

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

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**FORM 8-K**

**CURRENT REPORT**

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

Date of Report (Date of earliest event reported) **November 9, 2014**

**GTx, Inc.**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction of  
incorporation or organization)

**000-50549**  
(Commission  
File Number)

**62-1715807**  
(I.R.S. Employer  
Identification No.)

**175 Toyota Plaza  
7th Floor  
Memphis, Tennessee**  
(Address of principal executive offices)

**38103**  
(Zip Code)

Registrant's telephone number, including area code: **(901) 523-9700**

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

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

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

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

On November 9 2014, GTx, Inc. (the "Company") entered into a definitive securities purchase agreement (the "Purchase Agreement") with certain purchasers identified on the signature pages thereto (the "Purchasers"), pursuant to which the Company agreed to issue and sell to the Purchasers, subject to customary closing conditions, an aggregate of 64,311,112 immediately separable units (the "Units"), comprised of an aggregate of 64,311,112 shares (the "Shares") of the Company's common stock, par value \$0.001 per share (the "Common Stock"), and warrants (the "Warrants") to purchase up to 64,311,112 additional shares of Common Stock (the "Warrant Shares"), for an aggregate purchase price of \$43,410,000.63 (the "Private Placement"). The per Unit purchase price for a share of Common Stock and a Warrant to purchase a share of Common Stock is \$0.675.

The Purchasers consist solely of accredited investors that include Biotechnology Value Fund, L.P. and other affiliates of BVF Partners L.P. and certain existing shareholders, including J.R. Hyde III and Marc Hanover, each of whom are members of the Company's board of directors. The closing of the Private Placement will occur three business days following the satisfaction or waiver of certain closing conditions specified in the Purchase Agreement, or on such other date as the Purchasers and the Company may agree upon (the "Closing Date"). The Purchase Agreement may be terminated by either the Company or the Purchasers if the closing has not occurred by November 21, 2014 (subject to extension to November 28, 2014 under limited circumstances).

The Warrants to be issued on the Closing Date will have a per share exercise price of \$0.85 and will be exercisable at any time and from time to time from and after the earlier of (i) the Stockholder Approval Date (as defined below) or (ii) the trading day immediately prior to the occurrence of a "fundamental transaction" (as defined in the Warrants), but in no event later than June 1, 2015, and would continue to be exercisable for four years thereafter. The exercise price is payable in cash or may be satisfied through a cashless exercise, at the option of the Warrant holder. The Warrants will include a mandatory exercise provision whereby the Company would have the right, at any time after 18 months following the Closing Date, to require the holders of the Warrants to exercise the Warrants upon the achievement of specified trading prices and average trading volumes for the Common Stock and assuming the Common Stock remains listed on an established trading market and the Stockholder Approval Date has occurred. Since the Company does not currently have a sufficient number of authorized and unreserved shares of Common Stock necessary to settle exercises of the Warrants in full in shares of Common Stock, each Warrant will include a provision that would require the Company to net cash settle such Warrant upon exercise if at the time of such exercise, there are then an insufficient number of authorized and reserved shares of Common Stock to effect a share settlement of such Warrant. Under the Purchase Agreement,

the Company has agreed to seek stockholder approval, at a special or annual meeting to be held no later than May 27, 2015, of an amendment to the Company's Certificate of Incorporation to increase the Company's authorized Common Stock to an amount necessary to effect the share settlement of all of the Warrants (the "Stockholder Approval Date"). Assuming such approval is obtained, Warrant exercises would no longer be subject to net cash settlement. Each Warrant would also provide that the holder thereof could not exercise such Warrant for a number of shares of Common Stock in excess of that number of shares that, upon giving effect to such exercise, would cause the holder (together with its affiliates) to beneficially own more than 38.5% of either the Company's Common Stock or the combined voting power of the Company's outstanding voting securities.

Pursuant to the Purchase Agreement, the Company will agree to file as many registration statements with the Securities and Exchange Commission (the "SEC") as may be necessary to cover the resale of the Shares and the Warrant Shares by the Purchasers, to use its reasonable best efforts to have all such registration statements declared effective within the timeframes set forth in the Purchase Agreement, and to keep such registration statements effective for up to two years following the Closing Date. In the event that such registration statements are not filed or declared effective within the timeframes set forth in the

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Purchase Agreement, or any such effective registration statements subsequently become unavailable, the Company would be required to pay liquidated damages equal to 1.0% of the aggregate Unit purchase price per month for each default (up to a maximum of 10% of such aggregate Unit purchase price). The Company will bear all expenses of such registration of the resale of the Shares and the Warrant Shares, including the legal expenses of the Purchasers up to \$5,000 per Purchaser per registration statement.

The Purchase Agreement contains customary representations, warranties and agreements by the Company, customary conditions to closing, indemnification obligations of the Company and the Purchasers, including for liabilities under the Securities Act of 1933, as amended (the "Securities Act"), and other obligations of the parties. The representations, warranties and covenants contained in the Purchase Agreement were made only for purposes of such Purchase Agreement and are made as of specific dates; are solely for the benefit of the parties (except as specifically set forth therein); may be subject to qualifications and limitations agreed upon by the parties in connection with negotiating the terms of the Purchase Agreement, including being qualified by confidential disclosures made for the purpose of allocating contractual risk between the parties, instead of establishing matters as facts; and may be subject to standards of materiality and knowledge applicable to the contracting parties that differ from those applicable to the investors generally. Investors should not rely on the representations, warranties and covenants or any description thereof as characterizations of the actual state of facts or condition of the Company.

The securities to be issued by the Company pursuant to the Purchase Agreement and upon exercise of the Warrants have not been registered under the Securities Act and may not be offered or sold in the United States absent registration or an applicable exemption from registration requirements. The Company is relying on the private placement exemption from registration provided by Section 4(a)(2) of the Securities Act and by Rule 506 of Regulation D, promulgated by the SEC, and in reliance on similar exemptions under applicable state laws. Upon completion of the transaction, a Form D filing will be made in accordance with the requirements of Regulation D.

The foregoing descriptions of the Purchase Agreement and the Warrants are only brief summaries of such agreements and documents, do not purport to be complete and are qualified in their entirety by reference to the Purchase Agreement (and the form of Warrant attached thereto) filed as Exhibit 10.1 to this Current Report on Form 8-K and incorporated by reference herein.

### **Item 3.02. Unregistered Sales of Equity Securities.**

The disclosures set forth in Item 1.01 above are incorporated herein for this Item 3.02.

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

On November 10, 2014, the Company issued a press release titled "GTx, Inc. Announces \$43.4 Million Private Placement". A copy of the press release is attached hereto as Exhibit 99.1 and incorporated herein by reference.

### **Item 9.01. Financial Statements and Exhibits.**

(d) Exhibits.

<u>Exhibit No.</u>	<u>Description</u>
10.1	Purchase Agreement, dated November 9, 2014, between GTx, Inc. and the purchasers identified in Exhibit A therein (including the Form of Warrant attached thereto as Exhibit B).

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99.1 Press release, dated November 10, 2014.

### **Forward-Looking Statements**

*This Current Report on Form 8-K contains forward-looking statements based upon the Company's current expectations. Forward-looking statements involve risks and uncertainties, and include, but are not limited to, all statements relating to the anticipated closing of, and the amount of anticipated proceeds from, the Private Placement. The Company's actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of these risks and uncertainties, which include, without limitation, risks and uncertainties associated with market conditions, whether the Company will be able to consummate the Private Placement and the satisfaction of closing conditions related to the Private Placement. There can be no assurance that the Company will be able to complete the Private Placement on the terms described herein or in a timely manner, if at all. Regardless of whether the Private Placement is consummated, the Company will continue to need additional funding and may be unable to raise capital when needed, which would force the Company to delay, reduce or eliminate its product candidate development programs. You should not place undue reliance on these forward-looking statements, which apply only as of the date of this Current Report on Form 8-K. The Company's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on November 10, 2014 contains under the heading, "Risk Factors", a more comprehensive description of these and other risks to which the Company is subject. The Company expressly disclaims any obligation or undertaking to release publicly any updates or revisions to*

**SIGNATURES**

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

GTx, Inc.

Date: November 10, 2014

By: /s/ Henry P. Doggrell  
Name: Henry P. Doggrell  
Title: Vice President, Chief Legal Officer  
and Secretary

**EXHIBIT INDEX**

<u>Exhibit No.</u>	<u>Description</u>
10.1	Purchase Agreement, dated November 9, 2014, between GTx, Inc. and the purchasers identified in Exhibit A therein (including the Form of Warrant attached thereto as Exhibit B).
99.1	Press release, dated November 10, 2014.

## SECURITIES PURCHASE AGREEMENT

This Securities Purchase Agreement (this “Agreement”) is dated as of November 9, 2014, between GTx, Inc., a Delaware corporation (the “Company”), and each purchaser identified on Exhibit A hereto (each, including its successors and assigns, a “Purchaser” and collectively, the “Purchasers”).

### RECITALS

WHEREAS, on the terms and subject to the conditions set forth in this Agreement and pursuant to Section 4(a)(2) of the Securities Act of 1933, as amended, and Rule 506 promulgated thereunder, 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;

WHEREAS, the Company has authorized, upon the terms and conditions stated in this Agreement, the sale and issuance of an aggregate of 64,311,112 immediately separable Units (each a “Unit” and collectively, the “Units”), with each Unit consisting of: (i) one share of Common Stock (as hereinafter defined) and (ii) a Warrant (as hereinafter defined) to acquire one share of Common Stock; and

WHEREAS, at the Closing (as hereinafter defined), each Purchaser, severally and not jointly, wishes to purchase, and the Company wishes to sell, upon the terms and conditions stated in this Agreement, the number of Units as hereafter specified, with each Unit consisting of (i) one share of Common Stock (each a “Unit Share,” collectively, the “Unit Shares”) and (ii) a Warrant to acquire one share of Common Stock.

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 1 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:

“Additional Filing Date” means, as applicable: (i) for any Additional Registration Statement that may be required to register the resale of any Cut Back Shares, the later of (x) the date sixty (60) days after the date substantially all of the Registrable Securities registered under the immediately preceding Registration Statement are sold and (y) the date six (6) months from the Effective Date of the immediately preceding Registration Statement, or, if such date is not a Business Day, the next date that is a Business Day; or (ii) if such Additional Registration Statement is the first Registration Statement required to be filed to register the resale of Registrable Securities represented by Warrant Shares, the thirtieth (30th) day following the Authorized Shares Increase Date or, if such date is not a Business Day, the next date that is a Business Day; provided, however, that in the event any of the foregoing deadlines specified in clauses (i) and (ii) above fall between February 11 and March 31 of any calendar year and the Company has not yet filed with the Commission its annual report on Form 10-K for the preceding calendar year by the applicable deadline specified in clause (i) or (ii) above, the applicable deadline shall be extended until the Business Day following date on which the Company’s annual report on Form 10-K for the preceding calendar year is filed with the Commission; provided further, however, that no such deadline shall be extended beyond April 1 of such year (or, if such date is not a Business Day, the next date that is a Business Day).

“Additional Registration Statement” shall have the meaning ascribed to such term in Section 5.1(a).

“Additional Required Effectiveness Date” means the date which is the earliest of (i) if the Registration Statement does not become subject to review by the Commission, (a) sixty (60) days after the Additional Filing Date or (b) five (5) Trading Days after the Company receives notification from the Commission

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that the Additional Registration Statement will not become subject to review and the Company fails to request to accelerate the effectiveness of the Registration Statement, or (ii) if the Additional Registration Statement becomes subject to review by the Commission, ninety (90) days after the Additional Filing Date, or, if such date is not a Business Day, the next date that is a Business Day; provided, however, that in the event any of the foregoing deadlines specified in clauses (i) and (ii) above fall between February 11 and March 31 of any calendar year and the Company has not yet filed with the Commission its annual report on Form 10-K for the preceding calendar year by the applicable deadline specified in clause (i) or (ii) above, the applicable deadline shall be extended until the Business Day following date on which the Company’s annual report on Form 10-K for the preceding calendar year is filed with the Commission; provided further, however, that no such deadline shall be extended beyond April 1 of such year (or, if such date is not a Business Day, the next date that is a Business Day).

“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.

“Agreement” shall have the meaning ascribed to such term in the preamble.

“Authorized Shares Increase Date” shall have the meaning ascribed to such term in Section 6.12.

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

“Business Day” means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States or any day on which banking institutions in the State of New York are authorized or required by law or other governmental action to close.

“Closing” shall have the meaning ascribed to such term in Section 2.2.

“Closing Date” shall have the meaning ascribed to such term in Section 2.2.

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

“Common Stock” means the common stock of the Company, par value \$0.001 per share, and any other class of securities into which such securities may hereafter be reclassified or changed.

“Company” shall have the meaning ascribed to such term in the preamble.

“Company’s Knowledge” means with respect to any statement made to the knowledge of the Company, that statement is based upon the actual knowledge of the chief executive officer, the president and chief operating officer of the Company, in each case after making reasonable inquiry.

“Contingent Obligation” has the meaning set forth in Section 3.30.

“Cut Back Shares” shall have the meaning ascribed to such term in Section 5.1(a).

“Derivative Transaction” shall have the meaning ascribed to such term in Section 4.2(b).

“Effective Date” means the date that a Registration Statement is first declared effective by the SEC.

“Effectiveness Period” shall have the meaning ascribed to such term in Section 5.1(b).

“Environmental Laws” shall have the meaning ascribed to such term in Section 3.15.

“ERISA” shall have the meaning ascribed to such term in Section 3.16.

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“Event” shall have the meaning ascribed to such term in Section 5.1(d).

“Event Payments” shall have the meaning ascribed to such term in Section 5.1(d).

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

“Excluded Events” shall have the meaning ascribed to such term in Section 5.1(e)(ii).

“FDA” means the U.S. Food and Drug Administration.

“Filing Date” means the Initial Filing Date and the Additional Filing Date, as applicable.

“GAAP” shall have the meaning ascribed to such term in Section 3.8.

“Increased Shares Amendment” shall have the meaning ascribed to such term in Section 6.12.

“Indebtedness” has the meaning set forth in Section 3.30.

“Indemnified Party” shall have the meaning ascribed to such term in Section 5.4(c).

“Indemnifying Party” shall have the meaning ascribed to such term in Section 5.4(c).

“Initial Filing Date” means forty (40) days after the Closing Date or, if such date is not a Business Day, the next date that is a Business Day.

“Initial Registration Statement” has the meaning set forth in Section 5.1(a).

“Initial Required Effectiveness Date” means the date which is the earliest of (i) if the Registration Statement does not become subject to review by the Commission, (a) ninety (90) days after the Closing Date or (b) three (3) Trading Days after the Company receives notification from the Commission that the Registration Statement will not become subject to review and the Company fails to request to accelerate the effectiveness of the Registration Statement, or (ii) if the Registration Statement becomes subject to review by the Commission, one hundred and twenty (120) days after the Closing Date, or, if such date is not a Business Day, the next date that is a Business Day; provided, however, that if the Company has not yet filed with the Commission its annual report on Form 10-K for the preceding calendar year by the deadline specified in this clause (ii), the deadline shall be extended until the Business Day following date on which the Company’s annual report on Form 10-K for the preceding calendar year is filed with the Commission; provided further, however, that such deadline shall not be extended beyond April 1, 2015.

“Insider” means each director, executive officer, other officer of the Company participating in the offering of the Units, any beneficial owner of 20% or more of the Company’s outstanding voting equity securities, calculated on the basis of voting power, and any promoter connected with the Company in any capacity on the date hereof.

“Insolvent” has the meaning set forth in Section 3.9.

“Intellectual Property” means (i) worldwide patents, patent applications, invention disclosures and other rights of invention, filed with any governmental authority, and all reissues, divisions, renewals, extensions, provisionals, continuations and continuations-in-part thereof and all reexamined patents or other applications or patents claiming the benefit of the filing date of any of the foregoing; (ii) worldwide (A) registered trademarks and service marks and registrations and applications for such registrations, and (B) unregistered trademarks and service marks, trade names, fictitious business names,

created under Sections 901-914 of Title 17 of the United States Code, mask work registrations, and copyright applications for registration, including any renewals thereof, and (B) any unregistered copyrightable works and other rights of authorship in published or unpublished works; (iv) worldwide (A) internet domain names; (B) website content; (C) telephone numbers; and (D) moral rights and publicity rights; (v) any computer program or other software (irrespective of the type of hardware for which it is intended), including firmware and other software embedded in hardware devices, whether in the form of source code, assembly code, script, interpreted language, instruction sets or binary or object code (including compiled and executable programs), including any library, component or module of any of the foregoing, including, in the case of source code, any related images, videos, icons, audio or other multimedia data or files, data files, and header, development or compilations tools, scripts, and files, and (vi) worldwide confidential or proprietary information or trade secrets, including technical information, inventions and discoveries (whether or not patentable and whether or not reduced to practice) and improvements thereto, know-how, processes, discoveries, developments, designs, techniques, plans, schematics, drawings, formulae, preparations, assays, surface coatings, diagnostic systems and methods, patterns, compilations, databases, database schemas, specifications, technical data, inventions, concepts, ideas, devices, methods, and processes; and includes any rights to exclude others from using or appropriating any Intellectual Property rights, including the rights to sue for or assets claims against and remedies against past, present or future infringements or misappropriations of any or all of the foregoing and rights of priority and protection of interests therein, and any other proprietary, intellectual property or other rights relating to any or all of the foregoing anywhere in the world.

“Legend Removal Date” shall have the meaning ascribed to such term in Section 6.1(c).

“Losses” means 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.

“Material Adverse Effect” means a material adverse effect on (i) the assets, liabilities, results of operations, condition (financial or otherwise), business, or prospects of the Company taken as a whole, or (ii) the ability of the Company to perform its obligations under the Transaction Documents.

“NASDAQ” means The NASDAQ Stock Market, LLC.

“Occupational Laws” shall have the meaning ascribed to such term in Section 3.16.

“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.

“Price Per Unit” shall have the meaning ascribed to such term in Section 2.1.

“Principal Purchasers” means, as of any time, the Purchaser or Purchasers holding or having the right to acquire, as of such time, at least a majority-in-interest of the total number of Unit Shares.

“Principal Trading Market” means the Trading Market on which the Common Stock is primarily listed on and quoted for trading.

“Proceeding” means an action, claim, suit, investigation or proceeding (including, without limitation, a partial proceeding, such as a deposition), whether commenced or threatened in writing.

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

“Purchaser Party” shall have the meaning ascribed to such term in Section 6.6.

“Purchasers” shall have the meaning ascribed to such term in the preamble.

“Registration Statement” means each registration statement required to be filed under ARTICLE 5, including the Initial Registration Statement, all Additional Registration Statements, and, in each case, the Prospectus, amendments and supplements to such registration statement or Prospectus, including pre- and post-effective amendments, all exhibits thereto, and all material incorporated by reference or deemed to be incorporated by reference in such registration statement.

“Registrable Securities” means the Shares and any shares of Common Stock issued as (or issuable upon the conversion or exercise of any warrant, right or other security that is issued as) a dividend or other distribution with respect to, or in exchange for, or in replacement of, the Shares, provided, that the holder of such Shares has completed and delivered to the Company a Selling Stockholder Questionnaire; and provided further, that the Shares shall cease to be Registrable Securities upon the earliest to occur of the following: (A) sale by any Person to the public either pursuant to a registration statement under the Securities Act or under Rule 144 (in which case, only such Shares sold shall cease to be Registrable Securities) or (B) becoming eligible for sale by the holder thereof pursuant to Rule 144 without volume or manner of sale restrictions.

“Required Effectiveness Date” means the Initial Required Effectiveness Date and the Additional Required Effectiveness Date, as applicable.

“Resolution” shall have the meaning ascribed to such term in Section 6.12.

“Rule 144,” “Rule 415,” and “Rule 424” means Rule 144, Rule 415 and Rule 424, respectively, promulgated by the Commission pursuant to the Securities Act, as such Rules may be amended from time to time, or any similar rule or regulation hereafter adopted by the SEC having substantially the same effect as such Rule.

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

“SEC Restrictions” shall have the meaning ascribed to such term in Section 5.1(a).

“SEC Reports” shall have the meaning ascribed to such term in Section 3.7.

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

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

“Selling Stockholder Questionnaire” shall have the meaning ascribed to such term in Section 5.2(j).

“Shares” means, collectively, the Unit Shares and the Warrant Shares.

“Stockholder Approval” shall have the meaning ascribed to such term in Section 6.12.

“Stockholder Meeting” shall have the meaning ascribed to such term in Section 6.12.

“Stockholder Meeting Deadline” shall have the meaning ascribed to such term in Section 6.12.

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

“Trading Market” means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE MKT, the NASDAQ Capital Market, the NASDAQ

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Global Market, the NASDAQ Global Select Market, or the New York Stock Exchange (or any successors to any of the foregoing).

“Transaction Documents” means this Agreement, the Warrants, 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 250 Royall Street, Canton, Massachusetts 02021, and a telephone number of 1-877-282-1168, and any successor transfer agent of the Company.

“Units” has the meaning set forth in the Recitals to this Agreement. Units will not be issued or certificated. The Unit Shares and the Warrants are immediately separable and will be issued separately.

“Unit Purchase Price” shall have the meaning ascribed to such term in Section 2.1.

“Unit Shares” shall have the meaning ascribed to such term the Recitals to this Agreement.

“Voting Commitment” shall have the meaning ascribed to such term in Section 4.2(a).

“Warrant Exercise Price” shall mean \$0.85.

“Warrants” shall have the meaning ascribed to such term in Section 2.3.

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

## ARTICLE 2 PURCHASE AND SALE

2.1 Purchase and Sale. Subject to and upon the terms and conditions set forth in this Agreement, at the Closing, the Company shall issue and sell to each Purchaser, and each Purchaser shall, severally and not jointly, purchase from the Company, such number of Units set forth opposite their respective names on Exhibit A, at a price per Unit equal to \$0.675 (the “Price Per Unit” and the total purchase price for the Units, the “Unit Purchase Price”).

2.2 Closing. The Company agrees to issue and sell to the Purchasers and, in consideration of and in express reliance upon the representations, warranties, covenants, terms and conditions of this Agreement, the Purchasers agree, severally and not jointly, to purchase the Units. The closing of the purchase and sale of the Units (the “Closing”) shall take place at the offices of Cooley LLP located at 3175 Hanover Street, Palo Alto, California, three Business Days following the satisfaction or waiver of the conditions set forth in Section 2.5, or at such other time and place or on such date as the Purchasers and the Company may agree upon (such date is hereinafter referred to as the “Closing Date”).

2.3 Payment. On the Closing Date, (a) each Purchaser shall pay to the Company its Unit Purchase Price in United States dollars and in immediately available funds, by wire transfer to the Company’s account as set forth in instructions previously delivered to each Purchaser, (b) the Company shall irrevocably instruct the Transfer Agent to deliver to each Purchaser, on an expedited basis, a certificate evidencing the number of Unit Shares set forth opposite such Purchaser’s name on Exhibit A, and (c) the Company shall issue to each Purchaser a warrant substantially in the form attached hereto as

Exhibit B (each a “Warrant” and collectively, the “Warrants”) pursuant to which such Purchaser shall have the right to acquire, subject to mandatory cash settlement as provided therein, such number of shares of Common Stock as shall equal the number of Unit Shares such Purchaser is acquiring at the Closing, and in the case of clauses (b) and (c), duly executed on behalf of the Company and registered in the name of such Purchaser as set forth on the Stock Certificate Questionnaire included as Exhibit C. The Warrants issued and sold at the Closing shall have an exercise price equal to the Warrant Exercise Price.

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## 2.4 Deliveries.

(a) Company. Except for the delayed delivery contemplated by Sections 2.4(a)(iii), 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 copy of the irrevocable instructions to the Transfer Agent instructing the Transfer Agent to deliver to such Purchaser, on an expedited basis, a certificate evidencing the number of Unit Shares set forth opposite such Purchaser’s name on Exhibit A hereto, registered in the name of such Purchaser as set forth on the Stock Certificate Questionnaire included as Exhibit C;

(iii) a Warrant, registered in the name of such Purchaser as set forth on the Stock Certificate Questionnaire included as Exhibit C, to purchase up to the number of shares of Common Stock set forth opposite such Purchaser’s name on Exhibit A hereto (subject to mandatory cash settlement as provided therein) (such Warrant to be delivered as promptly as practicable after the Closing Date but in no event more than five Trading Days after the Closing Date);

(iv) the Company shall have delivered a Certificate, executed on behalf of the Company by its interim Chief Executive Officer and its acting Principal Financial Officer, dated as of the Closing Date, certifying to the fulfillment of the conditions specified in subsections (i), (ii), (iv), (v), (vi), (vii) and (viii) of Section 2.5(b);

(v) the Company shall have delivered a Certificate, executed on behalf of the Company by its Secretary, dated as of the Closing Date, certifying the resolutions adopted by the Board of Directors and a duly authorized committee thereof approving the transactions contemplated by the Transaction Documents and the issuance of the Securities (subject, with respect to the issuance of Warrant Shares upon exercise of the Warrants, to effecting the Increased Shares Amendment), certifying the current versions of the Certificate of Incorporation and Bylaws of the Company and certifying as to the signatures and authority of Persons signing the Transaction Documents and related documents on behalf of the Company;

(vi) a legal opinion of Cooley LLP, counsel for the Company, in substantially the form attached hereto as Exhibit D, executed by Cooley LLP and addressed to the Purchasers; and

(vii) A NASDAQ Listing of Additional Shares notification form, which shall have been timely filed or deemed timely filed with NASDAQ.

(b) Purchasers. 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;

(ii) a fully completed and duly executed Stock Certificate Questionnaire in the form attached hereto as Exhibit C; and

(iii) unless such Purchaser is a director or an executive officer (as such term is defined in Rule 501(f) promulgated by the Commission under the Securities Act) of the Company as of the Closing Date, a fully completed and duly executed Accredited Investor Qualification Questionnaire in the form attached hereto as Exhibit E;

(iv) a fully completed and duly executed Bad Actor Questionnaire in the form attached hereto as Exhibit F; and

(v) the Unit Purchase Price by wire transfer to the account specified by the Company.

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## 2.5 Closing Conditions.

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

(i) the accuracy in all material respects on the Closing Date of the representations and warranties of such Purchaser 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 such Purchaser required to be performed at or prior to the Closing Date shall have been performed in all material respects;

(iii) the delivery by such Purchaser of the items set forth in Section 2.4(b) of this Agreement; and

(iv) NASDAQ shall have raised no objection to the consummation of the transactions contemplated by the Transaction Documents in the absence of stockholder approval of such transactions.



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

(i) the representations and warranties made by the Company in ARTICLE 3 hereof qualified as to materiality shall be true and correct as of the date hereof and the Closing Date, except to the extent any such representation or warranty expressly speaks as of an earlier date, in which case such representation or warranty shall be true and correct as of such earlier date, and, the representations and warranties made by the Company in ARTICLE 3 hereof not qualified as to materiality shall be true and correct in all material respects as of the date hereof and the Closing Date, except to the extent any such representation or warranty expressly speaks as of an earlier date, in which case such representation or warranty shall be true and correct in all material respects as of such earlier date;

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

(iii) the delivery by the Company of the items set forth in Section 2.4(a) of this Agreement;

(iv) the Company shall have obtained any and all consents, permits, approvals, registrations and waivers necessary or appropriate for consummation of the purchase and sale of the Units and the consummation of the other transactions contemplated by the Transaction Documents (subject, with respect to the issuance of Warrant Shares upon exercise of the Warrants, to effecting the Increased Shares Amendment), all of which shall be in full force and effect, except for such that could not reasonably be expected to have a Material Adverse Effect;

(v) no judgment, writ, order, injunction, award or decree of or by any court, or judge, justice or magistrate, including any bankruptcy court or judge, or any order of or by any governmental authority, shall have been issued, and no action or proceeding shall have been instituted by any governmental authority, enjoining or preventing the consummation of the transactions contemplated hereby or in the other Transaction Documents;

(vi) no stop order or suspension of trading shall have been imposed by NASDAQ, the Commission or any other governmental or regulatory body with respect to public trading in the Common Stock;

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(vii) NASDAQ shall have raised no objection to the consummation of the transactions contemplated by the Transaction Documents in the absence of stockholder approval of such transactions; and

(viii) there shall have been no Material Adverse Effect with respect to the Company since the date hereof.

### **ARTICLE 3 REPRESENTATIONS AND WARRANTIES OF THE COMPANY**

The Company hereby represents and warrants to the Purchasers as of the date hereof (except for the representations and warranties that speak as of a specific date, which shall be made as of such date) that, except as otherwise set forth in the Disclosure Schedule delivered herewith:

3.1 Organization, Good Standing and Qualification. The Company is a corporation duly organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation and has all requisite corporate power and legal authority to own and use its properties and assets and carry on its business as now conducted and to own its properties. The Company is not in violation of any of the provisions of its Certificate of Incorporation or Bylaws. The Company is duly qualified to do business as a foreign corporation and is in good standing in each jurisdiction in which the conduct of its business or its ownership or leasing of property makes such qualification or leasing necessary unless the failure to so qualify has not had and could not reasonably be expected to have a Material Adverse Effect. The Company has no subsidiaries.

3.2 Authorization; Enforcement. The Company has all corporate right, power and authority to enter into the Transaction Documents and to consummate the transactions contemplated hereby and thereby, subject, with respect to the issuance of Warrant Shares upon exercise of the Warrants, to effecting the Increased Shares Amendment. All corporate action on the part of the Company, its directors and stockholders necessary for the authorization, execution, delivery and performance of the Transaction Documents by the Company, the authorization, sale, issuance and delivery of the Securities contemplated herein and the performance of the Company's obligations hereunder and thereunder has been taken, other than obtaining the Stockholder Approval and the requisite filings necessary to authorize and effect the Increased Share Amendment to permit the issuance of Warrant Shares upon exercise of the Warrants. The Transaction Documents have been (or upon delivery will have been) duly executed and delivered by the Company and constitute the legal, valid and binding obligation of the Company, enforceable against the Company in accordance with their 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.

3.3 Capitalization. The authorized capital stock of the Company consists of 200,000,000 shares of Common Stock, of which 76,014,531 shares are outstanding as of the date hereof (prior to the issuance of the Units). All of the issued and outstanding shares of the Company's capital stock have been duly authorized and validly issued and are fully paid and nonassessable. Except (i) for options to purchase Common Stock or other equity awards (including restricted stock units) issued to employees and members of the Board of Directors pursuant to the equity compensation plans or arrangements disclosed in the SEC Reports, (ii) for securities exercisable for, or convertible into or exchangeable for any shares of capital stock of the Company disclosed in the SEC Reports, and (iii) as contemplated by this Agreement, there are no existing options, warrants, calls, preemptive (or similar) rights, subscriptions or other rights, agreements, arrangements or commitments of any character obligating the Company to issue, transfer or sell, or cause to be issued, transferred or sold, any shares of the capital stock of, or other equity interests in, the Company or any securities convertible into or exchangeable for such shares of capital stock or other equity interests, and there are no outstanding contractual obligations of the Company to repurchase, redeem or otherwise acquire any shares of its capital stock or other equity interests. The issue and sale of the Units will not result in the right of any holder of Company securities to adjust the exercise, conversion or exchange price under such securities. Except for customary adjustments as a result of stock dividends, stock splits, combinations of shares, reorganizations, recapitalizations, reclassifications or other similar events, there are no anti-dilution or price adjustment provisions contained in any security issued by the Company (or in any agreement providing rights to

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security holders) and the issuance and sale of the Securities will not obligate the Company to issue shares of Common Stock or other securities to any Person (other than the Purchasers) and will not result in a right of any holder of securities to adjust the exercise, conversion, exchange or reset price under such securities.

3.4 Issuance; Reservation of Shares. The issuance of the Unit Shares has been duly and validly authorized by all necessary corporate and stockholder action, and the Unit Shares, when issued and paid for pursuant to this Agreement, will be validly issued, fully paid and non-assessable, and shall be free and clear of all encumbrances and restrictions (other than as provided in the Transaction Documents). The issuance of the Warrants has been duly and validly authorized by all necessary corporate and stockholder action. From and after the Authorized Shares Increase Date, the Warrant Shares will be duly authorized and reserved for issuance pursuant to the terms of the Warrants, and the Warrant Shares, when issued upon the due exercise of the Warrants, will be validly issued, fully paid and nonassessable, and shall be free and clear of all encumbrances (other than as provided in the Transaction Documents). From and after the Authorized Shares Increase Date, the Company will reserve, at all times that the Warrants remain outstanding, such number of shares of Common Stock sufficient to enable the full exercise of the then outstanding Warrants. Assuming (A) the accuracy of the representations and warranties of the Purchasers set forth in Article 4 hereof, (B) none of the Insiders is subject to any “bad actor” disqualification specified in Rule 506(d) of Regulation D, and (C) the Insiders have complied with the “bad actor” disclosure requirements set forth in Rule 506(e) of Regulation D, the offer, issuance and sale of the Shares to the Purchasers pursuant to the Agreement, are exempt from the registration requirements of the Securities Act.

3.5 No Conflicts. The execution, delivery and performance of the Transaction Documents by the Company and the issuance and sale of the Securities will not conflict with or result in a breach or violation of any of the terms and provisions of, or constitute a default (or an event that with notice or lapse of time or both would become a default) under, or give to others any rights of termination, amendment, acceleration or cancellation (with or without notice, lapse of time or both) of (i) the Company’s Certificate of Incorporation or the Company’s Bylaws, both as in effect on the date hereof (true and complete copies of which have been made available to the Purchasers through the EDGAR system), other than with respect to the issuance of the Warrant Shares upon exercise of the Warrants, for which this representation in 3.5(i) shall be subject to effecting the Increased Shares Amendment, (ii) any statute, rule, regulation or order, judgment, injunction, decree or other restriction of any governmental agency or body or any court, domestic or foreign, having jurisdiction over the Company or any of its respective assets or properties, or (iii) any material agreement or instrument to which the Company is a party or by which the Company is bound or to which any of their respective assets or properties is subject, in each case except for any such conflict, breach, violation or default that would not reasonably be expected to have a Material Adverse Effect.

3.6 Filings, Consents and Approvals. The Company is not required to obtain any consent, waiver, authorization or order of, give any notice to, or make any filing or registration with, any court or other federal, state, local or other governmental authority or other Person in connection with the execution, delivery and performance by the Company of the Transaction Documents, other than filings that have been made, or will be made, or consents that have been obtained, or will be obtained, pursuant to the rules and regulations of NASDAQ, including a NASDAQ Listing of Additional Shares notification form, applicable state securities laws and post-sale filings pursuant to applicable state and federal securities laws which the Company undertakes to file or obtain within the applicable time periods.

3.7 SEC Reports. The Company has filed all reports, schedules, forms, registration statements and other documents required to be filed by the Company under the Securities Act and the Exchange Act, including pursuant to Section 13(a) or 15(d) thereof, since January 1, 2012 (the foregoing materials, including the exhibits thereto and documents incorporated by reference therein, being collectively referred to herein as the “SEC Reports”) on a timely basis or has received a valid extension of such time of filing and has filed any such SEC Reports prior to the expiration of any such extension and has filed all reports required to be filed by it under the Exchange Act, including pursuant to Section 13(a) or 15(d) thereof, for the twelve (12) months preceding the date hereof or such shorter period of time that the Company was subject to such filing requirements. 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 not received any letters of comment from the staff of the Commission that have not been satisfactorily resolved as of the date hereof. All

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material agreements to which the Company is a party or to which the property or assets of the Company is subject are included as part of or identified in the SEC Reports, to the extent such agreements are required to be included or identified pursuant to the rules and regulations of the SEC.

3.8 Financial Statements. The financial statements of the Company included in the SEC Reports comply in all material respects with applicable accounting requirements and the rules and regulations of the Commission with respect thereto as in effect at the time of filing. Such financial statements have been prepared in accordance with United States generally accepted accounting principles (“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 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.

3.9 Material Changes; Undisclosed Events, Liabilities or Developments. Since the date of the latest audited financial statements included within the SEC Reports, except as specifically disclosed in a subsequent SEC Report filed prior to the date hereof: (i) there has been no event, occurrence or development that has had or that could reasonably be expected to have a Material Adverse Effect, (ii) the Company has not incurred any liabilities (contingent or otherwise) other than (A) trade payables and accrued expenses incurred in the ordinary course of business consistent with past practice and (B) liabilities not required to be reflected in the Company’s financial statements pursuant to GAAP or disclosed in filings made with the Commission, (iii) the Company has not altered its method of accounting or changed its principal registered public accounting firm, (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, except pursuant to existing Company equity compensation plans. The Company does not have pending before the Commission any request for confidential treatment of information. The Company has not taken any steps to seek protection pursuant to any bankruptcy law and the Company has not received any written notice that any Person intends to initiate involuntary bankruptcy proceedings against the Company or any Subsidiary. The Company is not as of the date hereof, and after giving effect to the transactions contemplated hereby to occur at the applicable Closing, will not be Insolvent (as defined below). For purposes of this Section 3.9, “Insolvent” means (i) the present fair saleable value of the Company’s assets is less than the amount required to pay the Company’s total Indebtedness, (ii) the Company is unable to pay its debts and liabilities,

subordinated, contingent or otherwise, as such debts and liabilities become absolute and matured, (iii) the Company intends to incur or believes that it will incur debts that would be beyond its ability to pay as such debts mature, or (iv) the Company has unreasonably small capital with which to conduct the business in which it is engaged as such business is now conducted.

3.10 Internal Controls. The Company maintains a system of internal control over financial reporting (as such term is defined in Rule 13a-15(f) of the Exchange Act) that complies with the requirements of the Exchange Act and has been designed by the Company's principal executive officer and principal financial officer, or under their supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles; the Company's internal control over financial reporting is effective and the Company is not aware of any material weaknesses in its internal control over financial reporting; there has been no fraud, whether or not material, that involves management or other employees who have a significant role in the Company's internal control over financial reporting; since the date of the latest audited financial statements included or incorporated by reference in the Company's SEC Reports, there has been no change in the Company's internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting. The Company maintains disclosure controls and procedures (as such term is defined in Rule 13a-15(e) of the Exchange Act) that comply with the requirements of the Exchange Act; such disclosure controls and procedures have been designed to ensure that material information relating to the Company is made known to the Company's principal executive officer and principal financial officer by others within those entities; such disclosure controls and procedures are effective. The Company is in compliance in all material respects with all applicable provisions of the Sarbanes-Oxley Act of 2002 and the rules and regulations promulgated by the Commission thereunder. The Company maintains 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 generally

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accepted accounting principles 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.

3.11 Accountant. To the Company's Knowledge, Ernst & Young LLP, which has expressed its opinion with respect to the Company's financial statements as of December 31, 2013 and 2012 and 2011, respectively, and included in the SEC Reports (including the related notes), is an independent registered public accounting firm as required by the Act and the Public Company Accounting Oversight Board (United States). Ernst & Young LLP have not been engaged by the Company to perform any "prohibited activities" (as defined in Section 10A of the Exchange Act).

3.12 Litigation. Except as set forth in the SEC Reports, there is not pending or, to the knowledge of the Company, threatened or contemplated, any action, suit or proceeding to which the Company is a party or of which any property or assets of the Company is the subject before or by any court or governmental agency, authority or body, or any arbitrator, which, individually or in the aggregate, could reasonably be expected to result in any Material Adverse Effect. There are no current or pending legal, governmental or regulatory actions, suits or proceedings that are required to be described in the SEC Reports that have not been so described.

3.13 Tax Matters. The Company (i) has filed all federal, state, local and foreign income, franchise tax and all other tax returns reports and declarations required by any jurisdiction to which it is subject to be filed or has requested extensions thereof (except in any case in which the failure so to file would not have a Material Adverse Effect), except as set forth in the SEC Reports, (ii) has paid all taxes required to be paid by it and any other assessment, fine or penalty levied against it, to the extent that any of the foregoing is due and payable, except for any such assessment, fine or penalty that is currently being contested in good faith and (iii) has set aside on its books provision reasonably adequate for the payment of all taxes for periods subsequent to the periods to which such returns, reports or declarations apply, except in those, in each of the cases described in clauses (i), (ii) and (iii) of this Section 3.13, that would not singularly or in the aggregate have a Material Adverse Effect, except as set forth in or contemplated in the SEC Reports.

3.14 Insurance. The Company maintains in full force and effect insurance coverage that is customary for comparably situated companies for the business being conducted and properties owned or leased by the Company, and the Company reasonably believes such insurance coverage to be adequate against all liabilities, claims and risks against which it is customary for comparably situated companies to insure.

3.15 Environmental Matters. The Company (A) is in compliance in all material respects with any and all applicable federal, state, local and foreign laws, rules, regulations, decisions and orders relating to pollution or protection of human health and safety, the environment (including, without limitation, ambient air, surface water, groundwater, land surface or subsurface strata), including, without limitation, laws relating to emissions, discharges, releases or threatened releases of chemicals, hazardous or toxic substances or wastes, pollutants or contaminants (collectively, "Environmental Laws"); (B) has received and is in material compliance with all permits, licenses or other approvals required of it under applicable Environmental Laws to conduct its business; and (C) has not received notice of any actual or potential liability for the investigation or remediation of any disposal or release of hazardous or toxic substances or wastes, pollutants or contaminants, except in any such case for any such failure to comply, or failure to receive required permits, licenses or approvals, or liability as would not, individually or in the aggregate, have a Material Adverse Effect.

3.16 Labor Relations. The Company (A) is in compliance, in all material respects, with any and all applicable foreign, federal, state and local laws, rules, regulations, treaties, statutes and codes promulgated by any and all governmental authorities (including pursuant to the Occupational Health and Safety Act) relating to the protection of human health and safety in the workplace ("Occupational Laws"); (B) has received all material permits, licenses or other approvals required of it under applicable Occupational Laws to conduct their business as currently conducted; and (C) is in compliance, in all material respects, with all terms and conditions of such permits, licenses or approvals. No action, proceeding, revocation proceeding, writ, injunction or claim is pending or, to the Company's Knowledge, threatened against the Company relating to Occupational Laws, and the Company does not have knowledge of any material facts, circumstances or developments relating to its operations or cost accounting

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practices that could reasonably be expected to form the basis for or give rise to such actions, suits, investigations or proceedings. Each employee benefit plan, within the meaning of Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), that is maintained, administered or contributed to by the Company or any of its affiliates for employees or former employees of the Company and has been maintained in material compliance with its terms and the requirements of any applicable statutes, orders, rules and regulations, including but not limited to, ERISA and the Internal Revenue

Code of 1986, as amended (the “Code”). No prohibited transaction, within the meaning of Section 406 of ERISA or Section 4975 of the Code, has occurred with respect to any such plan excluding transactions effected pursuant to a statutory or administrative exemption; and for each such plan that is subject to the funding rules of Section 412 of the Code or Section 302 of ERISA, no “accumulated funding deficiency” as defined in Section 412 of the Code has been incurred, whether or not waived, and the fair market value of the assets of each such plan (excluding for these purposes accrued but unpaid contributions) exceeds the present value of all benefits accrued under such plan determined using reasonable actuarial assumptions. To the Company’s Knowledge, no executive officer or key employee of the Company plans to terminate employment with the Company. The Company is in compliance in all material respects with all federal, state, local and foreign laws and regulations respecting labor, employment and employment practices and benefits, terms and conditions of employment and wages and hours, except where failure to be in compliance would not, either individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect.

3.17 Certificates, Authorities and Permits. The Company holds, and is operating in compliance in all material respects with, all registrations, approvals, certificates, authorizations and permits of any governmental authority or self-regulatory body required for the conduct of its business as described in the SEC Reports, including without limitation, all such registrations, approvals, certificates, authorizations and permits required by the FDA or any other federal, state, local or foreign agencies or bodies engaged in the regulation of pharmaceuticals or biohazardous substances or materials; and the Company has not received notice of any revocation or modification of any such registration, approval, certificate, authorization and permit or has reason to believe that any such registration, approval, certificate, authorization and permit will not be renewed in the ordinary course that could lead to, the withdrawal, revocation, suspension, modification or termination of any such registration, approval, certificate, authorization or permit, which, singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, could result in a Material Adverse Effect.

3.18 Title to Assets. The Company has good and marketable title to all property (whether real or personal) owned by it that is material to the business of the Company, in each case free and clear of all liens, claims, security interests, other encumbrances or defects, except those that could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. The property held under lease by the Company is held under valid, subsisting and enforceable leases of which the Company is in compliance, with only such exceptions with respect to any particular lease as do not interfere in any material respect with the conduct of the business of the Company.

3.19 Intellectual Property. The Company owns, possesses, or can acquire on reasonable terms, all Intellectual Property necessary for the conduct of its business as now conducted or as described in the SEC Reports to be conducted in all material respects, except as such failure to own, possess, or acquire such rights would not have a Material Adverse Effect. To the Company’s Knowledge, all Intellectual Property of the Company is valid and enforceable, except as would not, singly or in the aggregate, have a Material Adverse Effect. The Company has not received any opinion from its legal counsel concluding that any activities of its respective businesses infringe, misappropriate, or otherwise violate, valid and enforceable Intellectual Property of any other person. Except as set forth in the SEC Reports, (A) to the Company’s Knowledge, there is no infringement, misappropriation or violation by third parties of any such Intellectual Property, except as such infringement, misappropriation or violation would not have a Material Adverse Effect; (B) there is no pending or, to the Company’s Knowledge, threatened action, suit, proceeding or claim by others challenging the Company’s rights in or to any such Intellectual Property, and the Company is unaware of any material facts which would form a reasonable basis for any such claim; (C) the Intellectual Property owned by the Company, and to the Company’s Knowledge, the Intellectual Property licensed to the Company, have not been adjudged invalid or unenforceable, in whole or in part, and there is no pending or threatened action, suit, proceeding or claim by others challenging the validity or scope of any such Intellectual Property, and the Company is unaware of any material facts which would form a reasonable basis for any such claim; (D) to the Company’s Knowledge, there is no pending or threatened action, suit, proceeding or claim by others that the Company infringes, misappropriates or otherwise violates any Intellectual Property or other

proprietary rights of others, the Company has not received any written notice of such claim and the Company is unaware of any other material fact which would form a reasonable basis for any such claim; and (E) to the Company’s Knowledge, no Company employee is obligated under any contract (including licenses, covenants or commitments of any nature) or other agreement, or subject to any judgment, decree or order of any court or administrative agency, that would interfere with the use of such employee’s best efforts to promote the interest of the Company or that would conflict with the Company’s business; none of the execution and delivery of this Agreement, the carrying on of the Company’s business by the employees of the Company, and the conduct of the Company’s business as proposed, will conflict with or result in a breach of terms, conditions, or provisions of, or constitute a default under, any contract, covenant or instrument under which any such employee is now obligated; and it is not and will not be necessary to use any inventions, trade secrets or proprietary information of any of its consultants, or its employees (or Persons it currently intends to hire) made prior to their employment by the Company, except for technology that is licensed to or owned by the Company. All licenses for the use of Company’s Intellectual Property are valid, binding upon, and enforceable against the Company and, to the Company’s Knowledge, the other parties thereto in accordance to its terms. The Company has complied in all material respects with any intellectual property license, and except as would not, singly or in the aggregate, have a Material Adverse Effect, the Company is not in breach nor has received any written notice asserting or threatening any claim of breach of any intellectual property license, and to the Company’s Knowledge there is no breach or anticipated breach by any other person to any intellectual property license. The Company has taken reasonable steps to protect, maintain and safeguard its Intellectual Property, including the execution of appropriate nondisclosure and confidentiality agreements.

3.20 FDA and Related Matters. The Company and, to the Company’s Knowledge, others who perform services on the Company’s behalf have been and are in compliance with all applicable federal, state, local and foreign laws, rules, regulations, standards, orders and decrees governing their respective businesses, including without limitation, all regulations promulgated by the FDA or any other federal, state, local or foreign agencies or bodies engaged in the regulation of pharmaceuticals or biohazardous substances or materials, except where noncompliance would not, singly or in the aggregate, have a Material Adverse Effect; and the Company has not received any notice citing action or inaction by the Company or others who perform services on the Company’s behalf that would constitute non-compliance with any applicable federal, state, local or foreign laws, rules, regulations or standards excepting, however, such actions that have heretofore been resolved to the satisfaction of such governmental entity. All tests and preclinical and clinical studies conducted by or on behalf of the Company were and, if still pending, are being, conducted in all material respects in accordance with experimental protocols, procedures and controls generally used by qualified experts in the preclinical and clinical study of new drugs, and laws and regulations; the descriptions of the tests and preclinical and clinical studies, and results thereof, conducted by or on behalf of the Company are accurate in all material respects; except as disclosed in the SEC Reports, the Company has not received any written notice or correspondence from the FDA or any foreign, state or local governmental body exercising comparable authority or any Institutional Review Board or comparable authority requiring the termination, suspension, material modification or clinical hold of any tests or preclinical or clinical studies being conducted by or on behalf of the Company, which termination, suspension, material modification or clinical hold would reasonably be expected to have a Material Adverse Effect; and the Company has not received any written notices or correspondence from others concerning the termination, suspension, material modification or clinical hold of any tests or preclinical or clinical studies conducted by others on any active ingredient contained in the existing products of the Company or the products described in the SEC Reports as being under development, which termination, suspension, material modification or clinical hold would reasonably be expected to have a Material Adverse Effect.

3.21 Compliance with NASDAQ Continued Listing Requirements. Except as set forth in the SEC Reports and except as described in Section 4.10 hereof, the Company is, and has no reason to believe that it will not, upon the issuance of the Securities hereunder, continue to be, in compliance with the listing and maintenance requirements for continued listing on NASDAQ in all material respects. Assuming the representations and warranties of the Purchasers set forth in Section 4.2 are true and correct in all material respects, the consummation of the transactions contemplated by the Transaction Documents does not contravene the rules and regulations of NASDAQ. Except as set forth in the SEC Reports and except as described in Section 4.10 hereof, there are no proceedings pending or, to the Company's Knowledge, threatened against the Company relating to the continued listing of the Common Stock on NASDAQ and the Company has not received any notice of, nor to the Company's Knowledge is there any basis for, the delisting of the Common Stock from NASDAQ.

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3.22 Application of Takeover Protections. The Company and the Board of Directors have taken all necessary action, if any, in order to render inapplicable any control share acquisition, business combination, poison pill (including any distribution under a rights agreement) or other similar anti-takeover provision under the Company's certificate of incorporation (or similar charter documents) or the laws of its state of incorporation, including Section 203 of the Delaware General Corporation Law, as well as other laws or provisions that would prevent the Purchasers or the Company from 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 and exercise in full of the Warrants.

3.23 Fees. The Company shall be responsible for the payment of any placement agents' fees, financial advisory fees, or brokers' commission (other than for persons engaged by any Purchaser or its investment advisor) relating to or arising out of the issuance of the Securities pursuant to this Agreement. No Person will have, as a result of the transactions contemplated by the Transaction Documents, any valid right, interest or claim against or upon any Purchaser for any commission, fee or other compensation pursuant to any agreement, arrangement or understanding entered into by or on behalf of the Company, and no Purchaser shall have any 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 3.23 that may be due in connection with the transactions contemplated by the Transaction Documents. The Company shall pay, and hold each Purchaser harmless against, any liability, loss or expense (including, without limitation, reasonable attorney's fees and out-of-pocket expenses) arising in connection with any such claim for fees arising out of the issuance of the Securities pursuant to this Agreement.

3.24 No Directed Selling Efforts or General Solicitation. Neither the Company nor any Person acting on its behalf has conducted any general solicitation or general advertising (as those terms are used in Regulation D) in connection with the offer or sale of any of the Securities.

3.25 No Integrated Offering. Neither the Company nor any of its Affiliates, nor any Person acting on its or their behalf has, directly or indirectly, made any offers or sales of any Company security or solicited any offers to buy any security, under circumstances that would adversely affect reliance by the Company on Section 4(a)(2) for the exemption from registration for the transactions contemplated hereby or would require registration of the Shares under the Securities Act or cause the offering of the Securities pursuant to the Transaction Documents to be integrated with prior offerings by the Company for purposes of any applicable law, regulation or stockholder approval provisions, including, without limitation, under the rules and regulations of any Trading Market. Assuming the satisfaction of all conditions set forth in Section 2.5(b), the sale and issuance of the Securities hereunder does not contravene the rules and regulation of any applicable Trading Market on which the Common Stock is listed or quoted.

3.26 Private Placement. Assuming the accuracy of the Purchasers' representations and warranties set forth in ARTICLE 4, no registration under the Securities Act is required for the offer and sale of the Securities by the Company to the Purchasers as contemplated hereby.

3.27 Form S-3 Eligibility. The Company is eligible to register the resale of the Securities for resale by the Purchaser on Form S-3 promulgated under the Securities Act.

3.28 Investment Company. The Company is not and, after giving effect to the offering and sale of the Securities, will not be an "investment company," as such term is defined in the Investment Company Act of 1940, as amended.

3.29 Foreign Corrupt Practices. The Company, nor, to the best knowledge of the Company, any director, officer, agent, employee or other Person associated with or acting on behalf of the Company has (A) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expense relating to political activity; (B) made any direct or indirect unlawful payment to any foreign or domestic government official or employee from corporate funds; (C) violated or is in violation of any provision of the Foreign Corrupt Practices Act of 1977; or (D) made any bribe, rebate, payoff, influence payment, kickback or other unlawful payment.

3.30 Indebtedness. Except as disclosed in the SEC Reports, the Company does not (i) has any outstanding Indebtedness (as defined below), (ii) is in violation of any term of or in default under any contract,

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agreement or instrument relating to any Indebtedness, except where such violations and defaults would not result, individually or in the aggregate, in a Material Adverse Effect, or (iii) is a party to any contract, agreement or instrument relating to any Indebtedness, the performance of which, in the judgment of the Company's officers, has or is expected to have a Material Adverse Effect. For purposes of this Agreement: (x) "Indebtedness" of any Person means, without duplication (A) all indebtedness for borrowed money, (B) all obligations issued, undertaken or assumed as the deferred purchase price of property or services (other than trade payables entered into in the ordinary course of business), (C) all reimbursement or payment obligations with respect to letters of credit, surety bonds and other similar instruments, (D) all obligations evidenced by notes, bonds, debentures or similar instruments, including obligations so evidenced incurred in connection with the acquisition of property, assets or businesses, (E) all indebtedness created or arising under any conditional sale or other title retention agreement, or incurred as financing, in either case with respect to any property or assets acquired with the proceeds of such indebtedness (even though the rights and remedies of the seller or bank under such agreement in the event of default are limited to repossession or sale of such property), (F) all monetary obligations under any leasing or similar arrangement which, in connection with generally accepted accounting principles, consistently applied for the periods covered thereby, is classified as a capital lease, (G) all indebtedness referred to in clauses (A) through (F) above secured by (or for which the holder of such Indebtedness has an existing right, contingent or otherwise, to be secured by) any mortgage, lien, pledge, charge, security interest or other encumbrance upon or in any property or assets (including accounts and contract rights) owned by any Person, even though the Person which owns such assets or property has not assumed or become liable for the payment of such indebtedness, and (H) all Contingent Obligations in respect of indebtedness or

obligations of others of the kinds referred to in clauses (A) through (G) above; and (y) “Contingent Obligation” means, as to any Person, any direct or indirect liability, contingent or otherwise, of that Person with respect to any indebtedness, lease, dividend or other obligation of another Person if the primary purpose or intent of the Person incurring such liability, or the primary effect thereof, is to provide assurance to the obligee of such liability that such liability will be paid or discharged, or that any agreements relating thereto will be complied with, or that the holders of such liability will be protected (in whole or in part) against loss with respect thereto.

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

3.32 Disclosure. No representation or warranty by the Company in this Agreement and no statement contained in the SEC Reports or any certificate or other document furnished or to be furnished to the Purchasers pursuant to this Agreement contains any untrue statement of a material fact or omits to state a material fact necessary in order to make the statements contained therein, in light of the circumstances under which they were made, not misleading. The Company confirms that neither it nor any officers or directors, has provided any Purchaser or its agents or counsel with any information that constitutes or might constitute material, nonpublic information that will not be publicly disclosed by the deadline set forth in clause (a) of Section 6.4. The Company understands and confirms that each of the Purchasers will rely on the foregoing representations in effecting transactions in securities of the Company.

3.33 Registration Rights. Except as described in the SEC Reports, the Company has not granted or agreed to grant to any Person any rights (including “piggy-back” registration rights) to have any securities of the Company registered with the SEC or any other governmental authority. All such registration rights have either been satisfied or waived so that: (i) no Person shall have the right to demand the filing of a registration statement for the registration of any Company securities (other than the Securities to be issued hereunder) prior to the Effective Date of the Initial Registration Statement, and (ii) no Person shall have the right to demand the inclusion of any Company securities (other than the Securities to be issued hereunder) in the Registration Statement.

#### **ARTICLE 4 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):

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

#### 4.2 Purchaser Status.

(a) At the time such Purchaser was offered the Securities, it was, and as of the date hereof it is, and on each date on which it exercises the Warrants it will be, an “accredited investor” as defined in Rule 501 under the Securities Act. Such Purchaser is not a broker-dealer registered under Section 15 of the Exchange Act. Such Purchaser is acting alone in its determination as to whether to invest in the Securities. Such Purchaser is not a party to any voting agreements or similar arrangements with respect to the Securities. Except as expressly disclosed in a Schedule 13D or Schedule 13G (or amendments thereto) filed by such Purchaser with the Commission with respect to the beneficial ownership of the Company’s Common Stock, such Purchaser is not a member of a partnership, limited partnership, syndicate, or other group for the purpose of acquiring, holding, voting or disposing of the Securities. Each Purchaser represents and warrants that it (i) is not and will not become a party to (A) any agreement, arrangement or understanding with, and has not given any commitment or assurance to, any Person as to how such Person, if serving as a director or if elected as a director of the Corporation, will act or vote on any issue or question (a “Voting Commitment”) or (B) any Voting Commitment that could limit or interfere with such Person’s ability to comply, if serving as or elected as a director of the Company, with such Person’s fiduciary duties under applicable law; (ii) is not and will not become a party to any agreement, arrangement or understanding with any Person other than the corporation with respect to any direct or indirect compensation, reimbursement or indemnification in connection with service or action as a director of the Company.

(b) Each Purchaser has disclosed in writing to the Company a description of all Derivative Transactions (as defined below) by each such Purchaser in effect as of the date hereof, including the date of the transactions and the class, series and number of securities involved in, and the material economic terms of, such Derivative Transactions. For purposes of this Agreement, a “Derivative Transaction” means any agreement, arrangement, interest or understanding entered into by, or on behalf or for the benefit of, any Purchaser or any of its affiliates or associates, whether record or beneficial: (w) the value of which is derived in whole or in part from the value of any class or series of shares or other securities of the Company, (x) which otherwise provides any direct or indirect opportunity to gain or share in any gain derived from a change in the value of securities of the Company, (y) the effect or intent of which is to mitigate loss, manage risk or benefit of security value or price changes, or (z) which provides the right to vote or increase or decrease the voting power of, such Purchaser, or any of its affiliates or associates, with respect to any securities of the Company, which agreement, arrangement, interest or understanding may include, without limitation, any option, warrant, debt position, note, bond, convertible security, swap, stock appreciation right, short position, profit interest, hedge, right to dividends, voting agreement, performance-related fee or arrangement to borrow or lend shares (whether or not subject to payment, settlement, exercise or conversion in any such class or series), and any proportionate interest of such Purchaser in the securities of the Company held by any general or limited partnership, or any limited liability company, of which such Purchaser is, directly or indirectly, a general partner or managing member.

4.3 General Solicitation; Pre-Existing Relationship. Such Purchaser is not purchasing the Securities as a result of any advertisement, article, notice or other communication regarding the Securities published in any newspaper, magazine or similar media or broadcast over television or radio or presented at any seminar or any other general solicitation or general advertisement. Such Purchaser also represents that such Purchaser was contacted

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regarding the sale of the Units by the Company (or an authorized agent or representative thereof) with which the Subscriber had a prior substantial pre-existing relationship.

4.4 Purchase Entirely for Own Account. The Securities to be received by such Purchaser hereunder will be acquired for such Purchaser's own account, not as nominee or agent, and not with a view to the resale or distribution of any part thereof in violation of the Securities Act, and such Purchaser has no present intention of selling, granting any participation in, or otherwise distributing the same in violation of the Securities Act without prejudice, however, to such Purchaser's right at all times to sell or otherwise dispose of all or any part of such Securities in compliance with applicable federal and state securities laws. Nothing contained herein shall be deemed a representation or warranty by such Purchaser to hold the Securities for any period of time.

4.5 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.

4.6 Disclosure of Information. Such Purchaser has had an opportunity to receive all information related to the Company requested by it and to ask questions of and receive answers from the Company regarding the Company, its business and the terms and conditions of the offering of the Securities. Such Purchaser acknowledges receipt of copies of the SEC Reports (or access thereto via EDGAR). Neither such inquiries nor any other due diligence investigation conducted by such Purchaser shall modify, limit or otherwise affect such Purchaser's right to rely on the Company's representations and warranties contained in this Agreement.

4.7 Interested Stockholders. Each Purchaser that is an "Interested Stockholder" (as such term is defined in Section 203 of the General Corporation Law of the State of Delaware) represents and warrants that it has been an Interested Stockholder for at least three years prior to the date hereof.

4.8 Restricted Securities. Such Purchaser understands that the Securities are "restricted securities" and have not been registered under the Securities Act and may not be offered, resold, pledged or otherwise transferred except (i) pursuant to an exemption from registration under the Securities Act or pursuant to an effective registration statement in compliance with Section 5 under the Securities Act and (ii) in accordance with all applicable securities laws of the states of the United States and other jurisdictions.

4.9 Warrants. Such Purchaser understands that (i) until the Authorized Shares Increase Date, such Purchaser may not be entitled to exercise the Warrant it acquires at the Closing for Warrant Shares, and that, until the Authorized Shares Increase Date, such Warrant is subject to mandatory cash settlement as provided therein and (ii) such Warrant contains a mandatory exercise provision, pursuant to which Purchaser agrees to exercise such Warrant in full upon the occurrence of certain events as set forth in Section 6(b) of such Warrant.

4.10 Continued Listing; Reverse Stock Split. Such Purchaser understands that, as disclosed in the SEC Reports, the Company received a letter from the Principal Trading Market notifying the Company that for the previous 30 consecutive business days, the closing bid price for the Common Stock was below the minimum \$1.00 per share requirement for continued listing on Principal Trading Market (the "Bid Price Requirement"). In order to regain compliance with the Bid Price Requirement, the closing bid price of the Common Stock must be at least \$1.00 per share for a minimum of ten consecutive business days at any time before March 31, 2015. If the Company does not demonstrate compliance with the Bid Price Requirement by March 31, 2015, the Company may be eligible for an additional 180 calendar day compliance period. To qualify, the Company would need to transfer the listing of the Common Stock to The NASDAQ Capital Market, provided that the Company meets The NASDAQ Capital Market initial inclusion criteria at that time, with the exception of the Bid Price Requirement, and would need to provide written notice of its intention to cure the deficiency during this second compliance period, by effecting a reverse stock split, if necessary. Accordingly, such Purchaser understands that the Company may be required to transfer the listing of the Common Stock to The NASDAQ Capital Market and/or effect a reverse stock split of its Common Stock to regain compliance with the Bid Price Requirement; however, such Purchaser understands that, notwithstanding the Company's obligations under Section 6.8 hereof, there can be no assurance that the Company

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will regain compliance with the Bid Price Requirement or that Common Stock will otherwise continue to be listed on a Trading Market, including the Principal Trading Market.

4.11 Commissions. No Person will have, as a result of the transactions contemplated by the Transaction Documents, any valid right, interest or claim against the Company or upon any Purchaser for any commission, fee or other compensation pursuant to any agreement, arrangement or understanding entered into by or on behalf of such Purchaser.

The Company acknowledges and agrees that the representations contained in ARTICLE 4 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 transaction contemplated hereby.

## ARTICLE 5 REGISTRATION RIGHTS

5.1 Registration Statement.

(a) On or prior to the Initial Filing Date, the Company shall prepare and file with the Commission a Registration Statement covering the resale of all Registrable Securities represented by Unit Shares for an offering to be made on a continuous basis pursuant to Rule 415. The Registration Statement shall be on Form S-3 (except if the Company is not then eligible to register for resale the Registrable Securities on Form S-3, in which case such registration shall be on another appropriate form in accordance with the Securities Act) and shall contain (except if otherwise required pursuant to written comments received from the Commission upon a review of such Registration Statement) the “Plan of Distribution” in substantially the form attached hereto as Exhibit G. Notwithstanding any other provision of this ARTICLE 5, if the staff of the Commission does not permit all of the Registrable Securities represented by Unit Shares to be registered on the initial Registration Statement filed pursuant to this Section 5.1(a) (the “Initial Registration Statement”) or requires any Purchaser to be named as an “underwriter”, then the Company shall use commercially reasonable efforts to persuade the staff of the Commission that the offering contemplated by the Registration Statement is a valid secondary offering and not an offering “by or on behalf of the issuer” as defined in Rule 415 and that none of the Purchasers is an “underwriter”; provided, however, that in no event shall the Company be required to continue discussions with the staff of the Commission if the Company reasonably determines that doing so is reasonably likely to cause the Company to incur liquidated damages pursuant to Section 5.1(d) because of a failure to have the Initial Registration Statement declared effective prior to the Initial Required Effectiveness Date. In the event that, despite the Company’s commercially reasonable efforts and compliance with the terms of this Section 5.1(a), the staff of the Commission refuses to alter its position, the Company shall (i) remove from the Registration Statement such portion of the Registrable Securities (the “Cut Back Shares”) as determined below and/or (ii) agree to such restrictions and limitations on the registration and resale of the Registrable Securities as the staff of the Commission may require to assure the Company’s compliance with the requirements of Rule 415 (collectively, the “SEC Restrictions”); provided, however, that the Company shall not agree to name any Purchaser as an “underwriter” in such Registration Statement without the prior written consent of such Purchaser; provided, further, that if any such Purchaser refuses to be named as an underwriter as required by the SEC Restrictions, such Purchaser’s Registrable Securities shall be removed from the Initial Registration Statement and such Registrable Securities shall be deemed to constitute Cut Back Shares and the provisions of this Section 5.1(a) shall apply to such Cut Back Shares. Except as provided in the immediately preceding sentence, any cut-back imposed pursuant to this Section 5.1(a) shall be allocated among the Purchasers on a *pro rata* basis, unless the SEC Restrictions otherwise require or provide or the Purchasers otherwise agree. In furtherance of the foregoing, each Purchaser shall promptly notify the Company when it has sold substantially all of its Registrable Securities covered by the Initial Registration Statement (or any Additional Registration Statement (as defined below)) so as to enable the Company to determine whether it can file one or more additional registration statements covering the Cut Back Shares and the Company agrees that it shall file one or more additional Registration Statements (each, an “Additional Registration Statement”) as promptly as possible, and in any event on or prior to the Additional Filing Date, successively using its commercially reasonable efforts to register on each such Additional Registration Statement the maximum number of remaining Cut Back Shares that continue to constitute Registrable Securities until all of the Cut Back Shares that continue to constitute Registrable Securities have been registered with the SEC.

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In addition, the Company agrees that it shall file one or more Additional Registration Statements covering the resale of all Registrable Securities represented by Warrant Shares as promptly as possible following the Authorized Shares Increase Date, and in any event on or prior to the Additional Filing Date, successively trying to register on each such Additional Registration Statement the maximum number of Registrable Securities represented by Warrant Shares (or then remaining Registrable Securities represented by Warrant Shares) as permitted by SEC Guidance and any SEC Restrictions until all of the Registrable Securities represented by Warrant Shares have been registered with the SEC. With respect to the registration obligations in the foregoing sentence, in the event SEC Restrictions do not permit, or the staff of the Commission otherwise does not permit, all of the Registrable Securities represented by Warrant Shares to be registered on the first Additional Registration Statement filed to register the resale of Registrable Securities represented by Warrant Shares (or requires any Purchaser to be named as an “underwriter” therein), then the provisions that apply above in the event the staff of the Commission does not permit all of the Registrable Securities represented by Unit Shares to be registered on the Initial Registration Statement (or requires any Purchaser to be named as an “underwriter” therein), shall equally apply, with any such excluded Registrable Securities represented by Warrant Shares being deemed to constitute Cut Back Shares and the provisions of this Section 5.1(a) shall apply to such deemed Cut Back Shares.

(b) The Company shall use its commercially reasonable efforts to cause each Registration Statement to be declared effective by the Commission as promptly as possible after the filing thereof, but in any event prior to the applicable Required Effectiveness Date, and shall use commercially reasonable efforts to keep the Registration Statement continuously effective under the Securities Act until the earlier of (i) the date that all Registrable Securities covered by such Registration Statement have been sold or can be sold publicly without restriction or limitation under Rule 144 (including, without limitation, the requirement to be in compliance with Rule 144(c)(1)) or (ii) the date that is two (2) years following the Closing Date (the “Effectiveness Period”). Not later than two Trading Days after a Registration Statement is declared effective, the Company shall file a prospectus supplement for any Registration Statement to the extent required pursuant to Rule 424.

(c) The Company shall notify the Purchasers in writing promptly (and in any event within two Trading Days) after receiving notification from the Commission that a Registration Statement has been declared effective.

(d) Should an Event (as defined below) occur, then upon the occurrence of such Event and on every monthly anniversary thereof until the applicable Event is cured, the Company shall pay to each Purchaser an amount in cash, as liquidated damages and not as a penalty, equal to one percent (1.0%) of the aggregate Unit Purchase Price of the Registrable Securities then held by the Purchaser (which remedy shall be exclusive of any other remedies available under this Agreement or under applicable law); provided, however, that the total amount of payments pursuant to this Section 5.1(d) shall not exceed, when aggregated with all such payments paid to all Purchasers, ten percent (10%) of the aggregate Unit Purchase Price hereunder. The payments to which a Purchaser shall be entitled pursuant to this Section 5.1(d) are referred to herein as “Event Payments.” Any Event Payments payable pursuant to the terms hereof shall apply on a pro rated basis for any portion of a month prior to the cure of an Event. In the event the Company fails to make Event Payments in a timely manner, such Event Payments shall bear interest at the rate of one percent (1.0%) per month (prorated for partial months) until paid in full. All pro rated calculations made pursuant to this paragraph shall be based upon the actual number of days in such pro rated month. The parties agree that the Company will not be liable for liquidated damages under this Section 5.1(d) with respect to (1) any Warrant Shares prior to their issuance, (2) any period after the expiration of the Effectiveness Period, and (3) any Cut Back Shares which are not permitted by the SEC to be included in a Registration Statement due solely to SEC Guidance or the SEC Restrictions from the time that it is determined that such Cut Back Shares are not permitted to be registered so long as not due to any action taken by the Company to register shares after the date hereof that are not Registrable Securities. In such case, the Event Payments shall be calculated to only apply to the percentage of Registrable Securities that are permitted in accordance with SEC Guidance to be included in such Registration Statement. In the event that the Company registers some but not all of the Registrable Securities, the 1.0% of liquidated damages referred to above for any monthly period shall be reduced to equal the percentage determined by multiplying 1.0% by a fraction, the numerator of which shall be the number of Registrable Securities for which there is not an effective Registration Statement at such time and the denominator of which shall be the number of Registrable Securities at such time. Notwithstanding the foregoing, the applicable Filing Date or Required Effectiveness Date for a Registration Statement shall be extended without Event Payments hereunder in the event that the Company’s failure to file or obtain the effectiveness of such Registration Statement on a timely



basis results from (i) the failure of any Purchaser, other than a Purchaser that is also an Insider, to timely provide the Company with information reasonably requested by the Company and necessary to complete the Registration Statement in accordance with the requirements of the Securities Act or (ii) events or circumstances that are not in any way attributable to the Company's actions or inactions, including, but not limited to, the failure of any Purchaser, other than a Purchaser that is also an Insider, to promptly notify the Company when it has sold substantially all of its Registrable Securities covered by the Initial Registration Statement or any Additional Registration Statement or to otherwise comply with the terms of this Agreement, and in any event, no Purchaser causing the failure described in (i) or (ii), above shall be entitled to Event Payments relating to the failure caused by such Purchaser.

For such purposes, each of the following shall constitute an "Event":

(i) a Registration Statement is not filed on or prior to its Filing Date or is not declared effective on or prior to its Required Effectiveness Date; and

(ii) except as provided for in Section 5.1(e) (the "Excluded Events"), after the Effective Date of a Registration Statement and through the end of the Effectiveness Period, a Purchaser is not permitted to sell Registrable Securities under the Registration Statement (or a subsequent Registration Statement filed in replacement thereof) for any reason (other than the fault of such Purchaser).

(e) Notwithstanding anything in this Agreement to the contrary, the Company may, by written notice to the Purchasers, suspend sales under a Registration Statement after the Effective Date thereof and/or require that the Purchasers immediately cease the sale of shares of Common Stock pursuant thereto and/or defer the filing of any Additional Registration Statement if the Company is engaged in a material merger, acquisition or sale or any other pending development that the Company believes may be material, and the Board of Directors determines in good faith, by appropriate resolutions, that, as a result of such activity, (A) it would be materially detrimental to the Company (other than as relating solely to the price of the Common Stock) to maintain a Registration Statement at such time or (B) it is in the best interests of the Company to suspend sales under such registration at such time. Upon receipt of such notice, each Purchaser agrees to immediately discontinue any sales of Registrable Securities pursuant to such Registration Statement until such Purchaser is advised in writing by the Company that the current Prospectus or amended Prospectus, as applicable, may be used. In no event, however, shall this right be exercised to suspend sales beyond the period during which (in the good faith determination of the Board of Directors) the failure to require such suspension would be materially detrimental to the Company. The Company's rights under this Section 5.1(e) may be exercised for a period of no more than 20 Trading Days at a time with a subsequent permitted trading window of at least 90 Trading Days, and not more than two times in any twelve-month period. Immediately after the end of any suspension period under this Section 5.1(e), the Company shall take all necessary actions (including filing any required supplemental prospectus) to restore the effectiveness of the applicable Registration Statement and the ability of the Purchasers to publicly resell their Registrable Securities pursuant to such effective Registration Statement.

5.2 Registration Procedures. In connection with the Company's registration obligations hereunder, the Company shall:

(a) Not less than five Trading Days prior to the filing of a Registration Statement or any related Prospectus or any amendment or supplement thereto, furnish via email to those Purchasers or their counsels who have supplied the Company with email addresses copies of all such documents proposed to be filed, which documents (other than any document that is incorporated or deemed to be incorporated by reference therein) will be subject to the review of such Purchasers. The Company shall reflect in each such document when so filed with the Commission such comments regarding the Purchasers and the plan of distribution as the Purchasers may reasonably and promptly propose no later than two Trading Days after the Purchasers have been so furnished with copies of such documents as aforesaid.

(b) (i) Subject to Section 5.1(e), prepare and file with the Commission such amendments, including post-effective amendments, to each Registration Statement and the Prospectus used in connection therewith as may be necessary to keep the Registration Statement continuously effective, as to the applicable Registrable Securities for the Effectiveness Period and prepare and file with the Commission such additional

Registration Statements in order to register for resale under the Securities Act all of the Registrable Securities; (ii) cause the related Prospectus to be amended or supplemented by any required Prospectus supplement, and as so supplemented or amended to be filed pursuant to Rule 424; and (iii) comply in all material respects with the provisions of the Securities Act and the Exchange Act with respect to the disposition of all Registrable Securities covered by the Registration Statement during the applicable period in accordance with the intended methods of disposition by the Purchasers thereof set forth in the Registration Statement as so amended or in such Prospectus as so supplemented.

(c) Notify the Purchasers as promptly as reasonably possible, and if requested by the Purchasers, confirm such notice in writing no later than two Trading Days thereafter, of any of the following events: (i) the Commission notifies the Company whether there will be a "review" of any Registration Statement; (ii) any Registration Statement or any post-effective amendment is declared effective; (iii) the Commission issues any stop order suspending the effectiveness of any Registration Statement or initiates any Proceedings for that purpose; (iv) the Company receives notice of any suspension of the qualification or exemption from qualification of any Registrable Securities for sale in any jurisdiction, or the initiation or threat of any Proceeding for such purpose; (v) the financial statements included in any Registration Statement become ineligible for inclusion therein; or (vi) the Company becomes aware that any Registration Statement or Prospectus or other document contains any untrue statement of a material fact or omits to state any material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

(d) Use commercially reasonable best efforts to avoid the issuance of or, if issued, obtain the withdrawal of (i) any order suspending the effectiveness of any Registration Statement, or (ii) any suspension of the qualification (or exemption from qualification) of any of the Registrable Securities for sale in any jurisdiction, as soon as possible.

(e) If requested by a Purchaser, provide such Purchaser, without charge, at least one conformed copy of each Registration Statement and each amendment thereto, including financial statements and schedules, and all exhibits to the extent requested by such Person (including those previously furnished or incorporated by reference) promptly after the filing of such documents with the Commission; *provided*, that the Company shall have no obligation to provide any document pursuant to this clause that is available on the Commission's EDGAR system.

(f) Promptly deliver to each Purchaser, without charge, as many copies of the Prospectus or Prospectuses (including each form of prospectus) and each amendment or supplement thereto as such Persons may reasonably request. The Company hereby consents to the use of such Prospectus and each amendment or supplement thereto by each of the selling Purchasers in connection with the offering and sale of the Registrable Securities covered by such Prospectus and any amendment or supplement thereto to the extent permitted by federal and state securities laws and regulations.

(g) Prior to any resale of Registrable Securities by a Purchaser, use commercially reasonable best efforts to register or qualify or cooperate with the selling Purchasers in connection with the registration or qualification (or exemption from such registration or qualification) of such Registrable Securities for offer and sale under the securities or Blue Sky laws of such jurisdictions within the United States as any Purchaser requests in writing, to keep each such registration or qualification (or exemption therefrom) effective for so long as required, but not to exceed the duration of the Effectiveness Period, and to do any and all other acts or things reasonably necessary or advisable to enable the disposition in such jurisdictions of the Registrable Securities covered by a Registration Statement; provided, however, that the Company shall not be obligated to file any general consent to service of process or to qualify as a foreign corporation or as a dealer in securities in any jurisdiction in which it is not so qualified or to subject itself to taxation in respect of doing business in any jurisdiction in which it is not otherwise so subject.

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

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(i) Upon the occurrence of any event described in Section 5.2(c)(iii)-(vi), as promptly as reasonably practicable, prepare a supplement or amendment, including a post-effective amendment, to the Registration Statement or a supplement to the related Prospectus or any document incorporated or deemed to be incorporated therein by reference, and file any other required document so that, as thereafter delivered, neither the Registration Statement nor such Prospectus will contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(j) It shall be a condition precedent to the obligations of the Company to complete the registration pursuant to this Agreement with respect to the Registrable Securities of any particular Purchaser that such Purchaser furnish to the Company a completed Selling Stockholder Questionnaire in the form proffered by the Company (the "Selling Stockholder Questionnaire") and such other information regarding itself, the Registrable Securities and other shares of Common Stock held by it and the intended method of disposition of the Registrable Securities held by it (if different from the Plan of Distribution set forth on Exhibit G hereto) as shall be reasonably required to effect the registration of such Registrable Securities and shall complete and execute such documents in connection with such registration as the Company may reasonably request.

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

(l) Not identify any Purchaser as an underwriter without its prior written consent in any public disclosure or filing with the Commission or any Trading Market and any Purchaser being deemed an underwriter by the Commission shall not relieve the Company of any obligations it has under this Agreement; provided, however, that the foregoing shall not prohibit the Company from including the disclosure found in the "Plan of Distribution" section attached hereto as Exhibit G in the Registration Statement. In addition, and notwithstanding anything to the contrary contained herein, if the Company has received a comment by the Commission requiring an Purchaser to be named as an underwriter in the Registration Statement (which notwithstanding the reasonable best efforts of the Company is not withdrawn by the Commission) and such Purchaser refuses to be named as an underwriter in the Registration Statement, such Purchaser's Registrable Securities shall be removed from the Registration Statement, such Registrable Securities shall be deemed to constitute Cut Back Shares and the Purchaser shall not be entitled to any Event Payments with respect to such Registration Statement.

5.3 Registration Expenses. The Company shall pay all fees and expenses incident to the performance of or compliance with ARTICLE 5 of this Agreement by the Company, including without limitation (a) all registration and filing fees and expenses, including without limitation those related to filings with the Commission, any Trading Market, and in connection with applicable state securities or Blue Sky laws, (b) printing expenses (including without limitation expenses of printing certificates for Registrable Securities), (c) messenger, telephone and delivery expenses, (d) fees and disbursements of counsel for the Company, (e) fees and expenses of all other Persons retained by the Company in connection with the consummation of the transactions contemplated by this Agreement, (f) all listing fees to be paid by the Company to the Trading Market, and (g) the reasonable legal fees of external counsel to the Purchasers and their Affiliates, not to exceed \$5,000 per Purchaser per Registration Statement seeking to register Registrable Securities held by any of them. In no event shall the Company be responsible for any underwriting, broker or similar fees or commissions of any Purchaser or, except to the extent provided for in the Transaction Documents, any legal fees or other costs of the Purchasers.

#### 5.4 Indemnification.

(a) Indemnification by the Company. The Company shall, notwithstanding any termination of this Agreement, indemnify and hold harmless each Purchaser, the officers, directors, partners, members, agents and employees of each of them, each Person who controls any such Purchaser (within the meaning of Section 15 of

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the Securities Act or Section 20 of the Exchange Act) and the officers, directors, partners, members, agents and employees of each such controlling Person, to the fullest extent permitted by applicable law, from and against any and all Losses, as incurred, arising out of or relating to any violation or alleged violation by the Company of the Securities Act, the Exchange Act, any other law, including, without limitation, any state securities law, or any rule or regulation

thereunder relating to the offer or sale of the Registrable Securities, any untrue or alleged untrue statement of a material fact contained in the Registration Statement, any Prospectus or in any amendment or supplement thereto, or arising out of or relating to any omission or alleged omission of a material fact required to be stated therein or necessary to make the statements therein (in the case of any Prospectus or form of prospectus or supplement thereto, in the light of the circumstances under which they were made) not misleading, except to the extent, but only to the extent, that (A) such untrue statements, alleged untrue statements, omissions or alleged omissions are based solely upon information regarding such Purchaser furnished in writing to the Company by such Purchaser for use therein, or to the extent that such information relates to such Purchaser or such Purchaser's proposed method of distribution of Registrable Securities and was reviewed and expressly approved by such Purchaser expressly for use in the Registration Statement, or (B) with respect to any Prospectus, if the untrue statement or omission of material fact contained in such Prospectus was corrected on a timely basis in the Prospectus, as then amended or supplemented, if such corrected prospectus was timely made available by the Company to the Purchaser, and the Purchaser seeking indemnity hereunder was advised in writing not to use the incorrect prospectus prior to the use giving rise to Losses.

(b) Indemnification by Purchasers. Each Purchaser shall, severally and not jointly, indemnify and hold harmless the Company, its directors, officers, agents and employees, each Person who controls the Company (within the meaning of Section 15 of the Securities Act and Section 20 of the Exchange Act), and the directors, officers, agents or employees of such controlling Persons, to the fullest extent permitted by applicable law, from and against all Losses (as determined by a court of competent jurisdiction in a final judgment not subject to appeal or review) arising solely out of any untrue statement of a material fact contained in the Registration Statement, any Prospectus, or any form of prospectus, or in any amendment or supplement thereto, or arising out of or relating to any omission of a material fact required to be stated therein or necessary to make the statements therein (in the case of any Prospectus or form of prospectus or supplement thereto, in the light of the circumstances under which they were made) not misleading, but only to the extent that such untrue statement or omission is contained in any information so furnished by such Purchaser in writing to the Company specifically for inclusion in such Registration Statement or such Prospectus or to the extent that (i) such untrue statements or omissions are based solely upon information regarding such Purchaser furnished to the Company by such Purchaser in writing expressly for use in the Registration Statement or Prospectus, or to the extent that such information relates to such Purchaser or such Purchaser's proposed method of distribution of Registrable Securities and was reviewed and expressly approved by such Purchaser expressly for use in the Registration Statement (it being understood that the information provided by the Purchaser to the Company in the Questionnaire and the Plan of Distribution set forth on Exhibit G, as the same may be modified by such Purchaser constitutes information reviewed and expressly approved by such Purchaser in writing expressly for use in the Registration Statement), such Prospectus or such form of Prospectus or in any amendment or supplement thereto. In no event shall the liability of any selling Purchaser hereunder be greater in amount than the dollar amount of the net proceeds received by such Purchaser upon the sale of the Registrable Securities giving rise to such indemnification obligation.

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

An Indemnified Party shall have the right to employ separate counsel in any such Proceeding and to participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Indemnified Party or Parties unless: (i) the Indemnifying Party has agreed in writing to pay such fees and expenses; or (ii) the Indemnifying Party shall have failed within 15 days of receiving notification of a Proceeding from an

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Indemnified Party to assume the defense of such Proceeding and to employ counsel reasonably satisfactory to such Indemnified Party in any such Proceeding; (iii) any counsel engaged by the applicable Indemnifying Party shall fail to timely commence or diligently conduct the defense of any such claim and such failure has materially prejudiced (or, in the reasonable judgment of the Indemnified Party, is in danger of materially prejudicing) the outcome of the applicable claim; or (iv) such Indemnified Party shall have been advised by counsel that a conflict of interest is likely to or may exist between the applicable Indemnifying Party and Indemnified Party or that there may be one or more different or additional defenses, claims, counterclaims or causes of action available to such Indemnified Party (in which case, if such Indemnified Party notifies the Indemnifying Party in writing that it elects to employ separate counsel at the expense of the Indemnifying Party, the Indemnifying Party shall not have the right to assume the defense thereof and the reasonable fees and expenses of separate counsel shall be at the expense of the Indemnifying Party). It being understood, however, that the Indemnifying Party shall not, in connection with any one such Proceeding (including separate Proceedings that have been or will be consolidated before a single judge) be liable for the fees and expenses of more than one separate firm of attorneys at any time for all Indemnified Parties, which firm shall be appointed by a majority of the Indemnified Parties. The Indemnifying Party shall not be liable for any settlement of any such Proceeding effected without its written consent, which consent shall not be unreasonably withheld. No Indemnifying Party shall, without the prior written consent of the Indemnified Party, effect any settlement of any pending Proceeding in respect of which any Indemnified Party is a party, unless such settlement includes an unconditional release of such Indemnified Party from all liability on claims that are the subject matter of such Proceeding.

All reasonable fees and expenses of the Indemnified Party (including reasonable fees and expenses to the extent incurred in connection with investigating or preparing to defend such Proceeding in a manner not inconsistent with this Section) shall be paid to the Indemnified Party, as incurred, within 20 Trading Days of written notice thereof to the Indemnifying Party (regardless of whether it is ultimately determined that an Indemnified Party is not entitled to indemnification hereunder; provided, that the Indemnifying Party may require such Indemnified Party to undertake to reimburse all such fees and expenses to the extent it is finally judicially determined (not subject to appeal) that such Indemnified Party is not entitled to indemnification hereunder).

(d) Contribution. If a claim for indemnification under Section 5.4(a) or (b) is unavailable to an Indemnified Party (by reason of public policy or otherwise), then each Indemnifying Party, in lieu of indemnifying such Indemnified Party, shall contribute to the amount paid or payable by such Indemnified Party as a result of such Losses, in such proportion as is appropriate to reflect the relative fault of the Indemnifying Party and Indemnified Party in connection with the actions, statements or omissions that resulted in such Losses as well as any other relevant equitable considerations. The relative fault of such Indemnifying Party and Indemnified Party shall be determined by reference to, among other things, whether any action in question, including any untrue or alleged untrue statement of a material fact or omission or alleged omission of a material fact, has been taken or made by, or relates to information supplied by, such Indemnifying Party or Indemnified Party, and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such action, statement or omission. The amount paid or payable by a party as a result of any Losses shall be deemed to include, subject to the limitations set forth in Section 5.4(c), any reasonable attorneys' or other reasonable fees or expenses incurred by such party in connection with any Proceeding to the extent such party would have been indemnified for such fees or expenses if the indemnification provided for in this Section was available to such party in accordance with its terms.

The parties hereto agree that it would not be just and equitable if contribution pursuant to this Section 5.4(d) were determined by pro rata allocation or by any other method of allocation that does not take into account the equitable considerations referred to in the immediately preceding paragraph. Notwithstanding the provisions of this Section 5.4(d), no Purchaser shall be required to contribute, in the aggregate, any amount in excess of the amount by which the proceeds actually received by such Purchaser from the sale of the Registrable Securities subject to the Proceeding exceeds the amount of any damages that such Purchaser has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No Person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any Person who was not guilty of such fraudulent misrepresentation.

The indemnity and contribution agreements contained in this Section are in addition to any liability that the Indemnifying Parties may have to the Indemnified Parties, including pursuant to Section 6.6 hereof.

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5.5 Dispositions. Each Purchaser agrees that it will comply with the prospectus delivery requirements of the Securities Act as applicable to it in connection with sales of Registrable Securities pursuant to the Registration Statement and shall sell its Registrable Securities that it sells pursuant to the Registration Statement in accordance with the Plan of Distribution set forth in the Prospectus. Each Purchaser further agrees that, upon receipt of a notice from the Company of the occurrence of any event of the kind described in Section 5.2(c)(iii)-(vi), such Purchaser will discontinue disposition of such Registrable Securities under the Registration Statement until such Purchaser is advised in writing by the Company that the use of the Prospectus, or amended Prospectus, as applicable, may be used. The Company may provide appropriate stop orders to enforce the provisions of this paragraph. Each Purchaser, severally and not jointly with the other Purchasers, agrees that the removal of the restrictive legend from certificates representing Shares as set forth in the Section 6.1 is predicated upon the Company's reliance that the Purchaser will comply with the provisions of this subsection.

5.6 No Piggyback on Registrations. Neither the Company nor any of its security holders (other than the Purchasers in such capacity pursuant hereto) may include securities of the Company in the Registration Statement other than the Registrable Securities.

5.7 Amendments; Waivers. Notwithstanding anything in this Agreement to the contrary, the provisions of this ARTICLE 5 may be amended or waived (either generally or in a particular instance, either retroactively or prospectively and either for a specified period of time or indefinitely), with the written consent of (i) the Company and (ii) the Purchaser or Purchasers holding at least a majority of the then outstanding Registrable Securities. Notwithstanding the foregoing, a waiver or consent to depart from the provisions of this ARTICLE 5 with respect to a matter that relates exclusively to the rights of Purchasers and that does not directly or indirectly affect the rights of other Purchasers may be given by Purchasers of all of the Registrable Securities to which such waiver or consent relates; provided, however, that the provisions of this sentence may not be amended, modified or supplemented except in accordance with the provisions of the immediately preceding sentence.

## ARTICLE 6 OTHER AGREEMENTS OF THE PARTIES

### 6.1 Transfer Restrictions.

(a) The Securities may only be disposed of in compliance with state and federal securities laws. In connection with any transfer of Securities other than pursuant to an effective registration statement under the Securities Act or Rule 144, to the Company or to an Affiliate of a Purchaser, the Company may require the transferor thereof to provide to the Company an opinion of counsel selected by the transferor and reasonably acceptable to the Company, the form and substance of which opinion shall be reasonably satisfactory to the Company, to the effect that such transfer does not require registration of such transferred Securities under the Securities Act.

(b) The Purchasers agree to the imprinting, so long as is required by this Section 6.1, of a legend on any of the Securities in substantially the following forms, as applicable:

[NEITHER THIS WARRANT, NOR THE SECURITIES ISSUABLE UPON EXERCISE OF THIS WARRANT (COLLECTIVELY, THE "SECURITIES"), HAVE BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR UNDER ANY STATE SECURITIES OR BLUE SKY LAWS. THE SECURITIES ARE SUBJECT TO RESTRICTIONS ON TRANSFERABILITY AND RESALE AND MAY NOT BE OFFERED, SOLD, PLEDGED, HYPOTHECATED OR OTHERWISE TRANSFERRED EXCEPT AS PERMITTED UNDER THE SECURITIES ACT AND APPLICABLE STATE SECURITIES OR BLUE SKY LAWS, PURSUANT TO REGISTRATION OR QUALIFICATION OR EXEMPTION THEREFROM. INVESTORS SHOULD BE AWARE THAT THEY MAY BE REQUIRED TO BEAR THE FINANCIAL RISKS OF THIS INVESTMENT FOR AN INDEFINITE PERIOD OF TIME. THE COMPANY MAY REQUIRE AN OPINION OF COUNSEL IN FORM AND SUBSTANCE REASONABLY SATISFACTORY TO THE COMPANY TO THE EFFECT THAT ANY PROPOSED TRANSFER IS IN COMPLIANCE WITH THE SECURITIES ACT AND ANY APPLICABLE

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STATE SECURITIES OR BLUE SKY LAWS. THIS WARRANT IS SUBJECT TO THE TRANSFER RESTRICTIONS SET FORTH HEREIN AND IN A SECURITIES PURCHASE AGREEMENT, DATED AS OF NOVEMBER 9, 2014, AND AS AMENDED FROM TIME TO TIME, COPIES OF WHICH ARE AVAILABLE WITH THE SECRETARY OF THE COMPANY.]

[THIS SECURITY HAS NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR UNDER ANY STATE SECURITIES OR BLUE SKY LAWS. THIS SECURITY IS SUBJECT TO RESTRICTIONS ON TRANSFERABILITY AND RESALE AND MAY NOT BE OFFERED, SOLD, PLEDGED, HYPOTHECATED OR OTHERWISE TRANSFERRED EXCEPT AS PERMITTED UNDER THE SECURITIES ACT AND APPLICABLE STATE SECURITIES OR BLUE SKY LAWS, PURSUANT TO REGISTRATION OR QUALIFICATION OR EXEMPTION THEREFROM. INVESTORS SHOULD BE AWARE THAT THEY MAY BE REQUIRED TO BEAR THE FINANCIAL RISKS OF THIS INVESTMENT FOR AN INDEFINITE PERIOD OF TIME. THE COMPANY MAY REQUIRE AN OPINION OF COUNSEL IN FORM AND SUBSTANCE REASONABLY SATISFACTORY TO THE COMPANY TO THE EFFECT THAT ANY PROPOSED TRANSFER IS IN COMPLIANCE WITH THE SECURITIES ACT AND ANY APPLICABLE STATE

In addition, if any Purchaser is an Affiliate of the Company, the Warrants and the certificates evidencing the Shares issued to such Purchaser shall bear a customary “affiliates” legend.

(c) Certificates evidencing the Unit Shares and Warrant Shares shall not contain any legend (including the legend set forth in Section 6.1(b) hereof), (i) while a registration statement (including the Registration Statement) covering the resale of such security is effective under the Securities Act, (ii) following any sale of such Unit Shares or Warrant Shares pursuant to Rule 144, (iii) if such Unit Shares or Warrant Shares are eligible for sale under Rule 144, without the requirement for the Company to be in compliance with the current public information required under Rule 144 as to such Unit Shares and Warrant Shares and without volume or manner-of-sale restrictions, or (iv) if such legend is not required under applicable requirements of the Securities Act (including judicial interpretations and pronouncements issued by the staff of the Commission). Upon request by any Purchaser, following such time as a legend is no longer required under this Section 6.1(c), the Company shall cause its counsel to issue a legal opinion to the Transfer Agent (if required by the Transfer Agent) to effect the removal of the legend hereunder from any Shares. If all or any portion of a Warrant is exercised at a time when there is an effective registration statement to cover the resale of the Warrant Shares, or if such Unit Shares or Warrant Shares may be sold under Rule 144 without limitation or restriction and the Company is then in compliance with the current public information required under Rule 144, or if the Unit Shares or Warrant Shares may be sold under Rule 144 without limitation or restriction and without the requirement for the Company to be in compliance with the current public information required under Rule 144 as to such Unit Shares or Warrant Shares or if such legend is not otherwise required under applicable requirements of the Securities Act (including judicial interpretations and pronouncements issued by the staff of the Commission) then such Warrant Shares shall be issued free of all legends. The Company agrees that following such time as a legend is no longer required under this Section 6.1(c), it will, no later than three Trading Days following the delivery by a Purchaser to the Company or the Transfer Agent of a certificate representing Unit Shares or Warrant Shares, as the case may be, issued with a restrictive legend (such third Trading Day, the “Legend Removal Date”), deliver or cause to be delivered to such Purchaser a certificate representing such shares that is free from all restrictive and other legends. The Company may not make any notation on its records or give instructions to the Transfer Agent that enlarge the restrictions on transfer set forth in this Section 6.1(c).

6.2 Furnishing of Information; Public Information. Until the earliest of the time that (i) no Purchaser owns Securities or (ii) the Warrants have expired, the Company covenants to maintain the registration of the Common Stock under Section 12(b) of the Exchange Act and to timely file (or obtain extensions in respect thereof

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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.

6.3 Integration. The Company shall not sell, offer for sale or solicit offers to buy or otherwise negotiate in respect of any security (as defined in Section 2 of the Securities Act) that would be integrated with the offer or sale of the Securities in a manner that would require the registration under the Securities Act of the sale of the Securities or that would be integrated with the offer or sale of the Securities for purposes of the rules and regulations of NASDAQ such that it would require shareholder approval prior to the closing of such other transaction unless shareholder approval is obtained before the closing of such subsequent transaction. The Purchasers shall take no action to become a group such that any transactions contemplated by this Agreement would require shareholder approval prior to Closing.

6.4 Securities Laws Disclosure; Publicity. The Company shall (a) by 4:15 p.m. (New York City time) on the Trading Day immediately following the date hereof, issue a press release disclosing the material terms of the transactions contemplated hereby, and (b) file a Current Report on Form 8-K, including the Transaction Documents as exhibits thereto, with the Commission within the time required by the Exchange Act. 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 as described in this Section 6.4, such Purchaser will maintain the confidentiality of all disclosures made to it in connection with this transaction (including the existence and terms of this transaction), except that such Purchaser may disclose the terms to its financial, accounting, legal and other advisors.

6.5 Use of Proceeds. The Company shall use the net proceeds from the sale of the Securities hereunder for funding operations or for working capital or other general corporate purposes.

6.6 Indemnification of Purchasers. Subject to the provisions of this Section 6.6, the Company will indemnify and hold each Purchaser and its directors, officers, shareholders, members, partners, employees and agents (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title), each Person who controls such Purchaser (within the meaning of Section 15 of the Securities Act and Section 20 of the Exchange Act), and the directors, officers, shareholders, agents, members, partners or employees (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title) of such controlling Persons (each, a “Purchaser Party”) harmless from any and all Losses that any such Purchaser Party may suffer or incur as a result of or relating to (a) any breach of any of the representations, warranties, covenants or agreements made by the Company in this Agreement or in the other Transaction Documents or (b) any action instituted against the Purchaser Parties in any capacity, or any of them or their respective Affiliates, by any stockholder of the Company who is not an Affiliate of such Purchaser Parties, with respect to any of the transactions contemplated by the Transaction Documents (unless such action is based upon a breach of such Purchaser Party’s representations, warranties or covenants under the Transaction Documents or any agreements or understandings such Purchaser Parties may have with any such stockholder or any violations by such Purchaser Parties of state or federal securities laws or any conduct by such Purchaser Parties which constitutes fraud, gross negligence, willful misconduct or malfeasance of such Purchaser Party). If any action shall be brought against any Purchaser Party in respect of which indemnity may be sought pursuant to this Agreement, such Purchaser Party shall promptly notify the Company in writing, and the Company shall have the right to assume the defense thereof with counsel of its own choosing reasonably acceptable to the Purchaser Party. Any Purchaser Party shall have the right to employ separate counsel in any such action and participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Purchaser Party except to the extent that (i) the employment thereof has been specifically authorized by the Company in writing, (ii) the Company has failed after a reasonable period of time to assume such defense and to employ counsel or (iii) in such action there is, in the reasonable opinion of counsel, a material conflict on any material issue between the position of the Company and the position of such Purchaser Party, in which case the Company shall be responsible for the reasonable fees and expenses of no more than one such separate counsel. The Company will not be liable to any Purchaser Party under this Agreement (y) for any settlement by a Purchaser Party effected without the Company’s prior written consent, which shall not be unreasonably withheld or delayed; or (z) to the extent, but only to the extent that a loss, claim, damage or liability is attributable to any Purchaser Party’s breach of any of the representations, warranties, covenants or agreements made by such Purchaser Party in this Agreement or in the other Transaction Documents. The indemnification required by this Section 6.6 shall be made by periodic

payments of the amount thereof during the course of the investigation or defense, as and when bills are received or are incurred. The indemnity agreements contained herein shall be in addition to any cause of action or similar right of any Purchaser Party against the Company or others and any liabilities the Company may be subject to pursuant to law.

6.7 Reservation of Common Stock. 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 Unit Shares pursuant to this Agreement. From and after the Authorized Shares Increase Date the Company will reserve and keep available, at all times that the Warrants remain outstanding, free of preemptive rights, such number of shares of Common Stock sufficient to enable the full exercise of the then outstanding Warrants. If, after the Initial Exercisability Date (as defined in form of Warrant attached as Exhibit B hereto), an insufficient number of shares of Common Stock are available to enable the full exercise of Warrants that remain outstanding, the Company will maintain sufficient liquidity such that it can pay the difference between the Warrant Exercise Price and the current Trading Day's last trade price for Common Stock on the Principal Trading Market, as reported by Bloomberg L.P., to any holder of Warrants wishing to exercise Warrants.

6.8 Listing of Common Stock. In the time and manner required by the Principal Trading Market, the Company shall prepare and file (or shall have prepared and filed) with such Trading Market an additional shares listing application covering all of the Shares and shall use its commercially reasonable efforts to take all steps necessary to maintain, so long as any other shares of Common Stock shall be so listed, such listing or if no longer listed on the Principal Trading Market, shall use its commercially reasonable efforts to take all steps necessary to maintain a listing on another Trading Market. The Company will then take all action reasonably necessary, including, if necessary, by effecting a reverse stock split, to continue the listing or quotation and trading of its Common Stock on a Trading Market and will comply in all material respects with the Company's reporting, filing and other obligations under the bylaws or rules of the Trading Market. In addition, the Purchasers and the Company agree to cooperate in good faith, if necessary, to restructure the transactions contemplated by the Transaction Documents such that they do not contravene the rules and regulations of NASDAQ; provided, however, that such restructuring does not impact the economic interests of the Purchasers contemplated by the Transaction Documents. Each Purchaser agrees to provide information reasonably requested by the Company to comply with this Section 6.8 and Section 3.21.

6.9 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 this Agreement unless the same consideration is also offered to all of the parties to this Agreement. 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 Securities or otherwise.

6.10 Form D; Blue Sky Filings. The Company agrees to timely file a Form D with respect to the Securities as required under Regulation D and to provide a copy thereof, promptly upon request of any Purchaser. The Company shall take such action as the Company shall reasonably determine is necessary in order to obtain an exemption for, or to qualify the Securities for, sale to the Purchasers at the Closing under applicable securities or "Blue Sky" laws of the states of the United States, and shall provide evidence of such actions promptly upon request of any Purchaser. Each Purchaser shall provide any information reasonably requested by the Company to comply with Section 6.10.

6.11 Acknowledgment of Dilution. The Company acknowledges that the issuance of the Securities may result in dilution of the outstanding shares of Common Stock, which dilution may be substantial under certain market conditions. The Company further acknowledges that its obligations under the Transaction Documents, including, without limitation, its obligation to issue the Unit Shares and Warrant Shares (subject, with respect to the issuance of Warrant Shares upon exercise of the Warrants, to effecting the Increased Shares Amendment) pursuant to the Transaction Documents, are unconditional and absolute and not subject to any right of set off, counterclaim, delay or reduction, regardless of the effect of any such dilution or any claim the Company may have against any Purchaser and regardless of the dilutive effect that such issuance may have on the ownership of the other stockholders of the Company.

6.12 Stockholder Approval. The Company shall provide each stockholder entitled to vote at a special or annual meeting of stockholders of the Company (the "Stockholder Meeting"), which meeting shall be held no later than the Company's annual meeting to be held in 2015 (which shall be held no later than May 27, 2015) (the "Stockholder Meeting Deadline"), a proxy statement soliciting each such stockholder's affirmative vote at the Stockholder Meeting for approval of a resolution (the "Resolution") to amend the Company's Certificate of Incorporation to increase the Company's authorized Common Stock to an amount sufficient to permit the Company to satisfy its obligation to reserve for issuance upon exercise of the Warrants at least a number of shares of Common Stock equal to the number of shares of Common Stock as shall from time to time be necessary to effect the exercise of all of the Warrants (the "Increased Shares Amendment") (such affirmative approval being referred to herein as the "Stockholder Approval"), and the Company shall use its reasonable best efforts to solicit its stockholders' approval of the Resolution and to cause the Board of Directors to recommend to the stockholders that they approve the Resolution. The Company shall be obligated to hold the Stockholder Meeting by the Stockholder Meeting Deadline and seek to obtain the Stockholder Approval at the Stockholder Meeting by the Stockholder Meeting Deadline. If, despite the Company's reasonable best efforts the Stockholder Approval is not obtained on or prior to the Stockholder Meeting Deadline, so long as the Warrants remain outstanding, the Company shall cause an additional Stockholder Meeting to be held every ninety days thereafter until such Stockholder Approval is obtained. No later than two (2) Business Days following the Stockholder Approval, the Company shall file with the Secretary of State of Delaware a certificate of amendment to the Company's Certificate of Incorporation to effect the Increased Shares Amendment. The date on which the Increased Shares Amendment becomes effective is referred to herein as the "Authorized Shares Increase Date."

6.13 Other Actions. Except as otherwise set forth in this Agreement, from the date of this Agreement until the earlier to occur of the Closing or the termination of this Agreement in accordance with the terms hereof, the Company and the Purchasers shall not, and shall not permit any of their respective Affiliates to, take, or agree or commit to take, any action that would reasonably be expected to, individually or in the aggregate, prevent, materially delay or materially impede the consummation of the transactions contemplated by this Agreement.

7.1 Termination. The obligations of the Company, on the one hand, and the Purchasers, on the other hand, to effect the Closing shall terminate as follows:

(a) Upon the mutual written consent of the Company and the Purchasers;

(b) By the Company if any of the conditions set forth in Section 2.5(a) shall have become incapable of fulfillment, and shall not have been waived by the Company;

(c) By a Purchaser (with respect to itself only) if any of the conditions set forth in Section 2.5(b) shall have become incapable of fulfillment, and shall not have been waived by such Purchaser; or

(d) By either the Company or any Purchaser (with respect to itself only) if the Closing has not occurred on or prior to November 21, 2014; provided, however, that if the Closing has not been effected due to the failure to satisfy the condition set forth in Section 2.5(a)(iv) and Section 2.5(b)(vii), then such date shall be extended to November 28, 2014;

provided, however, that, except in the case of clause (a) above, the party seeking to terminate its obligation to effect the Closing shall not then be in breach of any of its representations, warranties, covenants or agreements contained in this Agreement or the other Transaction Documents if such breach has resulted in the circumstances giving rise to such party's seeking to terminate its obligation to effect the Closing.

7.2 Notice of Termination; Effect of Termination. In the event of termination by the Company or any Purchaser of its obligations to effect the Closing pursuant to this ARTICLE 7, written notice thereof shall forthwith be given to the other Purchasers by the Company and the other Purchasers shall have the right to terminate their obligations to effect the Closing upon written notice to the Company and the other Purchasers. Nothing in this

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ARTICLE 7 shall be deemed to release any party from any liability for any breach by such party of the terms and provisions of this Agreement or the other Transaction Documents or to impair the right of any party to compel specific performance by any other party of its obligations under this Agreement or the other Transaction Documents.

## **ARTICLE 8 MISCELLANEOUS**

8.1 Fees and Expenses. The parties hereto shall pay their own costs and expenses in connection herewith, including all attorneys' fees. Notwithstanding the foregoing and without limiting any right to reimbursement under Section 5.3, the Company shall reimburse BVF Partners L.P. and its Affiliates upon demand and presentation of an appropriate invoice for their reasonable legal fees of external counsel incurred in connection with the transactions contemplated hereunder, with such fees not to exceed \$25,000. The Company shall pay all Transfer Agent fees, stamp taxes and other taxes and duties levied in connection with the sale and issuance of their applicable Securities.

8.2 Entire Agreement. The Transaction Documents, together with the exhibits and schedules thereto, contain the entire understanding of the parties with respect to the subject matter hereof and thereof and supersede all prior agreements and understandings, oral or written, with respect to such matters, which the parties acknowledge have been merged into such documents, exhibits and schedules. At or after the Closing, and without further consideration, the Company will execute and deliver to the Purchasers, and the Purchasers will execute and deliver to the Company, such further documents as may be reasonably requested in order to give practical effect to the intention of the parties under the Transaction Documents.

8.3 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 delivered via facsimile at the facsimile number 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 date of transmission, if such notice or communication is delivered via facsimile at the facsimile number set forth on Exhibit A 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 follows:

(i) if to the Company, to GTx, Inc., 175 Toyota Plaza, 7th Floor, Memphis, Tennessee 38103, Attention: Chief Legal Officer and Secretary, (facsimile: 901-271-8670), with a copy to Cooley LLP, 3175 Hanover Street, Palo Alto, California 94304 (facsimile: 650-849-740), Attention: Chadwick L. Mills; and

(ii) if to the Purchasers, to their respective addresses as set forth on Exhibit A attached hereto.

8.4 Amendments; Waivers. Subject to the provisions of Section 5.5, 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 the Principal Purchasers or, in the case of a waiver, by the party against whom enforcement of any such waived provision is sought, provided, however, that any such amendment or waiver affecting the rights or obligations of a party must also be signed by such party. 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.

8.5 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.

8.6 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

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obligations hereunder without the prior written consent of each Purchaser. With the consent of the Company which will not be unreasonably withheld, 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 a Purchaser may assign any or all rights under this Agreement to an Affiliate of such Purchaser without the consent of the Company, and provided, further: (i) such transferor agrees in writing with the transferee or assignee to assign such rights, and a copy of such agreement is furnished to the Company after such assignment; (ii) the Company is furnished with written notice of (x) the name and address of such transferee or assignee and (y) if the transferor is assigning any registration rights under ARTICLE 5 hereof, the Registrable Securities with respect to which such registration rights are being transferred or assigned; (iii) following such transfer or assignment, the further disposition of such securities by the transferee or assignee is restricted under the Securities Act and applicable state securities laws, unless such disposition was made pursuant to an effective registration statement or an exemption under Rule 144 under the Securities Act; (iv) 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”; and (v) such transfer shall have been made in accordance with the applicable requirements of this Agreement and with all laws applicable thereto.

8.7 No Third-Party Beneficiaries. 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 Sections 5.4 and 6.7.

8.8 Governing Law; Jurisdiction. This Agreement shall be governed by, and construed in accordance with, the internal laws of the State of Delaware without regard to the choice of law principles thereof. Each of the parties hereto irrevocably submits to the exclusive jurisdiction of the state and federal courts located in the State of Delaware for the purpose of any suit, action, proceeding or judgment relating to or arising out of this Agreement and the transactions contemplated hereby. Service of process in connection with any such suit, action or proceeding may be served on each party hereto anywhere in the world by the same methods as are specified for the giving of notices under this Agreement. Each of the parties hereto irrevocably consents to the jurisdiction of any such court in any such suit, action or proceeding and to the laying of venue in such court. Each party hereto irrevocably waives any objection to the laying of venue of any such suit, action or proceeding brought in such courts and irrevocably waives any claim that any such suit, action or proceeding brought in any such court has been brought in an inconvenient forum.

8.9 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.

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

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

8.12 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.

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8.13 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.

8.14 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.

8.15 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 hereof 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. 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.

8.16 Adjustments in Share Numbers and Prices. In the event of any stock split, subdivision, dividend or distribution payable in shares of Common Stock (or other securities or rights convertible into, or entitling the holder thereof to receive directly or indirectly shares of Common Stock), combination or other similar recapitalization or event occurring after the date hereof, each reference in any Transaction Document to a number of shares or a price per share shall be deemed to be amended to appropriately account for such event.



8.17 Waiver of Conflicts. Each party to this Agreement acknowledges that Cooley LLP (“Cooley”), outside general counsel to the Company, has in the past performed and is or may now or in the future represent one or more Purchasers or their affiliates in matters unrelated to the transactions contemplated by this Agreement (the “Offering”), including representation of such Purchasers or their affiliates in matters of a similar nature to the Offering. The applicable rules of professional conduct require that Cooley inform the parties hereunder of this representation and obtain their consent. Cooley has served as outside general counsel to the Company and has negotiated the terms of the Offering solely on behalf of the Company. The Company and each Purchaser hereby (a) acknowledge that they have had an opportunity to ask for and have obtained information relevant to such representation, including disclosure of the reasonably foreseeable adverse consequences of such representation; (b) acknowledge that with respect to the Offering, Cooley has represented solely the Company, and not any Purchaser or any stockholder, director or employee of the Company or any Purchaser; and (c) gives its informed consent to Cooley’s representation of the Company in the Offering.

[Remainder of Page Intentionally Left Blank; Signature Pages Follow]

**Execution Version**

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.

GTx, INC.

By: /s/ Marc S. Hanover  
Name: Marc S. Hanover  
Title: President, Chief Operating Officer and interim  
Chief Executive Officer

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.

/s/ J.R. HYDE, III  
**J.R. HYDE, III**

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.

**THE PYRAMID PEAK FOUNDATION**

By: /s/ Andrew R. McCarroll  
Name: Andrew R. McCarroll  
Title: Secretary

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.

BIOTECHNOLOGY VALUE FUND, L.P.  
By: BVF Partners L.P., General Partner  
By: BVF, Inc., General Partner

By: /s/ Mark Lampert  
Name: Mark Lampert  
Title: President

BIOTECHNOLOGY VALUE FUND II, L.P.  
By: BVF Partners L.P., General Partner  
By: BVF, Inc., General Partner

By: /s/ Mark Lampert  
Name: Mark Lampert  
Title: President

INVESTMENT 10, L.L.C.  
By: BVF Partners L.P., Attorney-in-fact  
By: BVF, Inc., General Partner

By: /s/ Mark Lampert  
Name: Mark Lampert  
Title: President

MS1 BVF SPV, L.L.C.  
By: BVF Partners L.P., Attorney-in-fact  
By: BVF, Inc., General Partner

By: /s/ Mark Lampert  
Name: Mark Lampert  
Title: President

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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.

**FORMANEK INVESTMENT TRUST**

By: /s/ Peter R. Formanek  
Name: Peter R. Formanek  
Title: Trustee

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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.

/s/ Marc S. Hanover  
**MARC S. HANOVER**

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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.

/s/ John H. Pontius  
**JOHN H. PONTIUS**

*Execution Version*

**EXHIBIT A  
SCHEDULE OF PURCHASERS**

<b>Purchaser</b>	<b>Units Purchased</b>	<b>Number of Unit Shares Separable from Units Purchased</b>	<b>Number of Shares of Common Stock Exercisable from Warrants Separable from Units Purchased</b>	<b>Unit Purchase Price</b>
J.R. Hyde, III XX West Pontotoc Ave., Suite XXX Memphis, TN 38103	24,545,455	24,545,455	24,545,455	\$ 16,568,182.13
The Pyramid Peak Foundation	24,545,455	24,545,455	24,545,455	\$ 16,568,182.13

XXXX Poplar Ave. Ste XXX  
Memphis, Tennessee 38119

Biotechnology Value Fund, L.P.  
c/o BVF Partners  
One Sansome Street, 30th Floor  
San Francisco, CA 94104

5,146,271 5,146,271 5,146,271 \$ 3,473,732.93

Biotechnology Value Fund II, L.P.  
c/o BVF Partners  
One Sansome Street, 30th Floor  
San Francisco, CA 94104

2,666,747 2,666,747 2,666,747 \$ 1,800,054.23

Investment 10, LLC  
c/o BVF Partners  
One Sansome Street, 30th Floor  
San Francisco, CA 94104

1,430,041 1,430,041 1,430,041 \$ 965,277.68

MSI BVF SPV, LLC  
c/o BVF Partners  
One Sansome Street, 30th Floor  
San Francisco, CA 94104

1,868,052 1,868,052 1,868,052 \$ 1,260,935.10

Formanek Investment Trust

3,700,000 3,700,000 3,700,000 \$ 2,497,500.00

<u>Purchaser</u>	<u>Units Purchased</u>	<u>Number of Unit Shares Separable from Units Purchased</u>	<u>Number of Shares of Common Stock Exercisable from Warrants Separable from Units Purchased</u>	<u>Unit Purchase Price</u>
XXXX Welborn Apt XXXX Dallas, TX 75219				
Marc S. Hanover XXXX St Joseph Fairway Memphis, TN 38120	227,273	227,273	227,273	\$ 153,409.28
John H. Pontius XXXX Carr Ave. Memphis, TN 38104	181,818	181,818	181,818	\$ 122,727.15
<b>TOTAL</b>	<b>64,311,112</b>	<b>64,311,112</b>	<b>64,311,112</b>	<b>\$ 43,410,000.63</b>

*Execution Version*

**EXHIBIT B**

**FORM OF WARRANT**

**EXHIBIT B**

**FORM OF WARRANT**

NEITHER THIS WARRANT, NOR THE SECURITIES ISSUABLE UPON EXERCISE OF THIS WARRANT (COLLECTIVELY, THE "SECURITIES"), HAVE BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR UNDER ANY STATE SECURITIES OR BLUE SKY LAWS. THE SECURITIES ARE SUBJECT TO RESTRICTIONS ON TRANSFERABILITY AND RESALE AND MAY NOT BE OFFERED, SOLD, PLEDGED, HYPOTHECATED OR OTHERWISE TRANSFERRED EXCEPT AS PERMITTED UNDER THE SECURITIES ACT AND APPLICABLE STATE SECURITIES OR BLUE SKY LAWS, PURSUANT TO REGISTRATION OR QUALIFICATION OR EXEMPTION THEREFROM. INVESTORS SHOULD BE AWARE THAT THEY MAY BE REQUIRED TO BEAR THE FINANCIAL RISKS OF THIS INVESTMENT FOR AN INDEFINITE PERIOD OF TIME. THE COMPANY MAY REQUIRE AN OPINION OF COUNSEL IN FORM AND SUBSTANCE REASONABLY SATISFACTORY TO THE COMPANY TO THE EFFECT THAT ANY PROPOSED TRANSFER IS IN COMPLIANCE WITH THE SECURITIES ACT AND ANY APPLICABLE STATE SECURITIES OR BLUE SKY LAWS. THIS WARRANT IS SUBJECT TO THE TRANSFER RESTRICTIONS SET FORTH HEREIN AND IN A SECURITIES PURCHASE AGREEMENT, DATED AS OF NOVEMBER 9, 2014, AND AS AMENDED FROM TIME TO TIME, COPIES OF WHICH ARE AVAILABLE WITH THE SECRETARY OF THE COMPANY.

**GTX, INC.**

**COMMON STOCK WARRANT**

GTX, Inc., a Delaware corporation (the “Company”), hereby certifies that, for value received, [·], or its registered assign (the “Holder”), is entitled, subject to Section 6(c) hereof, to purchase from the Company [·] shares (as adjusted from time to time as provided in Section 11) of common stock, par value \$0.001 per share, of the Company (the “Common Stock”) (each such share, a “Warrant Share” and all such shares, the “Warrant Shares”), at the Exercise Price determined pursuant to Section 3 hereof, at any time and from time to time from and after the earlier of (i) the date that Stockholder Approval is first obtained or (ii) the Trading Day immediately prior to the occurrence of a Fundamental Transaction but in no event later than June 1, 2015 (the “Initial Exercisability Date”) through and including the fourth anniversary of the Initial Exercisability Date (the “Expiration Date”), and subject to the following terms and conditions:

1. Purchase Agreement. This Common Stock Warrant (this “Warrant”) is one of the Warrants issued by the Company in connection with that certain Securities Purchase Agreement, entered into on November 9, 2014 (as amended from time to time, the “Purchase Agreement”), by and among the Company and Holder and certain other Purchasers, and is subject to, and the Company and the Holder shall be bound by, all the applicable terms, conditions and provisions of the Purchase Agreement.

2. Definitions. In addition to the terms defined elsewhere in this Warrant, capitalized terms that are not otherwise defined herein shall have the meanings assigned to such terms in the Purchase Agreement. As used herein, the following terms shall have the following respective meanings:

(a) “Bloomberg” means Bloomberg, L.P.

(b) “Closing Sale Price” means, for the Common Stock the last closing trade price for such security on the Principal Trading Market, as reported by Bloomberg, or, if the Principal Trading Market begins to operate on an extended hours basis and does not designate the closing trade price, then the last trade price, respectively, of such security prior to 4:00:00 p.m., New York time, as reported by Bloomberg.

(c) “Daily Trading Volume” means, for any Trading Day, the daily trading volume for the Common Stock, as reported by Bloomberg, on such Trading Day.

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(d) “Eligible Market” means any of the NYSE MKT, The NASDAQ Capital Market, The NASDAQ Global Market, The NASDAQ Global Select Market, or the New York Stock Exchange (or any successors to any of the foregoing).

(e) “Fair Market Value” of one share of Common Stock on the Date of Exercise (as hereinafter defined) means (i) the VWAP for the Trading Day immediately prior to the Date of Exercise, or (ii) if an Eligible Market is not then the Principal Trading Market, the average of the reported sales prices reported by Bloomberg on the Trading Market for the Common Stock on the Trading Day immediately prior to the Date of Exercise, or, if there is no sales price on such Trading Day, the last sales price reported by Bloomberg for such Trading Day, or (iii) if neither of the foregoing applies, the last sales price of the Common Stock in the over-the-counter market as reported in the “pink sheets” by OTC Markets Group Inc. (formerly Pink Sheets LLC) (or any similar organization or agency succeeding to its functions of reporting prices) for the Common Stock as reported by Bloomberg, or if no sales price is so reported for the Common Stock, the last bid price of such Common Stock as reported by Bloomberg or (iv) if fair market value cannot be calculated as of such date on any of the foregoing bases, the fair market value shall be as determined by the Board of Directors in the exercise of its good faith judgment.

(f) “Issuance Date” means November [·], 2014, the date this Warrant was originally issued.

(g) “Principal Trading Market” means the Trading Market on which the Common Stock is primarily listed on and quoted for trading.

(h) “Shares” means the Company’s currently authorized common stock, \$0.001 par value, and stock of any other class or other consideration into which such currently authorized capital stock may hereafter have been changed.

(i) “Trading Day” means (a) a day on which the Common Stock is listed or quoted and traded on the Principal Trading Market (other than the OTC Bulletin Board), or (b) if the Common Stock is not then listed or quoted and traded on any Eligible Market, then a day on which the Common Stock is traded in the over-the-counter market, as reported by the OTC Bulletin Board, or (c) if the Common Stock is not quoted on any Trading Market, a day on which the Common Stock is quoted in the over-the-counter market as reported in the “pink sheets” by OTC Markets Group Inc. (formerly Pink Sheets LLC) (or any similar organization or agency succeeding to its functions of reporting prices); *provided*, that in the event that the Common Stock is not listed or quoted as set forth in (a), (b) and (c) hereof, then Trading Day shall mean a Business Day.

(j) “Trading Market” means the OTC Bulletin Board or any Eligible Market, or any national securities exchange, market or trading or quotation facility on which the Common Stock is then listed or quoted.

(k) “Trigger Period” means any thirty (30) consecutive Trading Day period during which (i) the VWAP has been at least \$2.00 (as adjusted for any stock splits, stock dividends, recapitalizations or the like after the Issuance Date) for at least fifteen (15) of the Trading Days (whether or not consecutive) of such period, (ii) the average of the Daily Trading Volume, as measured over the same fifteen (15) Trading Days (whether or not consecutive) of such period, was at least 300,000 shares (as adjusted for any stock splits, stock dividends, recapitalizations or the like after the Issuance Date), and (iii) Stockholder Approval of the Increased Shares Amendment shall have been obtained prior to the start of such thirty (30) Trading Day measurement period.

(l) “VWAP” shall mean the daily volume weighted average price (based on a Trading Day from 9:30 a.m. to 4:00 p.m. (New York time)) of the Common Stock on the Principal Trading Market as reported by Bloomberg Financial L.P. using the AQR function.

3. Exercise Price. This Warrant may be exercised for a price per Warrant Share equal to \$0.85, subject to adjustment from time to time pursuant to Section 11 (the “Exercise Price”).

4. Registration of Warrant. 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 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.

5. Transfer of Warrant.

(a) No Holder may, directly or indirectly, sell, exchange, assign or otherwise transfer all or any portion of this Warrant without the prior written consent of the Company; provided that, subject in each case to Section 5(b) hereof, (i) a Holder that is a natural person may transfer all or a portion of this Warrant to one or more trusts for the benefit of such Holder, such Holder's spouse, a lineal descendant of such Holder or such Holder's parents, the spouse of any such descendant or a lineal descendant of any such spouse and (ii) a Holder that is a Person other than a natural person may transfer all or a portion of the Warrant to an Affiliate of such Holder.

(b) Subject to the Holder's appropriate compliance with the restrictive legend on this Warrant and the transfer restrictions set forth herein and in the Purchase Agreement, the Company shall register the transfer of any portion of this Warrant in the Warrant Register, upon (i) surrender of this Warrant, with the Form of Assignment substantially in the form attached hereto as Attachment B duly completed and signed, to the Company at its address specified herein and (ii) delivery to the Company at its address specified herein an investment letter, in form and substance reasonably satisfactory to the Company, signed by the transferee. Upon any such registration or transfer, a new Warrant to purchase Common Stock, in substantially the form of this Warrant (any such new Warrant, a "New Warrant"), evidencing the portion of this Warrant so transferred shall be issued to the transferee and a New Warrant evidencing the remaining portion of this Warrant not so transferred, if any, shall be issued to the transferring Holder. The acceptance of the New Warrant by the transferee thereof shall be deemed the acceptance by such transferee of all of the rights and obligations of a holder of a Warrant.

6. Duration and Exercise of Warrants; Mandatory Exercise; Mandatory Cash Settlement.

(a) Duration. This Warrant shall be exercisable by the registered Holder at any time and from time to time on or after the Initial Exercisability Date and through and including the Expiration Date (the "Exercise Period"). At 6:30 p.m., New York City time, on the Expiration Date, the portion of this Warrant not exercised prior thereto shall be and become void and of no value.

(b) Mandatory Exercise.

(i) Notwithstanding anything in this Warrant or in the Purchase Agreement to the contrary, if at any time after May [·], 2016<sup>(1)</sup> a Trigger Period shall occur, then (provided that as of Mandatory Exercise Notice Date (as defined below) the Principal Trading Market is an Eligible Market), the Company shall have the right to require the Holder to exercise this Warrant for all of the then-remaining Warrant Shares or any portion thereof, as further set forth below (the "Mandatory Exercise Right").

(ii) The Company may exercise the Mandatory Exercise Right (to the extent permitted hereby) by delivering, within ten (10) Trading Days following the end of any Trigger Period, written notice thereof to the Holder (the "Mandatory Exercise Notice" and the date such notice is deemed given and effective pursuant to Section 18(a) hereof is referred to as the "Mandatory Exercise Notice Date"), which such Mandatory Exercise Notice shall state (x) that the Company is electing the Mandatory Exercise Right and (y) the portion (if less than all) of this Warrant for which the Company is electing the Mandatory Exercise Right, and the Holder shall thereafter effect the exercise of this Warrant (or, at a minimum, the portion thereof indicated in the Mandatory Exercise Notice) within ten (10) Trading Days following the Mandatory Exercise Notice Date (the "Mandatory Exercise Date Deadline"). If the Company has exercised its Mandatory Exercise Right pursuant to this Section 6(b) and the Holder has not effected the exercise of this Warrant by the Mandatory Exercise Date Deadline as required by this Section 6(b), then this Warrant shall be deemed automatically exercised as if the Company had received from the Holder on the Mandatory Exercise Date Deadline an Exercise Notice with respect to the exercise of this Warrant for the number of Warrant Shares so indicated in the Mandatory Exercise Notice, in which case, (x)

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(1) This date shall be the date 18 months following the Closing.

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the Mandatory Exercise Date Deadline shall be deemed the Date of Exercise and (y) this Warrant (or the portion thereof indicated in the Mandatory Exercise Notice) shall be automatically exercised pursuant to the "net exercise" provisions of Section 7(b) hereof (unless Mandatory Cash Settlement is then required pursuant to Section 6(c), in which case, such automatic exercise shall be settled in the manner provided under Section 6(c)). To the extent this Warrant is deemed to be automatically exercised pursuant to this Section 6(b) in full, the Company will not be required to settle such exercise unless and until the Holder physically surrenders this Warrant to the Company.

(iii) If the Company elects a Mandatory Exercise Right pursuant to this Section 6(b), then the Company must take the same action with respect to all of the other Warrants then outstanding. For purposes of this Section 6(b)(iii), in the event the Company elects a Mandatory Exercise Right for only a portion of this Warrant, then the requirement in the foregoing sentence shall be applied on a *pro rata* basis based on the total number of then-remaining shares of Common Stock subject to this Warrant and each of the other Warrants then outstanding.

(iv) Subject to the other provisions of this Section 6(b), the Company may elect a Mandatory Exercise Right on more than one occasion.

(c) Mandatory Cash Settlement.

(i) Notwithstanding anything in this Warrant or in the Purchase Agreement to the contrary, if at any time during the Exercise Period, (i) Stockholder Approval of the Increased Shares Amendment has not been obtained and/or (ii) there are then an insufficient number of authorized and reserved shares of Common Stock to provide for the exercise of the rights represented by this Warrant, then this Warrant may not be exercised for Warrant Shares and the Company shall instead settle any exercises of this Warrant by making a cash payment to the Holder, in the amount as determined below (and in

lieu of delivery of the number of Warrant Shares so indicated by the Holder to be purchased upon any such exercise) (such cash settlement, a “Mandatory Cash Settlement”). In the event of a Mandatory Cash Settlement pursuant to this Section 6(c), in lieu of delivery of any Warrant Shares upon such exercise, the Company shall pay to the Holder an amount in cash equal to the result obtained by multiplying (a) the number of Warrant Shares so indicated by the Holder to be purchased upon such exercise as set forth in the Holder’s Exercise Notice (as defined below) by (b) the excess of (i) the Fair Market Value of one share Common Stock on the Date of Exercise, over (ii) the Exercise Price (such amount, the “Cash Settlement Payment”). In the event of a Mandatory Cash Settlement pursuant to this Section 6(c), the Company shall pay the Holder the Cash Settlement Payment as soon as reasonably practical after the Date of Exercise, and in any event within three (3) Trading Days thereafter. For the avoidance of doubt, if the Fair Market Value of one share Common Stock on the Date of Exercise is less than the Exercise Price, then no Cash Settlement Payment shall be payable to the Holder.

(ii) On or prior to the Initial Exercisability Date, the Company shall deliver a written notice to the Holder indicating whether Mandatory Cash Settlement is required under this Section 6(c) as of the Initial Exercisability Date. In the event that Mandatory Cash Settlement is required under this Section 6(c) as of the Initial Exercisability Date, then as soon as reasonably practicable following the date on which Mandatory Cash Settlement is no longer required under this Section 6(c), the Company shall deliver a written notice to the Holder indicating that Mandatory Cash Settlement is no longer required under this Section 6(c) (the “Revocation Notice”). From and after the earlier of (x) the Authorized Shares Increase Date or (y) the date of the Revocation Notice, the provisions of this Section 6(c) shall automatically become inoperative and shall have no further force or effect, and thereafter, this Warrant shall be exercisable only for Warrant Shares.

(d) Subject in all cases to the provisions of Section 6(c) hereof, not later than three (3) Trading Days after each Date of Exercise (the “Share Delivery Date”), the Company shall deliver, or cause to be delivered, to the Holder a certificate representing the Warrant Shares which, to the extent provided in the Purchase Agreement, shall be free of restrictive legends and trading restrictions representing the number of Warrant Shares being acquired upon the exercise of the Warrant. If, on any applicable Share Delivery Date, such certificate(s) (or the Cash Settlement Payment in lieu thereof in the event Mandatory Cash Settlement is then required pursuant to Section 6(c)) are not timely delivered to or as directed by the Holder, then the Holder shall be entitled to elect by written notice to the Company at any time on or before its receipt of such certificate(s), to rescind such exercise, in which event the Company shall promptly return to the Holder the original Warrants (if any) delivered to the

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Company and if applicable, the Holder shall promptly return to the Company the Common Stock book-entry statements issued to such Holder pursuant to the rescinded Exercise Notice.

(e) In connection with any exercise of this Warrant (other than any exercise that is subject to Mandatory Cash Settlement as provided in Section 6(c)), if the Company shall fail for any reason to deliver the Warrant Shares by the Share Delivery Date, and if on or after the Share Delivery Date the Holder purchases (in an open market transaction or otherwise) Common Stock to deliver in satisfaction of a sale by the Holder of any portion of such Warrant Shares that the Holder anticipated receiving by the Share Delivery Date (a “Buy-In”), then the Company shall, within three (3) Trading Days after the Holder’s request and in the Holder’s discretion, either: (i) pay cash to the Holder in an amount equal to the Holder’s total purchase price (including brokerage commissions, if any) for the number of Warrant Shares so purchased (the “Buy-In Price”), at which point the Company’s obligation to deliver such Warrant Shares shall terminate, or (ii) promptly honor its obligation to deliver to the Holder such Warrant Shares as provided above and pay cash to the Holder in an amount equal to the excess (if any) of the Buy-In Price over the product of (A) such number of Common Shares, times (B) the Exercise Price.

#### 7. Delivery of Warrant Shares or Cash Settlement Payment on Exercise; Net Exercise.

(a) To effect exercises hereunder, the Holder shall not be required to physically surrender this Warrant, and unless this Warrant is surrendered upon such exercise, the execution and delivery of the Exercise Notice shall have the same effect as cancellation of the original Warrant and issuance of a new Warrant evidencing the right to purchase the remaining number of Warrant Shares (if any). Upon delivery of an Exercise Notice substantially in the form attached hereto as Attachment A (an “Exercise Notice”) to the Company at its address for notice determined as set forth herein, and, unless Mandatory Cash Settlement is then required pursuant to Section 6(c), upon payment of the Exercise Price for the number of Warrant Shares so indicated by the Holder to be purchased (which may take the form a “net exercise” as permitted pursuant to Section 7(b) and so indicated in the Exercise Notice), the Company shall promptly (but in no event later than three (3) Trading Days after the Date of Exercise) either (x) pay the Holder the Cash Settlement Payment in the event Mandatory Cash Settlement is then required pursuant to Section 6(c) or (y) in the event Mandatory Cash Settlement is not then required pursuant to Section 6(c), issue and deliver, or cause its transfer agent to issue and deliver, to the Holder a certificate for the Warrant Shares issuable upon such exercise registered in the name of the Holder or its designee. A “Date of Exercise” means the date on which the Holder shall have delivered to the Company: (i) an Exercise Notice, appropriately completed and duly signed, and (ii) unless either (x) Mandatory Cash Settlement is then required pursuant to Section 6(c) or (y) the exercise of this Warrant is being effected as a “net exercise” pursuant to Section 7(b), as applicable, payment of the Exercise Price (by certified or official bank check, intra-bank account transfer or wire transfer) for the number of Warrant Shares so indicated by the Holder to be purchased.

(b) Subject in all cases to the provisions of Section 6(c) hereof, in lieu of exercising this Warrant by payment of cash, the Holder may, at its election, effect a “net exercise” of this Warrant as indicated in the Holder’s Exercise Notice, in which event, if so effected, the Holder shall be entitled to receive Warrant Shares equal to the value (as determined below) of this Warrant (or the portion thereof being exercised) by surrender of this Warrant at the principal office of the Company, if applicable, together with the appropriately completed and duly signed Exercise Notice, in which event the Company shall issue to the Holder a number of Warrant Shares computed using the following formula:

$$X = \frac{Y*(A-B)}{A}$$

Where:

X = the number of Warrant Shares to be issued to the Holder

Y = the number of Warrant Shares with respect to which this Warrant is being exercised

A = the Fair Market Value of one share of Common Stock (as of the Date of Exercise)

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B = Exercise Price (as of the Date of Exercise)

For the avoidance of doubt, if the foregoing calculation results in zero or a negative number, then no Warrant Shares shall be issued upon exercise pursuant to this Section 7(b).

(c) Subject in all cases to the provisions of Section 6(c) hereof, the Company's obligations to issue and deliver Warrant Shares in accordance with the terms hereof are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by the Holder or any other Person of any obligation to the Company or any violation or alleged violation of law by the Holder or any other Person, and irrespective of any other circumstance which might otherwise limit such obligation of the Company to the Holder in connection with the issuance of Warrant Shares. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity, including a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver the Cash Settlement Payment or certificates representing shares of Common Stock upon exercise of the Warrant, as applicable, in each case as required pursuant to the terms hereof; provided, however, that, unless Mandatory Cash Settlement is then strictly required pursuant to Section 6(c) or Section 11(b), under no circumstances shall the Company be required to settle any exercises of this Warrant by cash payment or to otherwise "net cash settle" this Warrant.

8. Charges, Taxes and Expenses. Issuance and delivery of certificated or uncertificated shares of Common Stock upon exercise of this Warrant shall be made without charge to the Holder for any issue or transfer tax, withholding tax, transfer agent fee, or other incidental tax or expense in respect of the issuance of such shares, all of which taxes and expenses shall be paid by the Company; provided, however, that the Company shall not be required to pay any tax which may be payable in respect of any transfer involved in the registration of any certificates for Warrant Shares or Warrants in a name other than that of the Holder. The Holder shall be responsible for all other tax liability that may arise as a result of holding or transferring this Warrant or receiving Warrant Shares or a Cash Settlement Payment, as applicable, upon exercise hereof.

9. Replacement of Warrant. If this Warrant is mutilated, lost, stolen or destroyed, the Company shall issue or cause to be issued in exchange and substitution for and upon cancellation hereof, or in lieu of and substitution for this Warrant, a new Warrant, but only upon receipt of evidence reasonably satisfactory to the Company of such loss, theft or destruction and customary and reasonable indemnity (which shall not include a surety bond), if requested. Applicants for a new warrant under such circumstances shall also comply with such other reasonable regulations and procedures and pay such other reasonable third-party costs as the Company may prescribe. If a new warrant is requested as a result of a mutilation of this Warrant, then the Holder shall deliver this mutilated Warrant to the Company as a condition precedent to the Company's obligation to issue the new warrant.

10. Reservation of Warrant Shares. The Company covenants that, from and after the Authorized Shares Increase Date, the Company will at all times reserve and keep available out of the aggregate of its authorized but unissued and otherwise unreserved Common Stock, solely for the purpose of enabling it to issue Warrant Shares upon exercise of this Warrant as herein provided, the number of Warrant Shares which are then issuable and deliverable upon the exercise of this entire Warrant, free from liens, encumbrances or any other contingent purchase rights of persons other than the Holder (taking into account the adjustments and restrictions of Section 11). The Company covenants and warrants that, from and after the Authorized Shares Increase Date, all Warrant Shares so issuable and deliverable shall, upon issuance and the payment of the applicable Exercise Price in accordance with the terms hereof, be duly and validly authorized, issued and fully paid and non-assessable.

11. Certain Adjustments. The Exercise Price and the number of Warrant Shares issuable upon exercise of this Warrant is subject to adjustment from time to time as set forth in this Section 11.

(a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend on its Common Stock or otherwise makes a distribution on any class of capital stock that is payable in shares of Common Stock, (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

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a smaller number of shares, or (iv) issues by reclassification of shares of Common Stock any shares of capital stock of the Company; then in each such case (A) the Exercise Price will be adjusted by multiplying the Exercise Price then in effect by a fraction, the numerator of which equals the number of shares of Common Stock outstanding immediately prior to such event (excluding treasury shares, if any), and the denominator of which equals the number of shares of Common Stock outstanding immediately after such event (excluding treasury shares, if any), and (B) the number of Warrant Shares issuable hereunder shall be concurrently adjusted by multiplying such number by the reciprocal of such fraction. Such adjustments will take effect (i) if a record date shall have been fixed for determining the stockholders or security holders, as applicable, of the Company entitled to receive such dividend, distribution or issuance by reclassification, as the case may be, immediately after such record date, (ii) otherwise, immediately after the effective date of such dividend, distribution, subdivision, combination, or issuance by reclassification, as the case may be.

(b) Fundamental Transaction. If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or a series of related transactions, (A) effects any merger, consolidation or reorganization or other similar transaction or a series of related transactions which results in the voting securities of the Company outstanding immediately prior thereto representing immediately thereafter (either by remaining outstanding or by being converted into voting securities of the surviving or acquiring entity) less than 50% of the combined voting power of the voting securities of or economic interests in the Company or such surviving or acquiring entity outstanding immediately after such merger, consolidation or reorganization, (B) effects any sale, lease, license, assignment, transfer, conveyance, distribution or other disposition of all or substantially all of its assets, (C) 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 (except for issuances by reclassification contemplated by Section 11(a)(iv)), or (D) consummates a stock or share purchase agreement or other business combination (including a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act) whereby such other Person or "group" acquires more than 50% of the voting power of or economic interests in the then outstanding shares of capital stock of the Company (after giving effect to such transaction), or (ii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person or group of Persons) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property (each transaction or series of transactions referred to in clause (i) or (ii) above, a "Fundamental Transaction"); then, the Company shall ensure that lawful and adequate provision shall be made whereby the Holder shall thereafter continue to have the right to purchase and receive upon the basis and upon the terms and conditions herein specified, and

in lieu of the Warrant Shares immediately theretofore issuable upon exercise of this Warrant, such shares of stock, securities or assets as the Holder would have been entitled to receive upon the occurrence of such Fundamental Transaction as if the Holder had been, immediately prior to such Fundamental Transaction, the holder of the number of Warrant Shares immediately theretofore issuable upon exercise of this Warrant (the “Underlying Shares”). If the Fundamental Transaction constitutes a Change of Control and such Change of Control occurs on or before December 31, 2016, then the Holder shall also be entitled to surrender this Warrant at any time following the consummation of the Change of Control in exchange for a cash payment equal to the aggregate value of this Warrant (the “Aggregate Value”), where the Aggregate Value is equal to the product obtained by multiplying the output of the Black-Scholes Option Pricing formula set forth in Attachment C hereto times the number of Underlying Shares; provided, however, that if the Aggregate Value exceeds the product obtained by multiplying \$0.125 (as adjusted for any stock splits, stock dividends, recapitalizations or the like after the Issuance Date) times the number of Underlying Shares (such product, the “Maximum Payment”), then such cash payment to the Holder shall equal the Maximum Payment. For purposes of this Section 11(b), a “Change of Control” means any Fundamental Transaction other than (i) with respect to the transactions contemplated by Section 11(b)(i)(C), any reclassification, reorganization, recapitalization or compulsory share exchange in which the holders of the voting securities of the Company outstanding immediately prior thereto continue after such reclassification, reorganization, recapitalization or compulsory share exchange to hold publicly traded securities and 50% or more of the combined voting power of the voting securities of or economic interests in the Company or any surviving or acquiring entity, or (ii) with respect to the transactions contemplated by Section 11(b)(ii), any purchase, tender or exchange offer that is accepted by the holders of less than 50% of the voting power of or economic interests in the then outstanding shares of capital stock of the Company.

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Moreover, appropriate provision shall be made with respect to the rights and interests of each Holder to the end that the provisions hereof (including, without limitation, provision for adjustment of the Exercise Price) shall thereafter be applicable, as nearly equivalent as may be practicable in relation to any such shares of stock, securities or assets thereafter deliverable upon the exercise thereof. The Company shall not effect any such Fundamental Transaction unless prior to or simultaneously with the consummation thereof the successor corporation resulting from such consolidation or merger, or the corporation purchasing or otherwise acquiring such assets or other appropriate corporation or entity shall assume by written instrument, reasonably deemed by the Board of Directors to be satisfactory in form and substance, the obligation to deliver to the Holder, at the last address of such Holder appearing on the books of the Company, such shares of stock, securities or assets, as, in accordance with the foregoing provisions, the Holder may be entitled to purchase upon exercise of this Warrant, and the other obligations under this Warrant. The provisions of this Section 11(b) shall similarly apply to successive Fundamental Transactions.

(c) Adjustment Rules.

(i) Any adjustments pursuant to this Section 11 shall be made successively whenever any event referred to herein shall occur, except that, notwithstanding any other provision of this Section 11, no adjustment shall be made to the number of Warrant Shares to be delivered to the Holder (or to the Exercise Price) if such adjustment represents less than 1% of the number of Warrant Shares previously required to be so delivered, but any lesser adjustment shall be carried forward and shall be made at the time and together with the next subsequent adjustment which together with any adjustments so carried forward shall amount to 1% or more of the number of Warrant Shares to be so delivered.

(ii) No adjustments shall be made pursuant to this Section 11 in respect of the issuance of Warrant Shares upon exercise of the Warrant.

(iii) If the Company shall take a record of the holders of its shares for any purpose referred to in this Section 11, then (x) such record date shall be deemed to be the date of the issuance, sale, distribution or grant in question and (y) if the Company shall legally abandon such action prior to effecting such action, no adjustment shall be made pursuant to this Section 11 in respect of such action.

(iv) In computing adjustments under this Section 11, (A) fractional interests in Shares shall be taken into account to the nearest one-thousandth of a Share, and (B) calculations of the Exercise Price shall be carried to the nearest one-thousandth of one cent.

(d) Proceedings Prior to Any Action Requiring Adjustment. Subject to the below proviso, as a condition precedent to the taking of any action which would require an adjustment pursuant to this Section 11, the Company shall take any action which may be necessary, including obtaining regulatory approvals or exemptions, in order that the Company may thereafter validly and legally issue as fully paid and nonassessable all Warrant Shares which the Holder is entitled to receive upon exercise of the Warrant; provided, however, that, notwithstanding the foregoing, effecting the Increased Shares Amendment shall not be a condition precedent to the taking of any action which would require an adjustment pursuant to this Section 11.

(e) Notice of Adjustment. Not less than 20 days prior to the record date or effective date, as the case may be, of any action which requires or might require an adjustment or readjustment pursuant to this Section 11, the Company shall give notice to the Holder of such event, describing such event in reasonable detail and specifying the record date or effective date, as the case may be, and, if determinable, the required adjustment and computation thereof. If the required adjustment is not determinable as the time of such notice, the Company shall give notice to the Holder of such adjustment and computation as soon as reasonably practicable after such adjustment becomes determinable. In connection with any such adjustment or readjustment, the Company shall prepare a report setting forth such adjustment or readjustment and showing in reasonable detail the method of calculation thereof and the facts upon which such adjustment or readjustment is based, including a statement of (i) the number of Shares outstanding or deemed to be outstanding, and (ii) the Exercise Price in effect immediately prior to such issue or sale and as adjusted and readjusted (if required by this Section 11) on account thereof. The

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Company will forthwith mail a copy of each such report to the Holder and will, upon the written request at any time of the Holder, furnish to such holder a like report setting forth the Exercise Price at the time in effect and showing in reasonable detail how it was calculated. The Company will also keep copies of all such reports at its office and will cause the same to be available for inspection at such office during normal business hours by the Holder.

(f) Disputes. Any dispute which arises between the Holder and the Company with respect to the calculation of the adjusted Exercise Price or Warrant Shares issuable upon exercise shall be determined by the independent auditors of the Company in accordance with the terms of this Warrant, and such determination shall be binding upon the Company and the holders of the Warrants and the Warrant Shares if made in good faith and without manifest error. furnish to the Holder the Exercise Price resulting from such adjustment or otherwise in effect and the number of Warrant Shares then available for purchase under this Warrant, setting forth in reasonable detail the method of calculation and the facts upon which such calculation is based.



12. [Intentionally Omitted][Limitation on Exercise]. Notwithstanding anything to the contrary contained herein, the number of Warrant Shares that may be acquired by the Holder upon any exercise of this Warrant (or otherwise in respect hereof) shall be limited to the extent necessary to ensure that, following such exercise (or other issuance), the total number of shares of Common Stock then beneficially owned by the Holder and any other Persons whose beneficial ownership of shares of Common Stock would be aggregated with the Holder's for purposes of Section 13(d) of the Exchange Act, does not exceed 9.999% of the total number of then issued and outstanding shares of Common Stock (including for such purpose the Warrant Shares issuable upon such exercise). For such purposes, beneficial ownership shall be determined 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 such Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and such Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 12 applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by such Holder) 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 such Holder) and of which portion of this Warrant is exercisable, in each case subject to such aggregate percentage limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 12, in determining the number of outstanding shares of Common Stock, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (x) the Company's most recent Form 10-Q or Form 10-K, as the case may be, (y) a more recent public announcement by the Company or (z) any other notice by the Company or the Company's transfer agent setting forth the number of shares of Common Stock outstanding. Upon the written request of the Holder, the Company shall within three Business Days confirm orally and in writing to such Holder the number of outstanding shares of Common Stock. This provision shall not restrict the number of shares of Common Stock which a Holder may receive or beneficially own in order to determine the amount of securities or other consideration that such Holder may receive in the event of a transaction contemplated in Section 11 of this Warrant. By written notice to the Company, which will not be effective until the 61st day after such notice is delivered to the Company, the Holder may waive or amend the provisions of this Section 12 to change the beneficial ownership limitation to any other number, and the provisions of this Section 12 and Section 13 shall continue to apply.]<sup>(2)</sup>

13. Beneficial Ownership Limitation. Notwithstanding anything to the contrary contained herein, the Company shall not effect any exercise of this Warrant, and the Holder shall not have the right to exercise this Warrant, for a number of Warrant Shares in excess of that number of Warrant Shares that, upon giving effect to such exercise, would cause (a) the aggregate number of shares of Common Stock beneficially owned by such Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the

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(2) This limitation on exercise provision shall be includable only in BVF Partners' warrant (or in any other Purchaser's warrant that specifically requests the inclusion of this provision in its warrant to be issued at the Closing).

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Holder's for purposes of Section 13(d) of the Exchange Act to exceed 38.5% of the total number of shares of the Common Stock outstanding following such exercise, or (b) the combined voting power of the securities of the Company beneficially owned by such Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder's for purposes of Section 13(d) of the Exchange Act to exceed 38.5% of the combined voting power of all of the securities of the Company outstanding following such exercise. For purposes of the foregoing sentence, the number of shares of Common Stock or voting securities beneficially owned by the Holder and its Affiliates and any other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder's for purposes of Section 13(d) of the Exchange Act shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude shares of Common Stock or other voting securities which would be issuable upon (i) exercise of the remaining, unexercised portion of this Warrant and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company beneficially owned by the Holder or any of its Affiliates and other Persons whose beneficial ownership of Common Stock would be aggregated with the Holder's for purposes of Section 13(d) of the Exchange Act (including, without limitation, any convertible notes or convertible preferred stock or warrants) subject to a limitation on conversion or exercise analogous to the limitation contained in this Section 13. Except as set forth in the preceding sentence, for purposes of this Section 13, beneficial ownership shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. The provisions of this Section 13 shall be construed, corrected and implemented in a manner so as to effectuate the intended beneficial ownership limitation herein contained.

14. No Fractional Shares. No fractional shares of Common Stock will be issued in connection with any exercise of this Warrant. In lieu of any fractional shares which would otherwise be issuable, the Company shall pay the Holder an amount of cash equal to the product of such fraction multiplied by the Fair Market Value of one share of Common Stock on the Date of Exercise.

15. No Impairment. The Company shall not by any action including, without limitation, amending its Certificate of Incorporation, 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 shall at all times in good faith assist in the carrying out of all such terms and in the taking of all such action, as may be necessary or appropriate to protect the rights of the Holder against impairment. Without limiting the generality of the foregoing, the Company shall take all such action as may be necessary or appropriate, including by taking the actions set forth in Section 6.12 of the Purchase Agreement, in order that the Company may, from and after the Authorized Shares Increase Date, validly issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant at the then Exercise Price therefor.

16. No Rights as a Stockholder; Notice to Holder. Nothing contained in this Warrant shall be construed as conferring upon the Holder the right to vote or to consent or to receive notice as a stockholder in respect of any meeting of stockholders for the election of directors of the Company or any other matter, or any rights whatsoever as a stockholder of the Company.

17. Warrant Agent. The Company shall serve as warrant agent under this Warrant. Upon thirty (30) days' notice to the Holder, the Company may appoint a new warrant agent. Any corporation into which the Company or any new warrant agent may be merged or any corporation resulting from any consolidation to which the Company or any new warrant agent shall be a party or any corporation to which the Company or any new warrant agent transfers substantially all of its corporate trust or stockholders services business shall be a successor warrant agent under this Warrant without any further act. Any such successor warrant agent shall promptly cause notice of its succession as warrant agent to be mailed (by first class mail, postage prepaid) to the Holder at the Holder's last address as shown on the Warrant Register.

18. Miscellaneous.

(a) Notices. Any and all notices or other communications or deliveries hereunder (including any Exercise Notice) shall be in writing and shall be deemed given and effective on the earliest of (i) the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number pursuant to this Section 18(a) prior to 5:30 p.m. (New York City time) on a Trading Day, (ii) the next Trading Day after the date of

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transmission, if such notice or communication is delivered via facsimile at the facsimile number specified pursuant to this Section 18(a) on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (iii) the second Trading Day following the date of mailing, if sent by nationally recognized overnight courier service to the street address specified pursuant to this Section 18(a), or (iv) upon actual receipt by the party to whom such notice is required to be given. The addresses for such communications shall be as follows:

(i) if to the Company, to:

GTx, Inc.  
175 Toyota Plaza  
7<sup>th</sup> Floor  
Memphis Tennessee  
Attn: Principal Financial Officer or Chief Legal Officer  
Facsimile: (901) 844-8075

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

Cooley LLP  
3175 Hanover Street  
Palo Alto, CA 94304  
Attn: Chadwick L. Mills  
Facsimile: (650) 849-7400

(ii) if to the Holder, to the address, facsimile number or street address appearing on the Warrant Register (which shall initially be the facsimile number and street address set forth for the initial Holder in the Purchase Agreement);

or to such other address, facsimile number or email address as the Company or the Holder may provide to the other in accordance with this Section 18(a).

(b) Assignment. Subject to the restrictions on transfer described herein and in the Purchase Agreement, the rights and obligations of the Company and the Holder shall be binding upon, and inure to the benefit of, the successors, assigns, heirs, administrators and transferees of the parties. Without the prior written consent of the Holder, which may be withheld in the Holder's sole discretion, this Warrant may not be assigned by the Company except to a successor in the event of a Fundamental Transaction.

(c) No Third Party Beneficiaries. Nothing in this Warrant shall be construed to give to any Person other than the Company and the Holder any legal or equitable right, remedy or cause of action under this Warrant.

(d) Amendments; Waiver. Any term of this Warrant may be amended or waived (either generally or in a particular instance and either retroactively or prospectively) with the written consent of the Company and the Holder. No waiver of any default with respect to any provision, condition or requirement of this Warrant 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 either party to exercise any right hereunder in any manner impair the exercise of any such right.

(e) Governing Law. This Warrant shall be governed by and construed in accordance with the laws of the State of Delaware, without regard to principles of conflict of laws.

(f) Severability. If one or more provisions of this Warrant are held to be unenforceable under applicable law in any respect, such provision shall be excluded from this Warrant and the balance of this Warrant shall be construed and interpreted as if such provision were so excluded and shall be enforceable in accordance with its remaining terms.

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*[Remainder of Page Intentionally Left Blank; Signature Page Follows]*

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

GTx, INC.

By: \_\_\_\_\_  
Name: Marc S. Hanover  
Title: President, Chief Operating Officer and interim Chief Executive

EXERCISE NOTICE

To GTx, Inc.:

The undersigned hereby irrevocably elects to purchase shares (the “Shares”) of common stock, par value \$0.001 per share (“Common Stock”), of GTx, Inc., a Delaware corporation, pursuant to Warrant No. CSW2014-[·], originally issued on November [·], 2014 (the “Warrant”). The undersigned elects to utilize the following manner of exercise:

Shares:

- Full Exercise of Warrant
- Partial Exercise of Warrant (in the amount of \_\_\_\_\_ Shares)

Exercise Price: \$ \_\_\_\_\_

The Holder intends that payment of the Exercise Price shall be made as (check one): \*

- “Net Exercise” under Section 7(b) of the Warrant
- Certified or Official Bank Check
- Intra-Bank Account Transfer
- Wire Transfer

[Please issue a new Warrant for the unexercised portion of the attached Warrant in the name of the [undersigned]/[the undersigned’s nominee as is specified below].]

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

Full Name of Holder†: \_\_\_\_\_

Signature of Holder or Authorized Representative: \_\_\_\_\_

Name and Title of Authorized Representative††: \_\_\_\_\_

Additional Signature of Holder (if jointly held): \_\_\_\_\_

Social Security or Tax Identification Number: \_\_\_\_\_

Address of Holder: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Full Name of Nominee of Holder††: \_\_\_\_\_

Address of Nominee of Holder††: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\* Payable unless Mandatory Cash Settlement is required pursuant to Section 6(c) of the Warrant at the time this Warrant is being exercised.

† Must conform in all respects to name of holder as specified on the face of the Warrant.

†† If applicable.

FORM OF ASSIGNMENT

[To be completed and signed only upon transfer of Warrant]

FOR VALUE RECEIVED, the undersigned hereby sells, assigns and transfers unto [·] the right represented by the attached Common Stock Warrant to purchase [·] shares of Common Stock of GTx, Inc., a Delaware corporation (the “Company”), to which the Warrant relates and appoints [·] as attorney to transfer said right on the books of the Company with full power of substitution in the premises.

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

Full Name of Holder\*: \_\_\_\_\_

Signature of Holder or Authorized Representative: \_\_\_\_\_

Name and Title of Authorized Representative†: \_\_\_\_\_

Additional Signature of Holder (if jointly held): \_\_\_\_\_  
Address of Holder: \_\_\_\_\_

Full Name of Transferee: \_\_\_\_\_  
Address of Transferee: \_\_\_\_\_

In the presence of: \_\_\_\_\_

\* Must conform in all respects to name of holder as specified on the face of the Warrant.

† If applicable.

ATTACHMENT C

**Black-Scholes Option Pricing formula to be used when calculating the value of each Warrant to purchase one Warrant Share shall be:**

$$C_{\text{Corp}} = S_{\text{Corp}} e^{-\lambda(T_{\text{Corp}} - t_{\text{Corp}})} N(d_1) - K_{\text{Corp}} e^{-r(T_{\text{Corp}} - t_{\text{Corp}})} N(d_2), \text{ where}$$

$C_{\text{Corp}}$  = value of each Warrant to purchase one Warrant Share

$S_{\text{Corp}}$  = price of the Common Stock as determined by reference to the average of the closing prices on the Principal Trading Market over the 20-day period ending three Trading Days prior to the closing of the Change of Control described in Section 11(b) if the Common Stock is then traded on an Eligible Market, or the average of the closing bid or sale prices (whichever is applicable) in the over-the-counter market over the 20-day period ending three Trading Days prior to the closing of the Change of Control if the Common Stock is then actively traded in the over-the-counter market, or the then most recently completed financing if the Common Stock is not then traded on an Eligible Market or in the over-the-counter market.

$T_{\text{Corp}}$  = the Expiration Date

$t_{\text{Corp}}$  = date of public announcement of the Change of Control

$T_{\text{Corp}} - t_{\text{Corp}}$  = time until the Expiration Date, expressed in years

$\alpha$  = volatility = the annualized standard deviation of daily log-returns (using a 262-day annualization factor) of the Company's stock price on the Principal Trading Market over a 20-day trading period, determined by the Holder, that is within the 100-day trading period ending on the Trading Day immediately after the public announcement of the Change of Control described in Section 11(b) if the Common Stock is then traded on an Eligible Market, or the annualized standard deviation of daily-log returns (using a 262-day annualization factor) of the closing bid or sale prices (whichever is applicable) in the over-the-counter market over a 20-day trading period, determined by the Holder, that is within the 100-day trading period ending on the Trading Day immediately after the public announcement of the Change of Control if the Common Stock is then actively traded in the over-the-counter market, 0.4 (or 40%) if the Common Stock is not then traded on an Eligible Market or in the over-the-counter market; provided, however, that volatility shall not exceed 0.4 (or 40%) regardless of the method of calculation.

$N$  = cumulative normal distribution function

$$d_1 = \left( \ln(S_{\text{Corp}}/K_{\text{Corp}}) + (r - \lambda + \alpha^2/2)(T_{\text{Corp}} - t_{\text{Corp}}) \right) \div (\alpha \sqrt{T_{\text{Corp}} - t_{\text{Corp}}})$$

$\ln$  = natural logarithm

$\lambda$  = dividend rate of the Company for the most recent 12-month period at the time of closing of the Fundamental Transaction.

$K_{\text{Corp}}$  = the Exercise Price as determined pursuant to Section 3

$r$  = annual yield, as reported by Bloomberg at time  $t_{\text{Corp}}$ , of the United States Treasury security measuring the nearest time  $T_{\text{Corp}}$

$$d_2 = d_1 - \alpha \sqrt{T_{\text{Corp}} - t_{\text{Corp}}}$$

## GTx Announces \$43.4 Million Private Placement

MEMPHIS, Tenn.—November 10, 2014— GTx, Inc. (NASDAQ: GTXI) today announced that it has entered into a securities purchase agreement for the sale of approximately \$43.4 million of its common stock and warrants to purchase common stock in a private placement. The group of accredited investors includes Biotechnology Value Fund, L. P. and other affiliates of BVF Partners L.P., certain existing GTx stockholders and certain members of the GTx management team and board of directors.

Pursuant to the terms of the securities purchase agreement, at the closing of the private placement, GTx will receive approximately \$43.4 million in gross proceeds from the sale of 64,311,112 shares of GTx common stock and the issuance of warrants for the purchase of 64,311,112 additional shares of GTx common stock. The per unit purchase price of a share of GTx common stock and a warrant to purchase a share of GTx common stock is \$0.675. The warrants will have a per share exercise price of \$0.85 and will be exercisable for a four year period as determined in accordance with the terms of the warrants. The closing of the private placement is subject to the satisfaction of customary closing conditions. The securities purchase agreement and the transactions contemplated thereby were unanimously approved by a special committee comprised of disinterested and independent members of GTx's board of directors. Jefferies LLC served as exclusive financial advisor to the special committee. Additional details regarding the private placement will be included in a Form 8-K filed by GTx with the Securities and Exchange Commission.

Neither the shares of GTx common stock nor the warrants to be issued in connection with the private placement have been registered under the Securities Act of 1933, as amended (the "Securities Act"). Accordingly, these securities may not be offered or sold in the United States except pursuant to an effective registration statement or an applicable exemption from the registration requirements of the Securities Act. GTx has agreed to file certain registration statements covering the resale of the GTx common stock as well as the GTx common stock issuable upon exercise of the warrants. This press release shall not constitute an offer to sell or the solicitation of an offer to buy GTx common stock or warrants to purchase GTx common stock.

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### About GTx

GTx, Inc., headquartered in Memphis, Tenn., is a biopharmaceutical company dedicated to the discovery, development, and commercialization of small molecules for the treatment of cancer, including treatments for breast and prostate cancer, cancer supportive care, including prevention and treatment of cancer-related muscle wasting, and other serious medical conditions.

### Forward-Looking Information is Subject to Risk and Uncertainty

This press release contains forward-looking statements based upon GTx's current expectations. Forward-looking statements involve risks and uncertainties, and include, but are not limited to, all statements relating to the anticipated closing of, and the amount of anticipated proceeds from, the private placement. GTx's actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of these risks and uncertainties, which include, without limitation, risks and uncertainties associated with market conditions, whether GTx will be able to consummate the private placement and the satisfaction of closing conditions related to the private placement. There can be no assurance that GTx will be able to complete the private placement on the terms described herein or in a timely manner, if at all. Regardless of whether the private placement is consummated, GTx will continue to need additional funding and may be unable to raise capital when needed, which would force GTx to delay, reduce or eliminate its product candidate development programs. You should not place undue reliance on these forward-looking statements, which apply only as of the date of this press release. GTx's periodic reports filed with the Securities and Exchange Commission, including its Quarterly Report on Form 10-Q for the quarter ended June 30, 2014 and its future reports, including the Quarterly Report on Form 10-Q for the quarter ended September 30, 2014, contain under the heading, "Risk Factors", a more comprehensive description of these and other risks to which GTx is subject. GTx expressly disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in its expectations with regard thereto or any change in events, conditions or circumstances on which any such statements are based.

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Source: GTx, Inc.

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