company’s knowledge, threatened administrative, regulatory or judicial action, claim or notice of noncompliance or violation, investigation or proceedings relating to any Environmental Law against the Company or any Subsidiary, except as would not, individually or in the aggregate, have a Material Adverse Effect. To the best of the Company’s knowledge, no property of the Company or any Subsidiary is subject to any Lien under any Environmental Law, except as would not, individually or in the aggregate, have a Material Adverse Effect. Except as disclosed in the Prospectus, neither the Company nor any Subsidiary is subject to any order, decree, agreement or other individualized legal requirement related to any Environmental Law, that, in any case (individually or in the aggregate), would have a Material Adverse Effect. The Company and each Subsidiary has all permits, authorizations and approvals required under any applicable Environmental Laws and are each in compliance with their requirements, except as would not, individually or in the aggregate, have a Material Adverse Effect. In the ordinary course of its business, the Company periodically reviews the effect of Environmental Laws on the business, operations and properties of the Company and the Subsidiaries and identifies and evaluates associated costs and liabilities (including, without limitation, any capital or operating expenditures required for clean-up, closure or remediation of properties or compliance with Environmental Laws, or any permit, license or approval, any related constraints on operating activities and any potential liabilities to third parties). On the basis of such review, the Company has reasonably concluded that such associated costs and liabilities would not, individually or in the aggregate, have a Material Adverse Effect.

(q) 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 currently 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 in all material respects, except where the failure to so comply would not reasonably be expected to have a Material Adverse Effect.

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

(s) Intellectual Property. Except as set forth in the Registration Statement, the Preliminary Prospectus and the Prospectus, to the Company’s knowledge, the Company and the Subsidiaries have, or have rights to use (or can acquire on reasonable terms), 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 Registration Statement, the Preliminary Prospectus and the Prospectus and which the failure to so have could reasonably be expected to 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 would not reasonably be expected to have a Material Adverse Effect. Neither the Company nor any Subsidiary has received, since the date of the latest financial statements included within or incorporated by reference into the Registration Statement, the Preliminary Prospectus and the Prospectus, 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 or is aware of any facts which would form a reasonable basis for any such claim, 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. None of the Intellectual Property Rights

used by the Company or any of its Subsidiaries in their respective businesses has been obtained or is being used by the Company or such Subsidiary in violation of any contractual obligation binding on the Company or any of its subsidiaries in violation of the rights of any person. The Company and its subsidiaries have taken all reasonable steps in accordance with normal industry practice to protect and maintain the Intellectual Property Rights including, without limitation, the execution of appropriate nondisclosure and invention assignment agreements. The consummation of the transactions contemplated by this Agreement will not result in the loss or impairment of, or payment of, and additional amounts with respect to, nor require the consent of, any other person regarding the Company's or any of its subsidiaries' right to own or use any of the Intellectual Property Rights as owned or used in the conduct of such party's business as currently conducted. To the knowledge of the Company and its Subsidiaries, no employee of any of the Company or its subsidiaries is the subject of any pending claim or proceeding involving a violation of any term of any employment contract, invention disclosure agreement, patent disclosure agreement, noncompetition agreement, non-solicitation agreement, nondisclosure agreement or restrictive covenant to or with a former employer, where the basis of such violation relates to such employee's employment with the Company or its subsidiaries or actions undertaken by the employee while employed with the Company or its Subsidiaries.

(t) 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.

(u) Transactions With Affiliates and Employees. Except as set forth in the SEC Reports, none of the executive 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, executive 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 executive officer, director or such employee or, to the knowledge of the Company, any entity in which any executive 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 or omnibus incentive plan of the Company.

(v) Sarbanes-Oxley; Internal Accounting Controls. The Company and the Subsidiaries are in compliance with all applicable requirements of the Sarbanes-Oxley Act of 2002, as amended, except as disclosed in the SEC Reports, the Registration Statement, the Preliminary Prospectus and the Prospectus. 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 applicable dates specified 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. Except as set forth in the Registration Statement, the Preliminary Prospectus and the Prospectus, 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 the Subsidiaries that have materially affected, or is reasonably likely to materially affect, the internal control over financial reporting of the Company and the Subsidiaries.

(w) Certain Fees. Except for fees payable to the Placement Agent, no brokerage or finder's fees or commissions are or will be payable by the Company or any Subsidiary to any broker, financial advisor or consultant, finder, placement agent, investment banker, bank or other Person with respect to the transactions contemplated by the Transaction Documents. Other than to Persons engaged by any Purchaser, 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.

(x) Investment Company. The Company is not, and immediately after receipt of payment for the Securities, will not be required to register as 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 be required to register as an "investment company" subject to registration under the Investment Company Act of 1940, as amended.

(y) Registration Rights. Except as set forth in the SEC Reports, the Registration Statement, the Preliminary Prospectus and the Prospectus, no Person has any right to cause the Company or any Subsidiary to effect the registration under the Securities Act of any securities of the Company or any Subsidiary that has not been satisfied or waived prior to the date hereof.

(z) Listing and Maintenance Requirements. The Company is subject to the reporting requirements of Section 13 of the Exchange Act and files periodic reports with the Commission; the Common Stock is registered with the Commission under Section 12(b) of the Exchange Act and the Company is not in breach of any filing or other requirements under the Exchange Act. The Company has not received any notice from that the Commission is contemplating terminating such registration. Except as set forth in the SEC Reports, the Registration Statement, the Preliminary

Prospectus and the Prospectus, the Company has not, in the 12 months preceding the date hereof, received notice from any Trading Market on which the Common Stock are or have been listed or quoted to the effect that the Company is not in compliance with the listing or maintenance requirements of such Trading Market. 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.

(aa) 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 jurisdiction 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.

(bb) 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 that is not otherwise disclosed in the Preliminary Prospectus or 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, including pursuant to the SEC Reports and the Disclosure Schedules to this Agreement, is true and correct in all material respects and does not contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in the light of the circumstances under which they were made, not misleading. The press releases disseminated by the Company during the twelve (12) months preceding the date of this Agreement taken as a whole do not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made and when made, not misleading. The Company acknowledges and agrees that 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.

(cc) 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 (i) the Securities Act, or (ii) except as set forth in the SEC Reports, any applicable stockholder approval provisions of any Trading Market on which any of the securities of the Company are listed or designated.

(dd) 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 that lead it to believe that it will file for reorganization or liquidation under the bankruptcy or reorganization laws of any jurisdiction within one (1) year from the Closing Date. All outstanding secured and unsecured Indebtedness of the Company or any Subsidiary, or for which the Company or any Subsidiary has commitments, is set forth in the SEC Reports or on Schedule 3.1(dd). 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.

(ee) 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 U.S. federal, state and local income and all foreign 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.

(ff) Foreign Corrupt Practices; Criminal Acts. 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.

(gg) Accountants. The Company's independent registered public accounting firm is as set forth in the Prospectus. To the knowledge and belief of the Company, such accounting firm is a registered public accounting firm as required by the Exchange Act.

(hh) 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.

(ii) Acknowledgment Regarding Purchaser's Trading Activity. Anything in this Agreement or elsewhere herein to the contrary notwithstanding (except for Sections 3.2(e) and 4.15 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 securities offering transactions, may negatively impact the market price of the Company's publicly-traded securities; (iii) any Purchaser, and counter-parties in "derivative" transactions to which any such Purchaser is a party, directly or indirectly, presently may have a "short" position in the Common Stock, and (iv) each Purchaser shall not be deemed to have any affiliation with or control over any arm's length counter-party in any "derivative" transaction. The Company further understands and acknowledges that (y) one or more Purchasers may engage in hedging activities (in material compliance with applicable laws) at various times during the period that the 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.

(jj) Regulation M Compliance. The Company has not, and to its knowledge no one acting on its behalf (other than the Placement Agent, as to which no representation is made) 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 Agent pursuant to the Placement Agency Agreement.

(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 "Sanctions," which shall include but are not limited to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Treasury Department ("OFAC") and the Company will not, directly or indirectly, use the proceeds of the Offering hereunder, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other person or entity, for the purpose of financing the activities of any person currently subject to any Sanctions, including but not limited to U.S. sanctions administered by OFAC.

(ll) Stock Option and Omnibus Incentive Plans. Each stock option granted by the Company under the Company's stock option or omnibus incentive plan, or as an inducement grant outside of such plan, was granted (i) in accordance with the terms of such plan, or under its terms, respectively, 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 or omnibus incentive 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 the Subsidiaries or their financial results or prospects.

(mm) 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 U.S. Internal Revenue Code of 1986, as amended, and the Company shall so certify upon Purchaser's request.

(nn) 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 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 (25%) 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 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.

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

(pp) Information Technology. The Company's, the Subsidiaries' information technology assets and equipment, computers, systems, networks, hardware, software, websites, applications, and databases (collectively, "IT Systems") operate and perform in all material respects as required in connection with the operation of the business of the Company and the Subsidiaries as currently conducted. The Company, the Subsidiaries maintain commercially reasonable controls, policies, procedures, and safeguards to maintain and protect their material confidential information and the integrity, continuous operation, redundancy and security of all IT Systems and all personal, personally identifiable, sensitive, confidential or regulated data ("Personal Data") processed and stored thereon, and to the knowledge of the Company, there have been no breaches, incidents, violations, outages, compromises or unauthorized uses of or accesses to same, except as would not reasonably be expected to have a Material Adverse Effect. The Company and the Subsidiaries have implemented backup and disaster recovery technology consistent with industry standards and practices, and are presently in compliance in all material respects with all applicable laws or statutes and all applicable judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to the privacy and security of IT Systems and Personal Data and to the protection of such IT Systems and Personal Data from unauthorized use, access, misappropriation or modification, except for any such noncompliance that would not reasonably be expected to have a Material Adverse Effect.

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

Authorizations nor is any such limitation, suspension, modification or revocation threatened; (vi) have filed, obtained, maintained or submitted all material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Applicable Laws or Authorizations and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete and accurate on the date filed (or were corrected or supplemented by a subsequent submission); and (vii) are not a party to any corporate integrity agreements, monitoring agreements, consent decrees, settlement orders, or similar agreements with or imposed by any governmental or regulatory authority.

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 or thereof, 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).

(c) 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.

(d) 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 reports filed with the Commission, including the SEC Reports, the Registration Statement and the Preliminary Prospectus, 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 and all such questions asked have been answered to its satisfaction; (ii) access to information about the Company and its financial condition, results of operations, business, properties, management and prospects sufficient to enable it to evaluate its investment; and (iii) the opportunity to obtain such additional information that the Company possesses or can acquire without unreasonable effort or expense that is necessary to make an informed investment decision with respect to the investment. Such Purchaser acknowledges and agrees that neither the Placement Agent, nor any Affiliate of the Placement Agent, has provided such Purchaser with any information or advice with respect to the Securities nor is such information or advice necessary or desired. Neither the Placement Agent nor any Affiliate has made or makes any representation as to the Company or the quality of the Securities and the Placement Agent and any Affiliate may have acquired non-public information with respect to the Company which such Purchaser agrees need not be provided to it. In connection with the issuance of the Securities to such Purchaser, neither the Placement Agent, nor any of its Affiliates has acted as a financial advisor or fiduciary to such Purchaser.

(e) Certain Transactions and Confidentiality. Other than consummating the transactions contemplated hereunder, such Purchaser has not, nor has any Person acting on behalf of or pursuant to any understanding with such Purchaser, directly or indirectly executed any purchases or sales, including Short Sales, of the securities of the Company during the period commencing as of the time that such Purchaser first received a term sheet (written or oral) from the Company or any other Person representing the Company setting forth the material terms of the transactions contemplated hereunder and ending immediately prior to the execution hereof. Notwithstanding the foregoing, in the case of a Purchaser that is a multi-managed investment vehicle whereby separate portfolio managers manage separate portions of such Purchaser's assets and the portfolio managers have no direct knowledge of the investment decisions made by the portfolio managers managing other portions of such Purchaser's assets, the representation set forth above shall only apply with respect to the portion of assets managed by the portfolio manager that made the investment decision to purchase the 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 against, or a prohibition of, any actions with respect to the borrowing of, arrangement to borrow, identification of the availability of, and/or securing of, securities of the Company in order for such Purchaser (or its broker or other financial representative) to effect Short Sales or similar transactions in the future.

(f) No Voting Agreements. The Purchaser is not a party to any agreement or arrangement, whether written or oral, between the Purchaser and any other Purchaser and any of the Company's stockholders as of the date hereof, regulating the management of the Company, the stockholders' rights in the Company, the transfer of shares in the Company, including any voting agreements, stockholder agreements or any other similar agreement, even if its title is different or has any other relations or agreements with any of the Company's stockholders, directors or officers.

(g) **Brokers.** Except as set forth in the Prospectus, no agent, broker, investment banker, person or firm acting in a similar capacity on behalf of or under the authority of the Purchaser is or will be entitled to any broker's or finder's fee or any other commission or similar fee, directly or indirectly, for which the Company or any of its Affiliates after the Closing could have any liabilities in connection with this Agreement, any of the transactions contemplated by this Agreement, or on account of any action taken by the Purchaser in connection with the transactions contemplated by this Agreement.

(h) **Independent Advice.** Each Purchaser understands that nothing in this Agreement or any other materials presented by or on behalf of the Company to the Purchaser in connection with the purchase of the Securities constitutes legal, tax or investment advice.

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, except as set forth in this Agreement, 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 **Legends.** The Shares and, if all or any portion of a Warrant is exercised at a time when there is an effective registration statement to cover the issuance of the Warrant Shares or if the Warrant is exercised via cashless exercise (and at least six months has passed since the initial issuance of such Warrant and the Purchaser is has not been an Affiliate of the Company within the past 90 days), the Warrant Shares shall be issued free of all restrictive 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 initial sale by the Company of the Shares, the Warrants or 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 initial sale by the Company of the Shares, the Warrants or 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 Shares, the Warrants or 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 of the Warrant Shares effective during the term of the Warrants.

4.2 **[Reserved.]**

4.3 Furnishing of Information; Public Information. Until the earliest of the time that (i) no Purchaser owns Securities and (ii) the Common Warrants have expired, the Company covenants to maintain the registration of the Common Stock under Section 12(b) or 12(g) of the Exchange Act and 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, even if the Company is not then subject to the reporting requirements of the Exchange Act, except in the event that the Company consummates (in each case on or after the date as of which the Purchasers may sell all of their Securities without restriction or limitation pursuant to Rule 144) (a) any transaction or series of related transactions as a result of which any Person (together with its Affiliates) acquires then outstanding securities of the Company representing more than fifty percent (50%) of the voting control of the Company; (b) a merger or reorganization of the Company with one or more other entities in which the Company is not the surviving entity; or (c) a sale of all or substantially all of the assets of the Company, where the consummation of such transaction results in the Company no longer subject to the reporting requirements of the Exchange Act.

4.4 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 stockholder approval prior to the closing of such other transaction unless stockholder approval is obtained before the closing of such subsequent transaction.

4.5 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 as deemed required by Company Counsel, 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 the Subsidiaries, or any of their respective officers, directors, employees or agents in connection with the transactions contemplated by the Transaction Documents. In addition, effective upon the issuance of such press release, the Company acknowledges and agrees that any and all confidentiality or similar obligations under any agreement, whether written or oral, between the Company, any of the Subsidiaries or any of their respective officers, directors, agents, employees or Affiliates on the one hand, and any of the Purchasers or any of their Affiliates on the other hand, with respect to the transactions contemplated hereby shall terminate. The Company and each Purchaser shall consult with each other in issuing any other press releases with respect to the transactions contemplated hereby, and neither the Company nor any Purchaser shall issue any such press release nor otherwise make any such public statement without the prior consent of the Company, with respect to any press release of any Purchaser, or without the prior consent of each Purchaser, with respect to any press release of the Company, which consent shall not unreasonably be withheld or delayed, except if such disclosure is required by law, in which case the disclosing party shall promptly provide the other party with prior notice of such public statement or communication. Notwithstanding the foregoing, the Company shall not publicly disclose the name of any Purchaser, or include the name of any Purchaser in any filing with the Commission or any regulatory agency or applicable 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 applicable law or Trading Market regulations, in which case the Company shall provide the Purchasers with prior notice of such disclosure permitted under this clause (b).

4.6 Stockholder 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.

4.7 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 4.5, the Company covenants and agrees that neither it, nor any other Person acting on its behalf will provide any Purchaser or its agents or counsel with any information that constitutes, or the Company reasonably believes constitutes, material non-public information, unless prior thereto such Purchaser shall have consented to the receipt of such information and agreed with the Company to keep such information confidential. The Company understands and confirms that each Purchaser shall be relying on the foregoing covenant in effecting transactions in securities of the Company. To the extent that the Company delivers any material, non-public information to a Purchaser without such Purchaser’s consent, the Company hereby covenants and agrees that such Purchaser shall not have any duty of confidentiality to the Company, any of the Subsidiaries, or any of their respective officers, directors, agents, employees or Affiliates, or a duty to the Company, any of the Subsidiaries or any of their respective officers, directors, agents, employees or Affiliates not to trade on the basis of, such material, non-public information, provided that the Purchaser shall remain subject to applicable law. To the extent that any notice provided pursuant to any Transaction Document constitutes, or contains, material, non-public information regarding the Company or any Subsidiaries, the Company shall simultaneously with the delivery of such notice file such material non-public information on 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.

4.8 Use of Proceeds. Except as set forth in the Preliminary Prospectus or the Prospectus, the Company shall use the net proceeds from the sale of the Securities hereunder for working capital and general corporate 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 and accrued liabilities in the ordinary course of the Company’s business and repayment of obligations outstanding as of the date of this Agreement and consistent with 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.

4.9 Indemnification of Purchasers. Subject to the provisions of this Section 4.9, the Company will indemnify and hold each Purchaser and its directors, officers, stockholders, 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, stockholders, 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 caused by or based upon (a) any material breach of any of the representations or warranties made by the Company in this Agreement or (b) any action instituted against a Purchaser Party 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 (except to the extent such action is solely based upon a material breach of such Purchaser Party's representations, warranties or covenants under the Transaction Documents or any agreements or understandings such Purchaser Party may have with any such stockholder or any violations by such Purchaser Party of state or federal securities laws or any conduct by such Purchaser Party that is finally judicially determined to constitute fraud, gross negligence or willful misconduct). If any action shall be brought against any Purchaser Party in respect of which indemnity may be sought pursuant to this Agreement, such Purchaser Party shall promptly notify the Company in writing, and the Company shall have the right to assume the defense thereof with counsel of its own choosing reasonably acceptable to the Purchaser Party. Any Purchaser Party shall have the right to employ separate counsel in any such action and participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Purchaser Party except to the extent that (x) the employment thereof has been specifically authorized by the Company in writing, (y) the Company has failed after a reasonable period of time to assume such defense and to employ counsel or (z) in such action there is, in the reasonable opinion of counsel to the applicable Purchaser Party, a material conflict on any material issue between the position of the Company and the position of such Purchaser Party, in which case the Company shall be responsible for the reasonable fees and expenses of no more than one such separate counsel. The Company will not be liable to any Purchaser Party under this Agreement (1) for any settlement by a Purchaser Party effected without the Company's prior written consent, which shall not be unreasonably withheld or delayed; or (2) to the extent, but only to the extent that a loss, claim, damage or liability is attributable to any Purchaser Party's breach of any of the representations, warranties, covenants or agreements made by such Purchaser Party in this Agreement or in the other Transaction Documents. The indemnification required by this Section 4.9 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 4.9, such Purchaser Party shall promptly reimburse the Company for any payments that are advanced under this sentence. The indemnity agreements contained herein shall be in addition to any cause of action or similar right of any Purchaser Party against the Company or others and any liabilities the Company may be subject to pursuant to law.

4.10 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 the Shares pursuant to this Agreement and the Warrant Shares pursuant to any exercise of the Warrants.

4.11 Listing of Common Stock. For as long as any Warrants are outstanding and exercisable, 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 to the extent required by the rules of such Trading Market; provided, however, that the Purchasers acknowledge that the Common Stock is currently subject to delisting by the 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. For so long as the Company maintains a listing or quotation of the Common Stock on a Trading Market, the Company agrees to use commercially reasonable 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.

4.12 Subsequent Equity Sales.

(a) From the date hereof until thirty (30) days after the Closing Date, neither the Company nor any Subsidiary shall (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 filing the final Prospectus and a registration statement on Form S-8 in connection with any employee benefit plan.

(b) From the date hereof until the one hundred 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 shares 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 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 (other than in connection with a stock split or stock dividend or similar event) 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 cancelled; provided, however, that, commencing thirty (30) days following the Closing Date, the Company may sell and issue

shares of Common Stock in an “at-the-market” offering under the Company’s existing at-the-market sales program pursuant to the Open Market Sale AgreementSM, by and between the Company and Jefferies LLC, dated March 27, 2020. 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 Documents. For clarification purposes, this provision constitutes a separate right granted to each Purchaser by the Company and negotiated separately by each Purchaser, and is intended for the Company to treat the Purchasers as a class and shall not in any way be construed as the Purchasers acting in concert or as a group with respect to the purchase, disposition or voting of Shares or otherwise.

4.14 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 4.5. 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 4.5, such Purchaser will maintain the confidentiality of the existence and terms of this transaction and the information included in this Agreement, including the schedules hereto. 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 4.5, (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 4.5 and (iii) no Purchaser shall have any duty of confidentiality or duty not to trade in the securities of the Company to the Company or the Subsidiaries after the issuance of the initial press release as described in Section 4.5. 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 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.

4.16 Capital Changes. From the date hereof until ninety (90) days after 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 Securities, except for any reverse or forward stock split or reclassification previously approved by the Company's stockholders and expressly contemplated by the SEC Filings.

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 commercially reasonable efforts to seek specific performance of the terms of such Lock-Up Agreement.

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 (5th) 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 and any exercise notice delivered by a Purchaser). The Company shall pay any issuance, stamp or documentary taxes (other than transfer taxes) or charges imposed by any governmental body, agency or official (other than income taxes) by reason of the issuance of Shares to the Purchasers.

5.3 Entire Agreement. The Transaction Documents, together with the exhibits and schedules thereto, the Preliminary 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 (2nd) Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service or (d) upon actual receipt by the party to whom such notice is required to be given. The address for such notices and communications shall be as set forth 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 that purchased at least 50.1% in interest of the Securities 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 at least 50.1% in interest of such 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.

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

5.7 Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the parties and their successors and permitted assigns. The Company may not assign this Agreement or any rights or obligations hereunder without the prior written consent of each Purchaser (other than by merger). Any Purchaser may assign any or all of its rights under this Agreement to any Person to whom such Purchaser assigns or transfers any 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 Third-Party Beneficiaries. The Placement Agent shall be the third-party beneficiary of the representations and warranties of the Company in Section 3.1 and the representations and warranties of the Purchasers in Section 3.2. This Agreement is intended for the benefit of the parties hereto and their respective successors and permitted assigns and is not for the benefit of, nor may any provision hereof be enforced by, any other Person, except as otherwise set forth in Section 4.9 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, stockholders, 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 4.9, 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 for a period of three (3) years from the Closing.

5.11 **Execution.** This Agreement may be executed in two or more counterparts, all of which when taken together shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to each other party, it being understood that the parties need not sign the same counterpart. In the event that any signature is delivered by e-mail delivery of a ".pdf" format data file, by other electronic signing created on an electronic platform (such as DocuSign) or by digital signing (such as Adobe Sign), 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" or other electronic or digital 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 (if such shares were delivered to the applicable Purchaser) 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 Purchaser's Warrant (including, issuance of a replacement warrant certificate evidencing such restored right).

5.14 Replacement of Securities. If any certificate or instrument evidencing any Securities 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 Thompson Hine LLP, the legal counsel of the Placement Agent, and Thompson Hine LLP, as legal counsel of the Placement Agent, does not represent any of the Purchasers and only represents the Placement Agent. 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 Trading Day, then such action may be taken or such right may be exercised on the next succeeding Trading Day.

5.20 Currency. Unless otherwise stated, all dollar amounts and references to "\$" in this Agreement refer to the lawful currency of the United States.

5.21 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.

5.22 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.

VACCINEX, INC.

By: _____
Name: Maurice Zauderer, Ph.D.
Title: Chief Executive Officer

Address for Notice:

1895 Mount Hope Avenue
Rochester, New York 14620

Email: mzauderer@vaccinex.com

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

William Intner
Hogan Lovells US LLP
100 International Drive, Suite 2000
Baltimore, Maryland 21202

Email: william.intner@hoganlovells.com

[PURCHASER SIGNATURE PAGES TO VCNX
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): _____

DWAC for Common Stock: _____

Subscription Amount: \$ _____

Shares of Common Stock: _____

Pre-Funded Warrant Shares: _____ Beneficial Ownership Blocker 4.99% or 9.99%

Common Warrant Shares: _____ Beneficial Ownership Blocker 4.99% or 9.99%

EIN Number: _____

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 (2nd) 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.

Exhibit A

Form of Lock-Up Agreement

(See attached)

Exhibit B

Form of Common Warrant

(See attached)

Exhibit C

Form of Pre-Funded Warrant

(See attached)

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Amendment No. 1 to Registration Statement No. 333-274520 on Form S-1 of our report dated March 31, 2023 relating to the financial statements of Vaccinex, Inc. (“the Company”), appearing in the Annual Report on Form 10-K of the Company for the year ended December 31, 2022. We also consent to the reference to us under the heading “Experts” in such Registration Statement.

/s/ Deloitte & Touche LLP

Rochester, New York
September 26, 2023