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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, DC 20549**

**FORM 8-K**

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

Date of Report (Date of earliest event reported)

**January 22, 2018**

**GT BIOPHARMA, INC.**

(Exact name of registrant as specified in its charter)

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

**000-08092**  
(Commission File Number)

**94-1620407**  
(IRS Employer Identification No.)

**1825 K Street  
Suite 510  
Washington, D.C. 20006  
(800) 304-9888**

(Address of principal executive offices, including zip code)

(Registrant's telephone number, including area code)

(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))

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

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

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

On January 22, 2018, GT Biopharma, Inc. (the “Company”) entered into a Securities Purchase Agreement with the investors listed on the Schedule of Buyers attached thereto (individually, a “Buyer” and collectively, the “Buyers”) pursuant to which the Company has agreed to issue to the Buyers senior convertible notes in an aggregate principal amount of \$7,760,510 (the “Notes”), which Notes shall be convertible into the Company’s common stock, par value \$0.001 per share (the “Common Stock”), and five-year warrants to purchase the Company’s Common Stock representing the right to acquire an aggregate of approximately 1,694,440 shares of Common Stock (the “Warrants”).

The issuance of the Notes and Warrants is being made in reliance on the exemption provided by Section 4(a)(2) of the Securities Act of 1933, as amended (the “Securities Act”) for the offer and sale of securities not involving a public offering, and Regulation D promulgated under the Securities Act.

Contemporaneously with the execution and delivery of the SPA, the Company and the Buyers executed and delivered a Registration Rights Agreement (the “Registration Rights Agreement”) pursuant to which the Company has agreed to provide certain registration rights with respect to the Registrable Securities (as defined thereto) under the 1933 Act and the rules and regulations promulgated thereunder, and applicable state securities laws. All descriptions of the SPA, the Registration Rights Agreement, the Notes and the Warrants contained herein are qualified in their entirety by reference to the exhibits filed herewith.

A copy of the press release announcing the execution of the Transaction is attached to this filing as Exhibit 99.1.

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

The descriptions of the equity securities described in Item 1.01 issued by the Company are incorporated herein.

**Item 9.01 Financial Statements and Exhibits.**

(d) Exhibits

<b>No.</b>	<b>Description</b>
<a href="#"><u>10.1</u></a>	Securities Purchase Agreement by and among the Company and the Buyers, dated January 22, 2018
<a href="#"><u>10.2</u></a>	Form of Registration Rights Agreement by and among the Company and the Buyers, dated January 22, 2018
<a href="#"><u>10.3</u></a>	Form of Note
<a href="#"><u>10.4</u></a>	Form of Warrant
<a href="#"><u>99.1</u></a>	Press Release dated January 23, 2018

**SIGNATURE**

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

**GT BIOPHARMA, INC.**

Date: January 23, 2018

By: /s/ Steven Weldon

Steven Weldon  
*Chief Financial Officer*

## EXHIBIT INDEX

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**SECURITIES PURCHASE AGREEMENT**

**SECURITIES PURCHASE AGREEMENT** (the "**Agreement**"), dated as of January 22, 2018, by and among GT Biopharma, Inc., a Delaware corporation, with headquarters located at 1825 K Street, Suite 510, Washington, D.C. 20006 (the "**Company**"), and the investors listed on the Schedule of Buyers attached hereto (individually, a "**Buyer**" and collectively, the "**Buyers**").

**WHEREAS:**

A. The Company and each Buyer is executing and delivering this Agreement in reliance upon the exemption from securities registration afforded by Section 4(a)(2) of the Securities Act of 1933, as amended (the "**1933 Act**"), and Rule 506(b) of Regulation D ("**Regulation D**") as promulgated by the United States Securities and Exchange Commission (the "**SEC**") under the 1933 Act.

B. The Company has authorized a new series of senior convertible notes of the Company, in substantially the form attached hereto as Exhibit A (the "**Notes**"), which Notes shall be convertible into the Company's common stock, par value \$0.001 per share (the "**Common Stock**") (the shares of Common Stock issuable pursuant to the terms of the Notes, including, without limitation, upon conversion or otherwise, collectively, the "**Conversion Shares**"), in accordance with the terms of the Notes.

C. Each Buyer wishes to purchase, and the Company wishes to sell, upon the terms and conditions stated in this Agreement, (i) that aggregate principal amount of Notes set forth opposite such Buyer's name in column (3) on the Schedule of Buyers attached hereto (which aggregate principal amount of Notes for all Buyers shall be \$7,760,510), and (ii) Warrants, in substantially the form attached hereto as Exhibit B (the "**Warrants**"), representing the right to acquire that number of shares of Common Stock set forth opposite such Buyer's name in column (4) on the Schedule of Buyers (as exercised, collectively, the "**Warrant Shares**").

D. The Notes will rank senior to all outstanding and future indebtedness of the Company and its Subsidiaries (as defined below).

E. Contemporaneously with the execution and delivery of this Agreement, the parties hereto are executing and delivering a Registration Rights Agreement, substantially in the form attached hereto as Exhibit C (the "**Registration Rights Agreement**"), pursuant to which the Company has agreed to provide certain registration rights with respect to the Registrable Securities (as defined in the Registration Rights Agreement) under the 1933 Act and the rules and regulations promulgated thereunder, and applicable state securities laws.

F. The Notes, the Conversion Shares, the Warrants and the Warrant Shares collectively are referred to herein as the "**Securities**".

**NOW, THEREFORE**, the Company and each Buyer hereby agree as follows:

1. PURCHASE AND SALE OF NOTES AND WARRANTS.

(a) Purchase of Notes and Warrants. Subject to the satisfaction (or waiver) of the conditions set forth in Sections 6 and 7 below, the Company shall issue and sell to each Buyer, and each Buyer severally, but not jointly, agrees to purchase from the Company on the Closing Date (as defined below), (x) a principal amount of Notes as is set forth opposite such Buyer's name in column (3) on the Schedule of Buyers and (y) Warrants to acquire up to that number of Warrant Shares as is set forth opposite such Buyer's name in column (4) on the Schedule of Buyers (the "**Closing**").

(b) Closing. The date and time of the Closing (the "**Closing Date**") shall be 10:00 a.m., New York City time, on the date hereof (or such other date and time as is mutually agreed to by the Company and each Buyer) after notification of satisfaction (or waiver) of the conditions to the Closing set forth in Sections 6 and 7 below, at the offices of Schulte Roth & Zabel LLP, 919 Third Avenue, New York, New York 10022.

(c) Purchase Price. The aggregate purchase price for the Notes and the Warrants to be purchased by each Buyer at the Closing (the "**Purchase Price**") shall be the amount set forth opposite each Buyer's name in column (5) of the Schedule of Buyers. Each Buyer shall pay \$909.09 for each \$1,000 of principal amount of Notes and related Warrants to be purchased by such Buyer at the Closing. The Buyers and the Company agree that the Notes and the Warrants constitute an "investment unit" for purposes of Section 1273(c)(2) of the Internal Revenue Code of 1986, as amended (the "**Code**"). The Buyers and the Company mutually agree that the allocation of the issue price of such investment unit between the Notes and the Warrants in accordance with Section 1273(c)(2) of the Code and Treasury Regulation Section 1.1273-2(h) shall be an aggregate amount of \$75.06164 per \$909.09 of Purchase Price to be allocated to the Warrants and the balance of the Purchase Price allocated to the Notes, and neither the Buyers nor the Company shall take any position inconsistent with such allocation in any tax return or in any judicial or administrative proceeding in respect of taxes.

(d) Form of Payment. On the Closing Date, (i) each Buyer shall pay its Purchase Price to the Company for the Notes and the Warrants to be issued and sold to such Buyer at the Closing (less, in the case of Empery Asset Master Ltd. ("**Empery**"), the amounts withheld pursuant to Section 4(g)), by wire transfer of immediately available funds in accordance with the Company's written wire instructions and (ii) the Company shall deliver to each Buyer the Notes (allocated in the principal amounts as such Buyer shall request) which such Buyer is then purchasing hereunder along with the Warrants (allocated in the amounts as such Buyer shall request) which such Buyer is purchasing hereunder, in each case duly executed on behalf of the Company and registered in the name of such Buyer or its designee.

2. BUYER'S REPRESENTATIONS AND WARRANTIES. Each Buyer, severally and not jointly, represents and warrants with respect to only itself that, as of the date hereof and as of the Closing Date:

(a) No Public Sale or Distribution. Such Buyer is (i) acquiring the Notes and the Warrants and (ii) upon exercise of the Warrants (other than pursuant to a Cashless Exercise (as defined in the Warrants)) will acquire the Warrant Shares issuable upon exercise of the Warrants, for its own account and not with a view towards, or for resale in connection with, the public sale or distribution thereof, except pursuant to sales registered or exempted under the 1933 Act; provided, however, that by making the representations herein, such Buyer does not agree to hold any of the Securities for any minimum or other specific term and reserves the right to dispose of the Securities at any time in accordance with or pursuant to a registration statement or an exemption under the 1933 Act. Such Buyer is acquiring the Securities hereunder in the ordinary course of its business. Such Buyer does not presently have any agreement or understanding, directly or indirectly, with any Person (as defined below) to distribute any of the Securities. For purposes of this Agreement, "**Person**" means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization, any other entity and any government or any department or agency thereof.

(b) Accredited Investor Status. Such Buyer is an "accredited investor" as that term is defined in Rule 501(a) of Regulation D.

(c) Reliance on Exemptions. Such Buyer understands that the Securities are being offered and sold to it in reliance on specific exemptions from the registration requirements of United States federal and state securities laws and that the Company is relying in part upon the truth and accuracy of, and such Buyer's compliance with, the representations, warranties, agreements, acknowledgments and understandings of such Buyer set forth herein in order to determine the availability of such exemptions and the eligibility of such Buyer to acquire the Securities.

(d) Information. Such Buyer and its advisors, if any, have been furnished with all materials relating to the business, finances and operations of the Company and materials relating to the offer and sale of the Securities that have been requested by such Buyer. Such Buyer and its advisors, if any, have been afforded the opportunity to ask questions of the Company. Neither such inquiries nor any other due diligence investigations conducted by such Buyer or its advisors, if any, or its representatives shall modify, amend or affect such Buyer's right to rely on the Company's representations and warranties contained herein. Such Buyer understands that its investment in the Securities involves a high degree of risk. Such Buyer has sought such accounting, legal and tax advice as it has considered necessary to make an informed investment decision with respect to its acquisition of the Securities.

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

(f) Transfer or Resale. Such Buyer understands that except as provided in the Registration Rights Agreement: (i) the Securities have not been and are not being registered under the 1933 Act or any state securities laws, and may not be offered for sale, sold, assigned or transferred unless (A) subsequently registered thereunder, (B) such Buyer shall have delivered to the Company an opinion of counsel, in a generally acceptable form, to the effect that such Securities to be sold, assigned or transferred may be sold, assigned or transferred pursuant to an exemption from such registration, or (C) such Buyer provides the Company with reasonable assurance that such Securities can be sold, assigned or transferred pursuant to Rule 144 or Rule 144A promulgated under the 1933 Act, as amended, (or a successor rule thereto) (collectively, "**Rule 144**"); (ii) any sale of the Securities made in reliance on Rule 144 may be made only in accordance with the terms of Rule 144 and further, if Rule 144 is not applicable, any resale of the Securities under circumstances in which the seller (or the Person) through whom the sale is made) may be deemed to be an underwriter (as that term is defined in the 1933 Act) may require compliance with some other exemption under the 1933 Act or the rules and regulations of the SEC thereunder; and (iii) neither the Company nor any other Person is under any obligation to register the Securities under the 1933 Act or any state securities laws or to comply with the terms and conditions of any exemption thereunder. Notwithstanding the foregoing, the Securities may be pledged in connection with a bona fide margin account or other loan or financing arrangement secured by the Securities and such pledge of Securities shall not be deemed to be a transfer, sale or assignment of the Securities hereunder, and no Buyer effecting a pledge of Securities shall be required to provide the Company with any notice thereof or otherwise make any delivery to the Company pursuant to this Agreement or any other Transaction Document (as defined in Section 3(b)), including, without limitation, this Section 2(f).

(g) Legends. Such Buyer understands that the certificates or other instruments representing the Notes and the Warrants and, until such time as the resale of the Conversion Shares and the Warrant Shares have been registered under the 1933 Act as contemplated by the Registration Rights Agreement, the stock certificates representing the Conversion Shares and the Warrant Shares, except as set forth below, shall bear a restrictive legend in substantially the following form (and a stop-transfer order may be placed against transfer of such stock certificates):

[NEITHER THE ISSUANCE AND SALE OF THE SECURITIES REPRESENTED BY THIS CERTIFICATE NOR THE SECURITIES INTO WHICH THESE SECURITIES ARE [CONVERTIBLE] [EXERCISABLE] HAVE BEEN][THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN] REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR APPLICABLE STATE SECURITIES LAWS. THE SECURITIES MAY NOT BE OFFERED FOR SALE, SOLD, TRANSFERRED OR ASSIGNED (I) IN THE ABSENCE OF (A) AN EFFECTIVE REGISTRATION STATEMENT FOR THE SECURITIES UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR (B) AN OPINION OF COUNSEL SELECTED BY THE HOLDER, IN A GENERALLY ACCEPTABLE FORM, THAT REGISTRATION IS NOT REQUIRED UNDER SAID ACT OR (II) UNLESS SOLD PURSUANT TO RULE 144 OR RULE 144A UNDER SAID ACT. NOTWITHSTANDING THE FOREGOING, THE SECURITIES MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT OR OTHER LOAN OR FINANCING ARRANGEMENT SECURED BY THE SECURITIES.



The legend set forth above shall be removed and the Company shall issue a certificate without such legend to the holder of the Securities upon which it is stamped or issue to such holder by electronic delivery at the applicable balance account at The Depository Trust Company ("DTC"), if (i) such Securities are registered for resale under the 1933 Act, (ii) in connection with a sale, assignment or other transfer, such holder provides the Company with an opinion of counsel, in a generally acceptable form, to the effect that such sale, assignment or transfer of the Securities may be made without registration under the applicable requirements of the 1933 Act, or (iii) the Securities can be sold, assigned or transferred pursuant to Rule 144 or Rule 144A. The Company shall be responsible for the fees of its transfer agent and all DTC fees associated with such issuance. The Company shall cause its counsel to issue a legal opinion to the Transfer Agent promptly if required by the Transfer Agent, and/or to any Buyer if requested by such Buyer, to effect the removal of the legend hereunder.

(h) Validity; Enforcement. This Agreement and the Registration Rights Agreement have been duly and validly authorized, executed and delivered on behalf of such Buyer and shall constitute the legal, valid and binding obligations of such Buyer enforceable against such Buyer in accordance with their respective terms, except as such enforceability may be limited by general principles of equity or to applicable bankruptcy, insolvency, reorganization, moratorium, liquidation and other similar laws relating to, or affecting generally, the enforcement of applicable creditors' rights and remedies.

(i) No Conflicts. The execution, delivery and performance by such Buyer of this Agreement and the Registration Rights Agreement and the consummation by such Buyer of the transactions contemplated hereby will not (i) result in a violation of the organizational documents of such Buyer or (ii) conflict with, or constitute a default (or an event which with notice or lapse of time or both would become a default) under, or give to others any rights of termination, amendment, acceleration or cancellation of, any agreement, indenture or instrument to which such Buyer is a party, or (iii) result in a violation of any law, rule, regulation, order, judgment or decree (including federal and state securities laws) applicable to such Buyer, except in the case of clauses (ii) and (iii) above, for such conflicts, defaults, rights or violations which would not, individually or in the aggregate, reasonably be expected to have a material adverse effect on the ability of such Buyer to perform its obligations hereunder.

### 3. REPRESENTATIONS AND WARRANTIES OF THE COMPANY.

The Company makes the following representations and warranties to each of the Buyers, as of the date hereof and as of the Closing Date, subject to the disclosures of the Company set forth in the disclosure schedules delivered to the Buyers as of the date hereof (the "**Disclosure Schedules**"). The Disclosure Schedules shall be arranged in sections corresponding to the numbered and lettered sections and subsections contained in this Section 3 and certain other sections of this Agreement.

(a) Organization and Qualification. Each of the Company and each of its "**Subsidiaries**" (which for purposes of this Agreement means any entity in which the Company, directly or indirectly, owns any of the capital stock or holds an equity or similar interest) are entities duly organized and validly existing and in good standing under the laws of the jurisdiction in which they are formed, and have the requisite power and authorization to own their properties and to carry on their business as now being conducted and as presently proposed to be conducted. Each of the Company and each of its Subsidiaries is duly qualified as a foreign entity to do business and is in good standing in every jurisdiction in which its ownership of property or the nature of the business conducted by it makes such qualification necessary, except to the extent that the failure to be so qualified or be in good standing would not reasonably be expected to have a Material Adverse Effect. As used in this Agreement, "**Material Adverse Effect**" means any material adverse effect on the business, properties, assets, liabilities, operations, results of operations, condition (financial or otherwise) or prospects of the Company and its Subsidiaries, individually or taken as a whole, or on the transactions contemplated hereby or on the other Transaction Documents or by the agreements and instruments to be entered into in connection herewith or therewith, or on the authority or ability of the Company to perform any of its obligations under any of the Transaction Documents (as defined below). The Company has no Subsidiaries except as set forth on Schedule 3(a).

(b) Authorization; Enforcement; Validity. The Company has the requisite power and authority to enter into and perform its obligations under this Agreement, the Notes, the Warrants, the Registration Rights Agreement, the Irrevocable Transfer Agent Instructions (as defined in Section 5(b)) and each of the other agreements entered into by the parties hereto in connection with the transactions contemplated by this Agreement (collectively, the "**Transaction Documents**") and to issue the Securities in accordance with the terms hereof and thereof. The execution and delivery of this Agreement and the other Transaction Documents by the Company and the consummation by the Company of the transactions contemplated hereby and thereby, including, without limitation, the issuance of the Notes and the Warrants, and the reservation for issuance and the issuance of the Conversion Shares and the reservation for issuance and issuance of Warrant Shares issuable upon exercise of the Warrants have been duly authorized by the Company's Board of Directors and (other than the filing with the SEC of one or more Registration Statements (as defined in the Registration Rights Agreement) in accordance with the requirements of the Registration Rights Agreement, the filing of a Form D with the SEC and other filings as may be required by state securities agencies) no further filing, consent, or authorization is required by the Company, its Board of Directors or its stockholders. This Agreement and the other Transaction Documents have been duly executed and delivered by the Company, and constitute the legal, valid and binding obligations of the Company, enforceable against the Company in accordance with their respective terms, except as such enforceability may be limited by general principles of equity or applicable bankruptcy, insolvency, reorganization, moratorium, liquidation or similar laws relating to, or affecting generally, the enforcement of applicable creditors' rights and remedies.

(c) Issuance of Securities. The issuance of the Notes and the Warrants are duly authorized and, upon issuance, shall be validly issued and free from all preemptive or similar rights, taxes, liens, charges and other encumbrances with respect to the issue thereof. As of the Closing, a number of shares of Common Stock shall have been duly authorized and reserved for issuance which equals or exceeds (the "**Required Reserved Amount**") the sum of (i) 200% of the maximum number of Conversion Shares issued and issuable pursuant to the Notes based on the Conversion Price (as defined in the Notes) (without taking into account any limitations on the issuance thereof pursuant to the terms of the Notes) and (ii) the maximum number of Warrant Shares issued and issuable pursuant to the Warrants, each as of the Trading Day (as defined in the Warrants) immediately preceding the applicable date of determination (without taking into account any limitations on the exercise of the Warrants set forth in the Warrants). As of the date hereof, there are 699,882,002 shares of Common Stock authorized and unissued. Upon conversion of the Notes in accordance with the Notes or exercise of the Warrants in accordance with the Warrants, as the case may be, the Conversion Shares and the Warrant Shares, respectively, will be validly issued, fully paid and nonassessable and free from all preemptive or similar rights, taxes, liens, charges and other encumbrances with respect to the issue thereof, with the holders being entitled to all rights accorded to a holder of Common Stock. Assuming the accuracy of each of the representations and warranties set forth in Section 2 of this Agreement, the offer and issuance by the Company of the Securities is exempt from registration under the 1933 Act.

(d) No Conflicts. The execution, delivery and performance of the Transaction Documents by the Company and the consummation by the Company of the transactions contemplated hereby and thereby (including, without limitation, the issuance of the Notes and the Warrants and reservation for issuance and issuance of the Conversion Shares and the Warrant Shares) will not (i) result in a violation of the Certificate of Incorporation (as defined in Section (3(r)) or Bylaws (as defined in Section (3(r))), any memorandum of association, certificate of incorporation, certificate of formation, bylaws, any certificate of designations or other constituent documents of the Company or any of its Subsidiaries, any capital stock of the Company or any of its Subsidiaries or the articles of association or bylaws of the Company or any of its Subsidiaries or (ii) conflict with, or constitute a default (or an event which with notice or lapse of time or both would become a default) in any respect under, or give to others any rights of termination, amendment, acceleration or cancellation of, any agreement, indenture or instrument to which the Company or any of its Subsidiaries is a party, or (iii) result in a violation of any law, rule, regulation, order, judgment or decree (including other foreign, federal and state securities laws and regulations and the rules and regulations of the OTC QB (the "**Principal Market**") and including all applicable laws of the State of Delaware and any foreign, federal and state laws, rules and regulations) applicable to the Company or any of its Subsidiaries or by which any property or asset of the Company or any of its Subsidiaries is bound or affected.

(e) Consents. The Company is not required to obtain any consent, authorization or order of, or make any filing or registration with (other than the filing with the SEC of one or more Registration Statements in accordance with the requirements of the Registration Rights Agreement, a Form D with the SEC and other filings as may be required by state securities agencies), any court, governmental agency or any regulatory or self-regulatory agency or any other Person in order for it to execute, deliver or perform any of its obligations under or contemplated by the Transaction Documents, in each case in accordance with the terms hereof or thereof. All consents, authorizations, orders, filings and registrations which the Company is required to obtain pursuant to the preceding sentence have been obtained or effected on or prior to the Closing Date (or in the case of the filings detailed above, will be made timely after the Closing Date), and the Company is unaware of any facts or circumstances that might prevent the Company from obtaining or effecting any of the registration, application or filings pursuant to the preceding sentence. The Company is not in violation of the listing requirements of the Principal Market and has no knowledge of any facts or circumstances that would reasonably lead to delisting or suspension of the Common Stock in the foreseeable future. The issuance by the Company of the Securities shall not have the effect of delisting or suspending the Common Stock from the Principal Market.

(f) Acknowledgment Regarding Buyer's Purchase of Securities. The Company acknowledges and agrees that each Buyer is acting solely in the capacity of an arm's length purchaser with respect to the Transaction Documents and the transactions contemplated hereby and thereby and that no Buyer is (i) an officer or director of the Company or any of its Subsidiaries, (ii) an "affiliate" of the Company or any of its Subsidiaries (as defined in Rule 144) or (iii) to the knowledge of the Company, a "beneficial owner" of more than 10% of the shares of Common Stock (as defined for purposes of Rule 13d-3 of the Securities Exchange Act of 1934, as amended (the "**1934 Act**")). The Company further acknowledges that no Buyer is acting as a financial advisor or fiduciary of the Company or any of its Subsidiaries (or in any similar capacity) with respect to the Transaction Documents and the transactions contemplated hereby and thereby, and any advice given by a Buyer or any of its representatives or agents in connection with the Transaction Documents and the transactions contemplated hereby and thereby is merely incidental to such Buyer's purchase of the Securities. The Company further represents to each Buyer that the Company's decision to enter into the Transaction Documents has been based solely on the independent evaluation by the Company and its representatives.

(g) No General Solicitation; Placement Agent's Fees. Neither the Company, nor any of its Subsidiaries or affiliates, nor any Person acting on its or their behalf, has engaged in any form of general solicitation or general advertising (within the meaning of Regulation D) in connection with the offer or sale of the Securities. The Company shall be responsible for the payment of any placement agent's fees, financial advisory fees, or brokers' commissions (other than for persons engaged by any Buyer or its investment advisor) relating to or arising out of the transactions contemplated hereby, including, without limitation, any placement agent fees payable to Oppenheimer & Co. Inc., as placement agent (the "**Placement Agent**") in connection with the sale of the Securities. The Company shall pay, and hold each Buyer harmless against, any liability, loss or expense (including, without limitation, attorney's fees and out-of-pocket expenses) arising in connection with any such claim. The Company acknowledges that it has engaged the Placement Agent in connection with the sale of the Securities. Other than the Placement Agent, neither the Company nor any of its Subsidiaries has engaged any placement agent or other agent in connection with the sale of the Securities.

(h) No Integrated Offering. None of the Company, its Subsidiaries, any of their affiliates, nor any Person acting on their behalf has, directly or indirectly, made any offers or sales of any security or solicited any offers to buy any security, under circumstances that would require registration of the issuance of any of the Securities under the 1933 Act, whether through integration with prior offerings or otherwise, or cause this offering of the Securities to require approval of stockholders of the Company for purposes of the 1933 Act or any applicable stockholder approval provisions, including, without limitation, under the rules and regulations of any exchange or automated quotation system on which any of the securities of the Company are listed or designated for quotation. None of the Company, its Subsidiaries, their affiliates nor any Person acting on their behalf will take any action or steps referred to in the preceding sentence that would require registration of the issuance of any of the Securities under the 1933 Act or cause the offering of any of the Securities to be integrated with other offerings for purposes of any such applicable stockholder approval provisions.

(i) Dilutive Effect. The Company understands and acknowledges that the number of Conversion Shares issuable pursuant to terms of the Notes will increase in certain circumstances. The Company further acknowledges that its obligation to issue Conversion Shares pursuant to the terms of the Notes in accordance with this Agreement and the Notes is absolute and unconditional regardless of the dilutive effect that such issuance may have on the ownership interests of other stockholders of the Company.

(j) Application of Takeover Protections; Rights Agreement. The Company and its board of directors have taken all necessary action, if any, in order to render inapplicable any control share acquisition, interested shareholder, business combination, poison pill (including, without limitation, any distribution under a rights agreement) or other similar anti-takeover provision under the Certificate of Incorporation, Bylaws or other organizational documents or the laws of the jurisdiction of its formation which is or could become applicable to any Buyer as a result of the transactions contemplated by this Agreement, including, without limitation, the Company's issuance of the Securities and any Buyer's ownership of the Securities. The Company has not adopted a stockholder rights plan or similar arrangement relating to accumulations of beneficial ownership of Common Stock or a change in control of the Company or any of its Subsidiaries.

(k) SEC Documents; Financial Statements. Except as disclosed in Schedule 3(k), during the two (2) years prior to the date hereof, the Company has timely filed all reports, schedules, forms, statements and other documents required to be filed by it with the SEC pursuant to the reporting requirements of the 1934 Act (all of the foregoing filed prior to the date hereof or prior to the Closing Date, and all exhibits included therein and financial statements, notes and schedules thereto and documents incorporated by reference therein being hereinafter referred to as the "**SEC Documents**"). All of the SEC Documents are available on the EDGAR system. As of their respective filing dates, the SEC Documents complied in all material respects with the requirements of the 1934 Act and the rules and regulations of the SEC promulgated thereunder applicable to the SEC Documents, and none of the SEC Documents, at the time they were filed with the SEC, 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. As of their respective filing dates, the financial statements of the Company included in the SEC Documents complied as to form in all material respects with applicable accounting requirements and the published rules and regulations of the SEC with respect thereto. Such financial statements have been prepared in accordance with generally accepted accounting principles, consistently applied, during the periods involved ("**GAAP**") (except (i) as may be otherwise indicated in such financial statements or the notes thereto, or (ii) in the case of unaudited interim statements, to the extent they may exclude footnotes or may be condensed or summary statements) and fairly present in all material respects the financial position of the Company and its Subsidiaries as of the dates thereof and the results of its operations and cash flows for the periods then ended (subject, in the case of unaudited statements, to normal year-end audit adjustments which will not be material either individually or in the aggregate). No other information provided by or on behalf of the Company to any of the Buyers which is not included in the SEC Documents, including, without limitation, information referred to in Section 2(d) of this Agreement or in the disclosure schedules to this Agreement, contains any untrue statement of a material fact or omits to state any material fact necessary in order to make the statements therein, in the light of the circumstance under which they are or were made, not misleading.

(l) Absence of Certain Changes. Except as disclosed in Schedule 3(l), since December 31, 2016, there has been no material adverse change and no material adverse development in the business, assets, liabilities, properties, operations, condition (financial or otherwise), results of operations or prospects of the Company or any of its Subsidiaries. Except as disclosed in Schedule 3(l), since December 31, 2016, neither the Company nor any of its Subsidiaries has (i) declared or paid any dividends, (ii) sold any assets, individually or in the aggregate, in excess of \$250,000 outside of the ordinary course of business or (iii) had capital expenditures, individually or in the aggregate, in excess of \$250,000. Neither the Company nor any of its Subsidiaries has taken any steps to seek protection pursuant to any law or statute relating to bankruptcy, insolvency, reorganization, receivership, liquidation or winding up nor does the Company or any Subsidiary have any knowledge or reason to believe that any of its respective creditors intend to initiate involuntary bankruptcy proceedings or any actual knowledge of any fact that would reasonably lead a creditor to do so. The Company and its Subsidiaries, individually and on a consolidated basis, after giving effect to the transactions contemplated hereby to occur at the Closing, will not be Insolvent (as defined below). For purposes of this Section 3(l), "**Insolvent**" means, with respect to any Person, (i) the present fair saleable value of such Person's assets is less than the amount required to pay such Person's total Indebtedness (as defined in Section 3(s)), (ii) such Person is unable to pay its debts and liabilities, subordinated, contingent or otherwise, as such debts and liabilities become absolute and matured, (iii) such Person intends to incur or believes that it will incur debts that would be beyond its ability to pay as such debts mature or (iv) such Person has unreasonably small capital with which to conduct the business in which it is engaged as such business is now conducted and is proposed to be conducted.

(m) No Undisclosed Events, Liabilities, Developments or Circumstances. No event, liability, development or circumstance has occurred or exists, or is contemplated to occur with respect to the Company, its Subsidiaries or their respective business, properties, prospects, operations or financial condition, that would be required to be disclosed by the Company under applicable securities laws on a registration statement on Form S-1 filed with the SEC relating to an issuance and sale by the Company of its Common Stock and which has not been publicly announced.

(n) Conduct of Business; Regulatory Permits. Neither the Company nor any of its Subsidiaries is in violation of any term of or in default under any certificate of designations of any outstanding series of preferred stock of the Company (if any), its Articles of Incorporation or Bylaws or their organizational charter or memorandum of association or certificate of incorporation or articles of association or bylaws, respectively. Neither the Company nor any of its Subsidiaries is in violation of any judgment, decree or order or any statute, ordinance, rule or regulation applicable to the Company or any of its Subsidiaries, and neither the Company nor any of its Subsidiaries will conduct its business in violation of any of the foregoing, except for possible violations which could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. Without limiting the generality of the foregoing, the Company is not in violation of any of the rules, regulations or requirements of the Principal Market and has no knowledge of any facts or circumstances that would reasonably lead to delisting or suspension of the Common Stock by the Principal Market in the foreseeable future. Except as set forth in Schedule 3(n), during the two (2) years prior to the date hereof, the Common Stock has been designated for quotation on the Principal Market. Except as set forth in Schedule 3(n), during the two (2) years prior to the date hereof, (i) trading in the Common Stock has not been suspended by the SEC or the Principal Market and (ii) the Company has received no communication, written or oral, from the SEC or the Principal Market regarding the suspension or delisting of the Common Stock from the Principal Market. The Company and its Subsidiaries possess all certificates, authorizations and permits issued by the appropriate federal, state or foreign regulatory authorities necessary to conduct their respective businesses, except where the failure to possess such certificates, authorizations or permits would not have, individually or in the aggregate, a Material Adverse Effect, and neither the Company nor any such Subsidiary has received any notice of proceedings relating to the revocation or modification of any such certificate, authorization or permit.

(o) Foreign Corrupt Practices. Neither the Company, nor any of its Subsidiaries, nor, to the Company's knowledge, any director, officer, agent, employee or other Person acting on behalf of the Company or any of its Subsidiaries has, in the course of its actions for, or on behalf of, the Company or any of its Subsidiaries (i) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expenses relating to political activity; (ii) made any direct or indirect unlawful payment to any foreign or domestic government official or employee from corporate funds; (iii) violated or is in violation of any provision of the U.S. Foreign Corrupt Practices Act of 1977, as amended; or (iv) made any unlawful bribe, rebate, payoff, influence payment, kickback or other unlawful payment to any foreign or domestic government official or employee.

(p) Sarbanes-Oxley Act. The Company is in compliance in all material respects with any and all applicable requirements of the Sarbanes-Oxley Act of 2002, as amended, that are effective as of the date hereof, and any and all applicable rules and regulations promulgated by the SEC thereunder that are effective as of the date hereof.

(q)

Transactions With Affiliates. Except as set forth on Schedule 3(q), none of the officers, directors or employees of the Company or any of its Subsidiaries is presently a party to any transaction with the Company or any of its Subsidiaries (other than for ordinary course services as employees, officers or directors), including any contract, agreement or other arrangement providing for the furnishing of services to or by, providing for rental of real or personal property to or from, or otherwise requiring payments to or from any such officer, director or employee or, to the knowledge of the Company or any of its Subsidiaries, any corporation, partnership, trust or other entity in which any such officer, director, or employee has a substantial interest or is an officer, director, employee, trustee or partner.

(r) Equity Capitalization. As of the date hereof, the authorized capital stock of the Company consists of (i) 750,000,000 shares of Common Stock, of which as of the date hereof, 50,117,978 shares are issued and outstanding, 150,000 shares are reserved for issuance pursuant to the Company's stock option and purchase plans and 1,163,548 shares are reserved for issuance pursuant to securities (other than the aforementioned options, the Notes and the Warrants) exercisable or exchangeable for, or convertible into, Common Stock, (ii) 15,000,000 shares of preferred stock, par value \$0.001 per share, of which (w) 92,230 shares are designated as Series C preferred stock, 92,230 of which are issued and outstanding, (x) 25,000 shares are designated as Series H preferred stock, 0 of which are issued and outstanding, (y) 1,666,667 shares are designated as Series I preferred stock, 0 of which are issued and outstanding and (z) (w) 2,000,000 shares are designated as Series J preferred stock, 1,163,548 of which are issued and outstanding and (iii) there are 23,956,712 shares of Common Stock held by non-affiliates of the Company. All of such outstanding shares have been, or upon issuance will be, validly issued and are fully paid and nonassessable. Except as disclosed in (i) Schedule 3(r)(i), none of the Company's capital stock is subject to preemptive rights or any other similar rights or any liens or encumbrances suffered or permitted by the Company; (ii) Schedule 3(r)(ii), there are no outstanding options, warrants, scrip, rights to subscribe to, calls or commitments of any character whatsoever relating to, or securities or rights convertible into, or exercisable or exchangeable for, any shares of capital stock of the Company or any of its Subsidiaries, or contracts, commitments, understandings or arrangements by which the Company or any of its Subsidiaries is or may become bound to issue additional shares of capital stock of the Company or any of its Subsidiaries or options, warrants, scrip, rights to subscribe to, calls or commitments of any character whatsoever relating to, or securities or rights convertible into, or exercisable or exchangeable for, any shares of capital stock of the Company or any of its Subsidiaries; (iii) Schedule 3(r)(iii), there are no outstanding debt securities, notes, credit agreements, credit facilities or other agreements, documents or instruments evidencing Indebtedness of the Company or any of its Subsidiaries or by which the Company or any of its Subsidiaries is or may become bound; (iv) Schedule 3(r)(iv), there are no financing statements securing obligations in any material amounts, either singly or in the aggregate, filed in connection with the Company or any of its Subsidiaries; (v) Schedule 3(r)(v) or pursuant to the Registration Rights Agreement, there are no agreements or arrangements under which the Company or any of its Subsidiaries is obligated to register the sale of any of their securities under the 1933 Act; (vi) Schedule 3(r)(vi), there are no outstanding securities or instruments of the Company or any of its Subsidiaries which contain any redemption or similar provisions, and there are no contracts, commitments, understandings or arrangements by which the Company or any of its Subsidiaries is or may become bound to redeem a security of the Company or any of its Subsidiaries; (vii) Schedule 3(r)(vii), there are no securities or instruments containing anti-dilution or similar provisions that will be triggered by the issuance of the Securities; (viii) Schedule 3(r)(viii), neither the Company nor any Subsidiary has any stock appreciation rights or "phantom stock" plans or agreements or any similar plan or agreement; and (ix) Schedule 3(r)(ix), the Company and its Subsidiaries have no liabilities or obligations required to be disclosed in the SEC Documents but not so disclosed in the SEC Documents, other than those incurred in the ordinary course of the Company's or any of its Subsidiary's' respective businesses and which, individually or in the aggregate, do not or would not have a Material Adverse Effect. The SEC Documents contain true, correct and complete copies of the Company's Certificate of Incorporation, as amended and as in effect on the date hereof (the "**Certificate of Incorporation**"), and the Company's Bylaws, as amended and as in effect on the date hereof (the "**Bylaws**"), and the terms of all securities convertible into, or exercisable or exchangeable for shares of Common Stock and the material rights of the holders thereof in respect thereto.



(s) Indebtedness and Other Contracts. Neither the Company nor any of its Subsidiaries (i) except as disclosed in Schedule 3(s)(i), has any outstanding Indebtedness (as defined below), (ii) except as disclosed in Schedule 3(s)(ii), is a party to any contract, agreement or instrument, the violation of which, or default under which, by the other party(ies) to such contract, agreement or instrument could reasonably be expected to result in a Material Adverse Effect, (iii) except as disclosed in Schedule 3(s)(iii), is in violation of any term of or in default under any contract, 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 (iv) except as disclosed in Schedule 3(s)(iv), 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. Schedule 3(s) provides a detailed description of the material terms of any such outstanding Indebtedness. 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, including, without limitation, "capital leases" in accordance with GAAP (other than trade payables entered into in the ordinary course of business consistent with past practice), (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 GAAP, 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, deed of trust, lien, pledge, charge, security interest or other encumbrance of any nature whatsoever in or upon any property or assets (including accounts and contract rights) with respect to any asset or property 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.

(t) Absence of Litigation. There is no action, suit, proceeding, inquiry or investigation before or by the Principal Market, any court, public board, government agency, self-regulatory organization or body pending or, to the knowledge of the Company, threatened against or affecting the Company or any of its Subsidiaries, the Common Stock or any of the Company's Subsidiaries or any of the Company's or its Subsidiaries' officers or directors, whether of a civil or criminal nature or otherwise, in their capacities as such, except as set forth in Schedule 3(t). The matters set forth in Schedule 3(t) would not reasonably be expected to have a Material Adverse Effect.

(u) Insurance. The Company and each of its Subsidiaries are insured against such losses and risks and in such amounts as management of the Company believes to be prudent and customary in the businesses in which the Company and its Subsidiaries are engaged. Neither the Company nor any such Subsidiary has been refused any insurance coverage sought or applied for. The Company believes that it either will be able to renew its existing insurance coverage as and when such coverage expires or obtain similar coverage from similar insurers as may be necessary to continue its business, in each case, at a cost that would not reasonably be expected to have a Material Adverse Effect.

(v) Employee Relations.

(i) Neither the Company nor any of its Subsidiaries is a party to any collective bargaining agreement or employs any member of a union. The Company and its Subsidiaries believe that their relations with their respective employees are good. No executive officer of the Company or any of its Subsidiaries (as defined in Rule 501(f) of the 1933 Act) has notified the Company or any such Subsidiary that such officer intends to leave the Company or any such Subsidiary or otherwise terminate such officer's employment with the Company or any such Subsidiary. No executive officer of the Company or any of its Subsidiaries, to the knowledge of the Company or any of its Subsidiaries, is, or is now expected to be, in violation of any material term of any employment contract, confidentiality, disclosure or proprietary information agreement, non-competition agreement, or any other contract or agreement or any restrictive covenant, and, to the knowledge of the Company, the continued employment of each such executive officer does not subject the Company or any of its Subsidiaries to any liability with respect to any of the foregoing matters.

(ii) The Company and its Subsidiaries are in compliance 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.

(w) Title. The Company and its Subsidiaries have good and marketable title in fee simple to all real property and good and marketable title to all personal property owned by them which is material to the business of the Company and its Subsidiaries, in each case free and clear of all liens, encumbrances and defects except such as do not materially affect the value of such property and do not interfere with the use made and proposed to be made of such property by the Company and any of its Subsidiaries. Any real property and facilities held under lease by the Company and any of its Subsidiaries are held by them under valid, subsisting and enforceable leases with such exceptions as are not material and do not interfere with the use made and proposed to be made of such property and buildings by the Company and its Subsidiaries.

(x) Intellectual Property Rights. The Company and its Subsidiaries own or possess adequate rights or licenses to use all trademarks, trade names, service marks, service mark registrations, service names, original works of authorship, patents, patent rights, copyrights, inventions, licenses, approvals, governmental authorizations, trade secrets and other intellectual property rights and all applications and registrations therefor ("**Intellectual Property Rights**") necessary to conduct their respective businesses as now conducted and as presently proposed to be conducted. Each of patents owned by the Company or any of its Subsidiaries is listed on Schedule 3(x)(i). Except as set forth in Schedule 3(x)(ii), none of the Company's or its Subsidiaries' Intellectual Property Rights have expired or terminated or have been abandoned or are expected to expire or terminate or are expected to be abandoned, within three years from the date of this Agreement. The Company does not have any knowledge of any infringement by the Company or its Subsidiaries of Intellectual Property Rights of others. There is no claim, action or proceeding being made or brought, or to the knowledge of the Company or any of its Subsidiaries, being threatened, against the Company or any of its Subsidiaries regarding its Intellectual Property Rights. Neither the Company nor any of its Subsidiaries is aware of any facts or circumstances which might give rise to any of the foregoing infringements or claims, actions or proceedings. The Company and its Subsidiaries have taken reasonable security measures to protect the secrecy, confidentiality and value of all of their Intellectual Property Rights.

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

(z) Subsidiary Rights. The Company or one of its Subsidiaries has the unrestricted right to vote, and (subject to limitations imposed by applicable law) to receive dividends and distributions on, all capital securities of its Subsidiaries as owned by the Company or such Subsidiary.

(aa) Investment Company Status. Neither the Company nor any Subsidiary is, and upon consummation of the sale of the Securities, and for so long any Buyer holds any Securities, will be, an "investment company," a company controlled by an "investment company" or an "affiliated person" of, or "promoter" or "principal underwriter" for, an "investment company" as such terms are defined in the Investment Company Act of 1940, as amended.

(bb) Tax Status. The Company and each of its Subsidiaries (i) has made or filed all U.S. federal, state and foreign income and all other tax returns, reports and declarations required by any jurisdiction to which it is subject, (ii) has paid all taxes and other governmental assessments and charges that are material in amount, shown or determined to be due on such returns, reports and declarations, except those 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. There are no unpaid taxes in any material amount claimed to be due by the taxing authority of any jurisdiction, and the officers of the Company know of no basis for any such claim.

(cc) Internal Accounting and Disclosure Controls. The Company and each of its Subsidiaries maintain a system of internal accounting controls sufficient to provide reasonable assurance that (i) transactions are executed in accordance with management's general or specific authorizations, (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles and to maintain asset and liability accountability, (iii) access to assets or incurrence of liabilities is permitted only in accordance with management's general or specific authorization and (iv) the recorded accountability for assets and liabilities is compared with the existing assets and liabilities at reasonable intervals and appropriate action is taken with respect to any difference. The Company maintains disclosure controls and procedures (as such term is defined in Rule 13a-15 under the 1934 Act) that are effective in ensuring that information required to be disclosed by the Company in the reports that it files or submits under the 1934 Act is recorded, processed, summarized and reported, within the time periods specified in the rules and forms of the SEC, including, without limitation, controls and procedures designed to ensure that information required to be disclosed by the Company in the reports that it files or submits under the 1934 Act is accumulated and communicated to the Company's management, including its principal executive officer or officers and its principal financial officer or officers, as appropriate, to allow timely decisions regarding required disclosure. During the twelve months prior to the date hereof neither the Company nor any of its Subsidiaries has received any notice or correspondence from any accountant relating to any material weakness in any part of the system of internal accounting controls of the Company or any of its Subsidiaries.

(dd) Off Balance Sheet Arrangements. There is no transaction, arrangement, or other relationship between the Company and an unconsolidated or other off balance sheet entity that is required to be disclosed by the Company in its 1934 Act filings and is not so disclosed or that otherwise would be reasonably likely to have a Material Adverse Effect.

(ee) Ranking of Notes. Except as set forth in Schedule 3(ee), no Indebtedness of the Company or any of its Subsidiaries is senior to or ranks *pari passu* with the Notes in right of payment, whether with respect of payment of redemptions, interest, damages or upon liquidation or dissolution or otherwise.

(ff) Eligibility for Registration. As of the date hereof, the Company is eligible to register the Conversion Shares and the Warrant Shares for resale by the Buyers using Form S-3 promulgated under the 1933 Act.

(gg) Transfer Taxes. On the Closing Date, all stock transfer or other taxes (other than income or similar taxes) which are required to be paid in connection with the sale and transfer of the Securities to be sold to each Buyer hereunder will be, or will have been, fully paid or provided for by the Company, and all laws imposing such taxes will be or will have been complied with.

(hh) Manipulation of Price. 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, or that could reasonably be expected to cause or 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) other than the Placement Agent, sold, bid for, purchased, or paid any compensation for soliciting purchases of, any of the Securities, or (iii) other than the Placement Agent, paid or agreed to pay to any person any compensation for soliciting another to purchase any other securities of the Company.

(ii) Acknowledgement Regarding Buyers' Trading Activity. The Company acknowledges and agrees that (i) none of the Buyers has been asked to agree, nor has any Buyer agreed, to desist from purchasing or selling, long and/or short, securities of the Company, or "derivative" securities based on securities issued by the Company or to hold the Securities for any specified term; (ii) any Buyer, and counter-parties in "derivative" transactions to which any such Buyer is a party, directly or indirectly, presently may have a "short" position in the Common Stock, and (iii) each Buyer shall not be deemed to have any affiliation with or control over any arm's length counter-party in any "derivative" transaction. The Company further understands and acknowledges that one or more Buyers may engage in hedging and/or trading activities at various times during the period that the Securities are outstanding, including, without limitation, during the periods that the value of the Conversion Shares and/or the Warrant Shares are being determined and (b) such hedging and/or trading activities, if any, can reduce the value of the existing stockholders' equity interest in the Company both at and after the time the hedging and/or trading activities are being conducted. The Company acknowledges that such aforementioned hedging and/or trading activities do not constitute a breach of this Agreement, the Notes, the Warrants or any of the documents executed in connection herewith.

(jj) U.S. Real Property Holding Corporation. The Company is not, has never been, and so long as any Securities remain outstanding, shall not become, a U.S. real property holding corporation within the meaning of Section 897 of the Code and the Company shall so certify upon any Buyer's request.

(kk) Bank Holding Company Act. Neither the Company nor any of its Subsidiaries or affiliates is subject to the Bank Holding Company Act of 1956, as amended (the "BHCA") and to regulation by the Board of Governors of the Federal Reserve System (the "Federal Reserve"). Neither the Company nor any of its Subsidiaries or affiliates owns or controls, directly or indirectly, five percent (5%) or more of the outstanding shares of any class of voting securities or twenty-five percent (25%) or more of the total equity of a bank or any entity that is subject to the BHCA and to regulation by the Federal Reserve. Neither the Company nor any of its Subsidiaries or affiliates exercises a controlling influence over the management or policies of a bank or any entity that is subject to the BHCA and to regulation by the Federal Reserve.

(ll) No Additional Agreements. Neither the Company nor any of its Subsidiaries has any agreement or understanding with any Buyer with respect to the transactions contemplated by the Transaction Documents other than as specified in the Transaction Documents.

(mm) Disclosure. Except for discussions specifically regarding the offer and sale of the Securities, the Company confirms that neither it nor any other Person acting on its behalf has provided any of the Buyers or their agents or counsel with any information that constitutes or could reasonably be expected to constitute material, nonpublic information concerning the Company or any of its Subsidiaries, other than the existence of the transactions contemplated by this Agreement and the other Transaction Documents. The Company understands and confirms that each of the Buyers will rely on the foregoing representations in effecting transactions in securities of the Company. All disclosure provided to the Buyers regarding the Company and its Subsidiaries, their businesses and the transactions contemplated hereby, including the schedules to this Agreement, furnished by or on behalf of the Company or any of its Subsidiaries is true and correct and does not contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in the light of the circumstances under which they were made, not misleading. All of the written information furnished after the date hereof by or on behalf of the Company or any of its Subsidiaries to you pursuant to or in connection with this Agreement and the other Transaction Documents, taken as a whole, will be true and correct in all material respects as of the date on which such information is so provided and will not contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in the light of the circumstances under which they are made, not misleading. Each press release issued by the Company or any of its Subsidiaries during the twelve (12) months preceding the date of this Agreement did not at the time of release contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. No event or circumstance has occurred or information exists with respect to the Company or any of its Subsidiaries or its or their business, properties, liabilities, prospects, operations (including results thereof) or conditions (financial or otherwise), which, under applicable law, rule or regulation, requires public disclosure by the Company at or before the date hereof or announcement by the Company but which has not been so publicly announced or disclosed. The Company acknowledges and agrees that no Buyer makes or has made any representations or warranties with respect to the transactions contemplated hereby other than those specifically set forth in Section 2.

(nn) Shell Company Status. The Company is not, and has never been, an issuer identified in Rule 144(i)(1) of the 1933 Act.

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

(pp) No Disagreements with Accountants and Lawyers. There are no material disagreements of any kind presently existing, or reasonably anticipated by the Company to arise, between the Company and the accountants and lawyers formerly or presently employed by the Company and the Company is current with respect to any fees owed to its accountants and lawyers which could affect the Company's ability to perform any of its obligations under any of the Transaction Documents.

(qq) Compliance with Anti-Money Laundering Laws. The operations of the Company and its Subsidiaries are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements and all other applicable U.S. and non-U.S. anti-money laundering laws and regulations, including, but not limited to, those of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the USA Patriot Act of 2001 and the applicable money laundering statutes of all applicable jurisdictions, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any governmental agency (collectively, the "**Anti-Money Laundering Laws**"), and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any of its Subsidiaries with respect to the Anti-Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(rr) No Conflicts with Sanctions Laws. Neither the Company nor any of the Subsidiaries has made any contribution or other payment to any official of, or candidate for, any federal, state or foreign office in violation of any law which violation is required to be disclosed in the Prospectus. Neither the Company nor any of its Subsidiaries, nor, to the knowledge of the Company, any director, officer, employee, agent, affiliate or other person associated with or acting on behalf of the Company or any of its Subsidiaries or affiliates is, or is directly or indirectly owned or controlled by, a Person that is currently the subject or the target of any sanctions administered or enforced by the U.S. government (including, without limitation, the Office of Foreign Assets Control of the U.S. Department of the Treasury ("**OFAC**") or the U.S. Departments of State or Commerce and including, without limitation, the designation as a "specially designated national" or "blocked person"), the United Nations Security Council ("**UNSC**"), the European Union, Her Majesty's Treasury ("**HMT**") or any other relevant sanctions authority (collectively, "**Sanctions**"), or is the Company, any of its Subsidiaries located, organized or resident in a country or territory that is the subject or target of a comprehensive embargo or Sanctions prohibiting trade with the country or territory, including, without limitation, Cuba, Iran, North Korea, Sudan and Syria (each, a "**Sanctioned Country**"); no action of the Company or any of its Subsidiaries in connection with (i) the execution, delivery and performance of this Agreement and the other Transaction Documents, (ii) the issuance and sale of the Securities or (iii) the direct or indirect use of proceeds from the Securities or the consummation of any other transaction contemplated hereby or by the other Transaction Documents or the fulfillment of the terms hereof or thereof, will result in the proceeds of the transactions contemplated hereby and by the other Transaction Documents being used, or loaned, contributed or otherwise made available, directly or indirectly, to any Subsidiary, joint venture partner or other person or entity, for the purpose of (i) unlawfully funding or facilitating any activities of or business with any person that, at the time of such funding or facilitation, is the subject or target of Sanctions, (ii) unlawfully funding or facilitating any activities of or business in any Sanctioned Country or (iii) in any other manner that will result in a violation by any Person (including any Person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions. For the past five years, the Company and its Subsidiaries have not knowingly engaged in and are not now knowingly engaged in any dealings or transactions with any person that at the time of the dealing or transaction is or was the subject or the target of Sanctions or with any Sanctioned Country.

(ss) Anti-Bribery. Neither the Company, nor any of its Subsidiaries or affiliates, nor, to the knowledge of the Company, any director, officer, agent, employee or other person associated with or acting on behalf of the Company, or any of its Subsidiaries or affiliates, has (i) used any funds for any unlawful contribution, gift, entertainment or other unlawful expense relating to political activity, (ii) made any direct or indirect unlawful payment to any foreign or domestic government official or employee, to any employee or agent of a private entity with which the Company does or seeks to do business (a "**Private Sector Counterparty**") or to foreign or domestic political parties or campaigns from corporate funds, (iii) violated or is in violation of any provision of any applicable law or regulation implementing the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions or any applicable provision of the U.S. Foreign Corrupt Practices Act of 1977, as amended (the "**FCPA**"), the U.K Bribery Act 2010, or any other similar law of any other jurisdiction in which the Company operates its business, including, in each case, the rules and regulations thereunder, (iv) taken, is currently taking or will take any action in furtherance of an offer, payment, gift or anything else of value, directly or indirectly, to any person while knowing that all or some portion of the money or value will be offered, given or promised to anyone to improperly influence official action, to obtain or retain business or otherwise to secure any improper advantage or (v) otherwise made any bribe, rebate, payoff, influence payment, unlawful kickback or other unlawful payment; the Company and each of its respective Subsidiaries has instituted and has maintained, and will continue to maintain, policies and procedures reasonably designed to promote and achieve compliance with the laws referred to in (iii) above and with this representation and warranty; and none of the Company, nor any of its Subsidiaries or affiliates will directly or indirectly use the proceeds of the convertible securities or lend, contribute or otherwise make available such proceeds to any subsidiary, affiliate, joint venture partner or other person or entity for the purpose of financing or facilitating any activity that would violate the laws and regulations referred to in (iii) above.

(tt) No Disqualification Events. With respect to Securities to be offered and sold hereunder in reliance on Rule 506(b) under the 1933 Act ("**Regulation D Securities**"), none of the Company, any of its predecessors, any affiliated issuer, any director, executive officer, other officer of the Company participating in the offering hereunder, any beneficial owner of 20% or more of the Company's outstanding voting equity securities, calculated on the basis of voting power, nor any promoter (as that term is defined in Rule 405 under the 1933 Act) connected with the Company in any capacity at the time of sale (each, an "**Issuer Covered Person**" and, together, "**Issuer Covered Persons**") is subject to any of the "Bad Actor" disqualifications described in Rule 506(d)(1)(i) to (viii) under the 1933 Act (a "**Disqualification Event**"), except for a Disqualification Event covered by Rule 506(d)(2) or (d)(3). The Company has exercised reasonable care to determine whether any Issuer Covered Person is subject to a Disqualification Event. The Company has complied, to the extent applicable, with its disclosure obligations under Rule 506(e), and has furnished to the Buyers a copy of any disclosures provided thereunder.



(uu) Other Covered Persons. The Company is not aware of any Person (other than the Placement Agent) that has been or will be paid (directly or indirectly) remuneration for solicitation of Buyers or potential purchasers in connection with the sale of any Regulation D Securities.

#### 4. COVENANTS.

(a) Best Efforts. Each party shall use its best efforts timely to satisfy each of the covenants and the conditions to be satisfied by it as provided in Sections 6 and 7 of this Agreement.

(b) Form D and Blue Sky. If required by applicable Law, the Company agrees to file a Form D with respect to the Securities as required under Regulation D. The Company shall, on or before the Closing Date, 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 Buyers at the Closing pursuant to this Agreement under applicable securities or "Blue Sky" laws of the states of the United States (or to obtain an exemption from such qualification), and shall provide evidence of any such action so taken to the Buyers on or prior to the Closing Date. The Company shall make all filings and reports relating to the offer and sale of the Securities required under applicable securities or "Blue Sky" laws of the states of the United States following the Closing Date.

(c) Reporting Status. Until the date on which the Buyers shall have sold all of the Conversion Shares and Warrant Shares and none of the Notes or Warrants are outstanding (the "**Reporting Period**"), the Company shall timely file all reports required to be filed with the SEC pursuant to the 1934 Act, and the Company shall not terminate its status as an issuer required to file reports under the 1934 Act even if the 1934 Act or the rules and regulations thereunder would no longer require or otherwise permit such termination, and the Company shall take all actions necessary to maintain its eligibility to register the Conversion Shares and Warrant Shares for resale by the Investors on Form S-3.

(d) Use of Proceeds. The Company will use the proceeds from the sale of the Securities solely as set forth on Schedule 4(d).

(e) [Intentionally Omitted]

(f) Listing. The Company shall promptly secure the listing of all the Registrable Securities, upon each national securities exchange and automated quotation system, if any, upon which the Common Stock then listed (subject to official notice of issuance) and shall maintain such listing of all Registrable Securities from time to time issuable under the terms of the Transaction Documents. Until the earlier of three (3) years from the date hereof or when Securities are no longer held by any Buyers or registered in the names of any Buyer on the books and records of the Company, (i) the Company shall maintain the authorization for quotation of the Common Stock on the Principal Market or any other Eligible Market (as defined in the Warrants) and (ii) the Company shall use commercially reasonable efforts to avoid the delisting or suspension of the Common Stock on the Principal Market. The Company shall pay all fees and expenses in connection with satisfying its obligations under this Section 4(f).

(g) Fees. The Company shall reimburse Empery (a Buyer) or its designee(s) (in addition to any other expense amounts paid to any Buyer or its counsel prior to the date of this Agreement) for all costs and expenses incurred in connection with the transactions contemplated by the Transaction Documents (including all legal fees and disbursements in connection therewith, documentation and implementation of the transactions contemplated by the Transaction Documents and due diligence in connection therewith), which amount may be withheld by such Buyer from its purchase price for any Notes purchased at the Closing to the extent not previously reimbursed by the Company and which shall not exceed \$60,000 without the prior approval of the Company. The Company shall be responsible for the payment of any placement agent's fees, financial advisory fees, or broker's commissions (other than for Persons engaged by any Buyer) relating to or arising out of the transactions contemplated hereby, including, without limitation, any fees or commissions payable to the Placement Agent. The Company shall pay, and hold each Buyer harmless against, any liability, loss or expense (including, without limitation, reasonable attorney's fees and out-of-pocket expenses) arising in connection with any claim relating to any such payment. Except as otherwise set forth in the Transaction Documents, each party to this Agreement shall bear its own expenses in connection with the sale of the Securities to the Buyers.

(h) Pledge of Securities. The Company acknowledges and agrees that the Securities may be pledged by an Investor in connection with a bona fide margin agreement or other loan or financing arrangement that is secured by the Securities. The pledge of Securities shall not be deemed to be a transfer, sale or assignment of the Securities hereunder, and no Investor effecting a pledge of Securities shall be required to provide the Company with any notice thereof or otherwise make any delivery to the Company pursuant to this Agreement or any other Transaction Document, including, without limitation, Section 2(f) hereof; provided that an Investor and its pledgee shall be required to comply with the provisions of Section 2(f) hereof in order to effect a sale, transfer or assignment of Securities to such pledgee. The Company hereby agrees to execute and deliver such documentation as a pledgee of the Securities may reasonably request in connection with a pledge of the Securities to such pledgee by an Investor.

(i) Disclosure of Transactions and Other Material Information. On or before 9:00 a.m., New York City time, on the first Business Day after this Agreement has been executed, the Company shall issue a press release reasonably acceptable to the Buyers and file a Current Report on Form 8-K describing the terms of the transactions contemplated by the Transaction Documents in the form required by the 1934 Act and attaching the material Transaction Documents (including, without limitation, this Agreement (and all schedules and exhibits to this Agreement), the form of the Registration Rights Agreement, the form of the Warrants and the form of Notes as exhibits to such filing (including all attachments), the "**8-K Filing**"). From and after the filing of the 8-K Filing with the SEC, no Buyer shall be in possession of any material, nonpublic information received from the Company, any of its Subsidiaries or any of their respective officers, directors, employees, affiliates or agents, that is not disclosed in the 8-K Filing. In addition, effective upon the filing of the 8-K Filing, the Company acknowledges and agrees that any and all confidentiality or similar obligations under any agreement, whether written or oral, between the Company, any of its Subsidiaries or any of their respective officers, directors, employees, affiliates or agents, on the one hand, and any of the Buyers or any of their affiliates, on the other hand, shall terminate and be of no further force or effect. The Company shall not, and shall cause each of its Subsidiaries and its and each of their respective officers, directors, employees, affiliates and agents, not to, provide any Buyer with any material, nonpublic information regarding the Company or any of its Subsidiaries from and after the date hereof and for so long as any Buyer beneficially owns any Notes or Warrants without the express prior written consent of such Buyer. If such Buyer has, or believes it has, received any such material, nonpublic information regarding the Company or any of its Subsidiaries from the Company, any of its Subsidiaries or any of their respective officers, directors, employees, affiliates or agents at a time when any Buyer beneficially owns any Notes or Warrants, it may provide the Company with written notice thereof. The Company shall, within two (2) Trading Days of receipt of such notice, make public disclosure of such material, nonpublic information. To the extent that the Company delivers any material, nonpublic information to a Buyer without such Buyer's consent at a time when any Buyer beneficially owns any Notes or Warrants, the Company hereby covenants and agrees that such Buyer shall not have any duty of confidentiality to the Company, any of its Subsidiaries or any of their respective officers, directors, employees, affiliates or agent with respect to, or a duty to the Company, any of its Subsidiaries or any of their respective officers, directors, employees, affiliates or agent not to trade on the basis of, such material, nonpublic information. Subject to the foregoing, neither the Company, its Subsidiaries nor any Buyer shall issue any press releases or any other public statements with respect to the transactions contemplated hereby; provided, however, that the Company shall be entitled, without the prior approval of any Buyer, to make any press release or other public disclosure with respect to such transactions (i) in substantial conformity with the 8-K Filing and contemporaneously therewith and (ii) as is required by applicable law and regulations (provided that in the case of clause (i) each Buyer shall be consulted by the Company in connection with any such press release or other public disclosure prior to its release). Except for the Registration Statement required to be filed pursuant to the Registration Rights Agreement, without the prior written consent of any applicable Buyer, neither the Company nor any of its Subsidiaries or affiliates shall disclose the name of such Buyer in any filing, announcement, release or otherwise. As used herein, "**Business Day**" means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed.

(j) Additional Notes; Variable Securities. So long as any Buyer beneficially owns any Notes, the Company will not issue any Notes other than to the Buyers as contemplated hereby and the Company shall not issue any other securities that would cause a breach or default under the Notes. For so long as any Notes remain outstanding, the Company shall not, in any manner, (i) issue or sell any rights, warrants or options to subscribe for or purchase Common Stock or directly or indirectly convertible into or exchangeable or exercisable for Common Stock at a price which varies or may vary with the market price of the Common Stock, including by way of one or more reset(s) to any fixed price unless the conversion, exchange or exercise price of any such security cannot be less than the then applicable Conversion Price (as defined in the Notes) with respect to the Common Stock into which any Note is convertible or the then applicable Exercise Price (as defined in the Warrants) with respect to the Common Stock into which any Warrant is exercisable or (ii) enter into any agreement, or issue any securities pursuant to any agreement, including, without limitation, an equity line of credit, at-the-market offering or similar agreement, whereby the Company may issue securities at a future determined price.

(k) Corporate Existence. So long as any Buyer beneficially owns any Notes or Warrants, the Company shall (i) maintain its corporate existence and (ii) not be party to any Fundamental Transaction (as defined in the Notes) unless the Company is in compliance with the applicable provisions governing Fundamental Transactions set forth in the Notes and the Warrants.

(l) Reservation of Shares. So long as any Buyer owns any Securities, the Company shall take all action necessary to at all times have authorized, and reserved for the purpose of issuance, no less than the Required Reserve Amount. If at any time the number of shares of Common Stock authorized and reserved for issuance is not sufficient to meet the Required Reserved Amount, the Company will promptly take all corporate action necessary to authorize and reserve a sufficient number of shares, including, without limitation, calling a special meeting of stockholders to authorize additional shares to meet the Company's obligations under Section 3(c), in the case of an insufficient number of authorized shares, obtain stockholder approval of an increase in such authorized number of shares, and voting the management shares of the Company in favor of an increase in the authorized shares of the Company to ensure that the number of authorized shares is sufficient to meet the Required Reserved Amount.

(m) Conduct of Business. The business of the Company and its Subsidiaries shall not be conducted in violation of any law, ordinance or regulation of any governmental entity, except where such violations would not result, either individually or in the aggregate, in a Material Adverse Effect.

(n) Public Information. At any time during the period commencing from the six (6) month anniversary of the Closing Date and ending at such time that all of the Securities, if a registration statement is not available for the resale of all of the Securities, may be sold without restriction or limitation pursuant to Rule 144 and without the requirement to be in compliance with Rule 144(c)(1), if the Company shall (i) fail for any reason to satisfy the requirements of Rule 144(c)(1), including, without limitation, the failure to satisfy the current public information requirement under Rule 144(c) or (ii) if the Company has ever been an issuer described in Rule 144(i)(1)(i) or becomes such an issuer in the future, and the Company shall fail to satisfy any condition set forth in Rule 144(i)(2) (a "**Public Information Failure**") then, as partial relief for the damages to any holder of Securities by reason of any such delay in or reduction of its ability to sell the Securities (which remedy shall not be exclusive of any other remedies available at law or in equity), the Company shall pay to each such holder an amount in cash equal to two percent (2.0%) of the aggregate Purchase Price of such holder's Securities on the day of a Public Information Failure and on every thirtieth day (pro rated for periods totaling less than thirty days) thereafter until the earlier of (i) the date such Public Information Failure is cured and (ii) such time that such Public Information Failure no longer prevents a holder of Securities from selling such Securities pursuant to Rule 144 without any restrictions or limitations. The payments to which a holder shall be entitled pursuant to this Section 4(n) are referred to herein as "**Public Information Failure Payments**." Public Information Failure Payments shall be paid on the earlier of (I) the last day of the calendar month during which such Public Information Failure Payments are incurred and (II) the third Business Day after the event or failure giving rise to the Public Information Failure Payments is cured. In the event the Company fails to make Public Information Failure Payments in a timely manner, such Public Information Failure Payments shall bear interest at the rate of 1.5% per month (prorated for partial months) until paid in full.

(o) Additional Issuances of Securities.

(i) For purposes of this Section 4(o), the following definitions shall apply.

(1) "**Convertible Securities**" means any stock or securities (other than Options) convertible into or exercisable or exchangeable for shares of Common Stock.

(2) "**Options**" means any rights, warrants or options to subscribe for or purchase shares of Common Stock or Convertible Securities.

(3) "**Common Stock Equivalents**" means, collectively, Options and Convertible Securities.

(4) "**Subsequent Placement**" means any direct or indirect, offer, sale, grant any option to purchase, or other disposition of any of its or its Subsidiaries' equity or equity equivalent securities, including without limitation any debt, preferred stock or other instrument or security whether or not such security is, at any time during its life and under any circumstances, convertible into or exchangeable or exercisable for Common Stock or Common Stock Equivalents.

(ii) From the date hereof until the date that is thirty (30) days following the time of the registration of all of the Registrable Securities pursuant to and in accordance with the Registration Rights Agreement and the Company shall have no knowledge of any fact that would cause the Registration Statements required pursuant to the Registration Rights Agreement not to be effective and available for the resale of all remaining Registrable Securities in accordance with the terms of the Registration Rights Agreement, the Company will not directly or indirectly, file any registration statement with the SEC other than the Registration Statement and shall not file any Prospectus Supplement with respect to any Subsequent Placement (as defined below).

(iii) From the Closing Date until the earlier of (x) the second (2nd) anniversary of the Closing Date and (y) the first (1<sup>st</sup>) day following the date that the Company raises aggregate gross proceeds of at least \$20,000,000 in one or more Subsequent Placement(s) occurring after the Closing Date, the Company will not, directly or indirectly, effect any Subsequent Placement unless the Company shall have first complied with this Section 4(o)(iii).

(1) The Company shall deliver to each Buyer an irrevocable written notice (the "**Offer Notice**") of any proposed or intended issuance or sale or exchange (the "**Offer**") of the securities being offered (the "**Offered Securities**") in a Subsequent Placement, which Offer Notice shall (w) identify and describe the Offered Securities, (x) describe the price and other terms upon which they are to be issued, sold or exchanged, and the number or amount of the Offered Securities to be issued, sold or exchanged, (y) identify the persons or entities (if known) to which or with which the Offered Securities are to be offered, issued, sold or exchanged and (z) offer to issue and sell to or exchange with such Buyers at least thirty-five percent (35%) of the Offered Securities, allocated among such Buyers (a) based on such Buyer's pro rata portion of the aggregate principal amount of Notes purchased hereunder (the "**Basic Amount**") and (b) with respect to each Buyer that elects to purchase its Basic Amount, any additional portion of the Offered Securities attributable to the Basic Amounts of other Buyers as such Buyer shall indicate it will purchase or acquire should the other Buyers subscribe for less than their Basic Amounts (the "**Undersubscription Amount**"), which process shall be repeated until the Buyers shall have an opportunity to subscribe for any remaining Undersubscription Amount.

(2) To accept an Offer, in whole or in part, such Buyer must deliver a written notice to the Company prior to the end of the second (2<sup>nd</sup>) Business Day after such Buyer's receipt of the Offer Notice (the "**Offer Period**"), setting forth the portion of such Buyer's Basic Amount that such Buyer elects to purchase and, if such Buyer shall elect to purchase all of its Basic Amount, the Undersubscription Amount, if any, that such Buyer elects to purchase (in either case, the "**Notice of Acceptance**"). If the Basic Amounts subscribed for by all Buyers are less than the total of all of the Basic Amounts, then each Buyer who has set forth an Undersubscription Amount in its Notice of Acceptance shall be entitled to purchase, in addition to the Basic Amounts subscribed for, the Undersubscription Amount it has subscribed for; provided, however, that if the Undersubscription Amounts subscribed for exceed the difference between the total of all the Basic Amounts and the Basic Amounts subscribed for (the "**Available Undersubscription Amount**"), each Buyer who has subscribed for any Undersubscription Amount shall be entitled to purchase only that portion of the Available Undersubscription Amount as the Basic Amount of such Buyer bears to the total Basic Amounts of all Buyers that have subscribed for Undersubscription Amounts, subject to rounding by the Company to the extent it deems reasonably necessary. Notwithstanding anything to the contrary contained herein, if the Company desires to modify or amend the terms and conditions of the Offer prior to the expiration of the Offer Period, the Company may deliver to the Buyers a new Offer Notice and the Offer Period shall expire on the second (2<sup>nd</sup>) Business Day after such Buyer's receipt of such new Offer Notice.

(3) The Company shall have five (5) Business Days from the expiration of the Offer Period above to offer, issue, sell or exchange all or any part of such Offered Securities as to which a Notice of Acceptance has not been given by the Buyers (the "**Refused Securities**") pursuant to a definitive agreement (the "**Subsequent Placement Agreement**"), but only to the offerees described in the Offer Notice (if so described therein) and only upon terms and conditions (including, without limitation, unit prices and interest rates) that are not more favorable to the acquiring Person or Persons or less favorable to the Company than those set forth in the Offer Notice and (ii) to publicly announce (a) the execution of such Subsequent Placement Agreement and (b) either (x) the consummation of the transactions contemplated by such Subsequent Placement Agreement or (y) the termination of such Subsequent Placement Agreement, which shall be filed with the SEC on a Current Report on Form 8-K with such Subsequent Placement Agreement and any documents contemplated therein filed as exhibits thereto.

(4) In the event the Company shall propose to sell less than all the Refused Securities (any such sale to be in the manner and on the terms specified in Section 4(o)(iii)(3) above), then each Buyer may, at its sole option and in its sole discretion, reduce the number or amount of the Offered Securities specified in its Notice of Acceptance to an amount that shall be not less than the number or amount of the Offered Securities that such Buyer elected to purchase pursuant to Section 4(o)(iii)(2) above multiplied by a fraction, (i) the numerator of which shall be the number or amount of Offered Securities the Company actually proposes to issue, sell or exchange (including Offered Securities to be issued or sold to Buyers pursuant to Section 4(o)(iii)(3) above prior to such reduction) and (ii) the denominator of which shall be the original amount of the Offered Securities. In the event that any Buyer so elects to reduce the number or amount of Offered Securities specified in its Notice of Acceptance, the Company may not issue, sell or exchange more than the reduced number or amount of the Offered Securities unless and until such securities have again been offered to the Buyers in accordance with Section 4(o)(iii)(1) above.

(5) Upon the closing of the issuance, sale or exchange of all or less than all of the Refused Securities, the Buyers shall acquire from the Company, and the Company shall issue to the Buyers, the number or amount of Offered Securities specified in the Notices of Acceptance, as reduced pursuant to Section 4(o)(iii)(3) above if the Buyers have so elected, upon the terms and conditions specified in the Offer. Notwithstanding anything to the contrary contained in this Agreement, if the Company does not consummate the closing of the issuance, sale or exchange of all or less than all of the Refused Securities, within five (5) Business Days of the expiration of the Offer Period, the Company shall issue to the Buyers, the number or amount of Offered Securities specified in the Notice of Acceptance, as reduced pursuant to Section 4(o)(iii)(4) above if the Buyers have so elected, upon the terms and conditions specified in the Offer. The purchase by the Buyers of any Offered Securities is subject in all cases to the preparation, execution and delivery by the Company and the Buyers of a purchase agreement relating to such Offered Securities reasonably satisfactory in form and substance to the Buyers and their respective counsel.

(6) Any Offered Securities not acquired by the Buyers or other persons in accordance with Section 4(o)(iii)(3) above may not be issued, sold or exchanged until they are again offered to the Buyers under the procedures specified in this Agreement.

(7) The Company and the Buyers agree that if any Buyer elects to participate in the Offer, (x) neither the Subsequent Placement Agreement with respect to such Offer nor any other transaction documents related thereto (collectively, the "**Subsequent Placement Documents**") shall include any term or provisions whereby any Buyer shall be required to agree to any restrictions in trading as to any securities of the Company owned by such Buyer prior to such Subsequent Placement and (y) any registration rights set forth in such Subsequent Placement Documents shall be similar in all material respects to the registration rights contained in the Registration Rights Agreement.

(8) Notwithstanding anything to the contrary in this Section 4(o) and unless otherwise agreed to by the Buyers, the Company shall either confirm in writing to the Buyers that the transaction with respect to the Subsequent Placement has been abandoned or shall publicly disclose its intention to issue the Offered Securities, in either case in such a manner such that the Buyers will not be in possession of material non-public information, by the fifth (5<sup>th</sup>) Business Day following delivery of the Offer Notice. If by the fifth (5<sup>th</sup>) Business Day following delivery of the Offer Notice no public disclosure regarding a transaction with respect to the Offered Securities has been made, and no notice regarding the abandonment of such transaction has been received by the Buyers, such transaction shall be deemed to have been abandoned and the Buyers shall not be deemed to be in possession of any material, non-public information with respect to the Company. Should the Company decide to pursue such transaction with respect to the Offered Securities, the Company shall provide each Buyer with another Offer Notice and each Buyer will again have the right of participation set forth in this Section 4(o)(iii). The Company shall not be permitted to deliver more than one such Offer Notice to the Buyers in any 60 day period (other than the Offer Notices contemplated by the last sentence of Section 4(o)(iii)(2) of this Agreement).

(iv) The restrictions contained in subsections (ii) and (iii) of this Section 4(o) shall not apply in connection with the issuance of any Excluded Securities (as defined in the Warrants).

(p) Notice of Disqualification Events. The Company will notify the Buyers in writing, prior to the Closing Date of (i) any Disqualification Event relating to any Issuer Covered Person and (ii) any event that would, with the passage of time, become a Disqualification Event relating to any Issuer Covered Person.

(q) FAST Compliance. While any Notes or Warrants are outstanding, the Company shall maintain a transfer agent that participates in the DTC Fast Automated Securities Transfer Program.

(r) Closing Documents. On or prior to thirty (30) calendar days after the Closing Date, the Company agrees to deliver, or cause to be delivered, to each Buyer and Schulte Roth & Zabel LLP a complete closing set of the executed Transaction Documents, Securities and any other documents required to be delivered to any party pursuant to Section 7 hereof or otherwise.

#### 5. REGISTER; TRANSFER AGENT INSTRUCTIONS.

(a) Register. The Company shall maintain at its principal executive offices (or such other office or agency of the Company as it may designate by notice to each holder of Securities), a register for the Notes and the Warrants in which the Company shall record the name and address of the Person in whose name the Notes and the Warrants have been issued (including the name and address of each transferee), the principal amount of Notes held by such Person, the number of Conversion Shares issuable pursuant to the terms of the Notes and the number of Warrant Shares issuable upon exercise of the Warrants held by such Person. The Company shall keep the register open and available at all times during business hours for inspection of any Buyer or its legal representatives.

(b) Transfer Agent Instructions. The Company shall issue irrevocable instructions to its transfer agent, and any subsequent transfer agent, in the form of Exhibit D attached hereto (the "**Irrevocable Transfer Agent Instructions**") to issue certificates or credit shares to the applicable balance accounts at DTC, registered in the name of each Buyer or its respective nominee(s), for the Conversion Shares and the Warrant Shares issued at the Closing or pursuant to the terms of the Notes or exercise of the Warrants in such amounts as specified from time to time by each Buyer to the Company upon conversion of the Notes or exercise of the Warrants. The Company warrants that no instruction other than the Irrevocable Transfer Agent Instructions referred to in this Section 5(b), and stop transfer instructions to give effect to Section 2(f) hereof, will be given by the Company to its transfer agent, and that the Securities shall otherwise be freely transferable on the books and records of the Company as and to the extent provided in this Agreement and the other Transaction Documents. If a Buyer effects a sale, assignment or transfer of the Securities in accordance with Section 2(f), the Company shall permit the transfer and shall promptly instruct its transfer agent to issue one or more certificates or credit shares to the applicable balance accounts at DTC in such name and in such denominations as specified by such Buyer to effect such sale, transfer or assignment. In the event that such sale, assignment or transfer involves the Conversion Shares or the Warrant Shares sold, assigned or transferred pursuant to an effective registration statement or pursuant to Rule 144, the transfer agent shall issue such Securities to the Buyer, assignee or transferee, as the case may be, without any restrictive legend. The Company acknowledges that a breach by it of its obligations hereunder will cause irreparable harm to a Buyer. Accordingly, the Company acknowledges that the remedy at law for a breach of its obligations under this Section 5(b) will be inadequate and agrees, in the event of a breach or threatened breach by the Company of the provisions of this Section 5(b), that a Buyer shall be entitled, in addition to all other available remedies, to an order and/or injunction restraining any breach and requiring immediate issuance and transfer, without the necessity of showing economic loss and without any bond or other security being required.



#### 6. CONDITIONS TO THE COMPANY'S OBLIGATION TO SELL.

The obligation of the Company hereunder to issue and sell the Notes and the related Warrants to each Buyer at the Closing is subject to the satisfaction, at or before the Closing Date, of each of the following conditions, provided that these conditions are for the Company's sole benefit and may be waived by the Company at any time in its sole discretion by providing each Buyer with prior written notice thereof:

(i) Such Buyer shall have executed each of the Transaction Documents to which it is a party and delivered the same to the Company.

(ii) Such Buyer shall have delivered its Purchase Price to the Company (less, in the case of Empery, the amounts withheld pursuant to Section 4(g)), for the Notes and the related Warrants being purchased by such Buyer at the Closing by wire transfer of immediately available funds pursuant to the wire instructions provided by the Company.

(iii) The representations and warranties of such Buyer shall be true and correct as of the date when made and as of the Closing Date as though made at that time (except for representations and warranties that speak as of a specific date which shall be true and correct as of such specified date), and such Buyer shall have performed, satisfied and complied in all material respects with the covenants, agreements and conditions required by this Agreement to be performed, satisfied or complied with by such Buyer at or prior to the Closing Date.

#### 7. CONDITIONS TO EACH BUYER'S OBLIGATION TO PURCHASE.

The obligation of each Buyer hereunder to purchase the Notes and the related Warrants at the Closing is subject to the satisfaction, at or before the Closing Date, of each of the following conditions, provided that these conditions are for each Buyer's sole benefit and may be waived by such Buyer at any time in its sole discretion by providing the Company with prior written notice thereof:

(i) The Company and each of its Subsidiaries shall have duly executed and delivered to such Buyer each of the following documents to which it is a party: (A) each of the Transaction Documents, (B) the Notes (allocated in such principal amounts as such Buyer shall request), being purchased by such Buyer at the Closing pursuant to this Agreement and (C) the related Warrants (allocated in such amounts as such Buyer shall request) being purchased by such Buyer at the Closing pursuant to this Agreement.

(ii) Such Buyer shall have received the opinion of DLA Piper LLP (US), the Company's outside counsel, dated as of the Closing Date, in substantially the form of Exhibit E attached hereto.

(iii) The Company shall have delivered to such Buyer a copy of the Irrevocable Transfer Agent Instructions, in the form of Exhibit D attached hereto, which instructions shall have been delivered to and acknowledged in writing by the Company's transfer agent.

(iv) The Company shall have delivered to such Buyer a certificate evidencing the formation and good standing of the Company and each of its Subsidiaries in such entity's jurisdiction of formation issued by the Secretary of State (or comparable office) of such jurisdiction, as of a date within ten (10) days of the Closing Date.

(v) The Company shall have delivered to such Buyer a certificate evidencing the Company's qualification as a foreign corporation and good standing issued by the Secretary of State (or comparable office) of the State of Florida, the State of California and the District of Columbia (which are the only jurisdictions in which the Company is required to register as a foreign corporation), as of a date within ten (10) days of the Closing Date.

(vi) The Company shall have delivered to such Buyer a certificate, executed by the Secretary of the Company and dated as of the Closing Date, as to (i) the resolutions consistent with Section 3(b) as adopted by the Company's and each of its Subsidiaries' Board of Directors in a form reasonably acceptable to such Buyer, (ii) the Certificate of Incorporation of the Company and (iii) the Bylaws of the Company, each as in effect at the Closing, in the form attached hereto as Exhibit F.

(vii) The representations and warranties of the Company shall be true and correct in all material respects (except for those representations and warranties that are qualified by materiality or Material Adverse Effect, which shall be accurate in all respects) as of the date when made and as of the Closing Date as though made at that time (except for representations and warranties that speak as of a specific date which shall be true and correct as of such specified date) and the Company shall have performed, satisfied and complied in all material respects with the covenants, agreements and conditions required by the Transaction Documents to be performed, satisfied or complied with by the Company at or prior to the Closing Date (except for covenants, agreement and conditions that are qualified by materiality or Material Adverse Effect, which shall be performed, satisfied or complied with, in all respects). Such Buyer shall have received a certificate, executed by an executive officer of the Company, dated as of the Closing Date, to the foregoing effect and as to such other matters as may be reasonably requested by such Buyer in the form attached hereto as Exhibit G.

(viii) The Company shall have delivered to such Buyer a letter from the Company's transfer agent certifying the number of shares of Common Stock outstanding as of a date within five (5) days of the Closing Date.

(ix) The Common Stock (I) shall be designated for quotation or listed on the Principal Market and (II) shall not have been suspended, as of the Closing Date, by the SEC or the Principal Market from trading on the Principal Market nor shall suspension by the SEC or the Principal Market have been threatened, as of the Closing Date, either (A) in writing by the SEC or the Principal Market or (B) by falling below the minimum listing maintenance requirements of the Principal Market.

(x) The Company shall have obtained all governmental, regulatory or third party consents and approvals, if any, necessary for the sale of the Securities.

(xi) Such Buyer shall have received the Company's wire instructions on Company's letterhead duly executed by an authorized officer of the Company.

(xii) The Company shall have delivered to such Buyer such other documents relating to the transactions contemplated by this Agreement as such Buyer or its counsel may reasonably request.

8. TERMINATION. In the event that the Closing shall not have occurred with respect to a Buyer on or before five (5) Business Days from the date hereof due to the Company's or such Buyer's failure to satisfy the conditions set forth in Sections 6 and 7 above (and the nonbreaching party's failure to waive such unsatisfied condition(s)), the nonbreaching party shall have the option to terminate this Agreement with respect to such breaching party at the close of business on such date by delivering a written notice to that effect to each other party to this Agreement and without liability of any party to any other party; provided, however, that if this Agreement is terminated pursuant to this Section 8, the Company shall remain obligated to reimburse Empery or its designee(s), as applicable, for the expenses described in Section 4(g) above.

9. MISCELLANEOUS.

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

(b) Counterparts. This Agreement may be executed in two or more identical counterparts, all of which shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to the other party; provided that a facsimile or .pdf signature shall be considered due execution and shall be binding upon the signatory thereto with the same force and effect as if the signature were an original, not a facsimile or .pdf signature.

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

(d) Severability. If any provision of this Agreement is prohibited by law or otherwise determined to be invalid or unenforceable by a court of competent jurisdiction, the provision that would otherwise be prohibited, invalid or unenforceable shall be deemed amended to apply to the broadest extent that it would be valid and enforceable, and the invalidity or unenforceability of such provision shall not affect the validity of the remaining provisions of this Agreement so long as this Agreement as so modified continues to express, without material change, the original intentions of the parties as to the subject matter hereof and the prohibited nature, invalidity or unenforceability of the provision(s) in question does not substantially impair the respective expectations or reciprocal obligations of the parties or the practical realization of the benefits that would otherwise be conferred upon the parties. The parties will endeavor in good faith negotiations to replace the prohibited, invalid or unenforceable provision(s) with a valid provision(s), the effect of which comes as close as possible to that of the prohibited, invalid or unenforceable provision(s).

(e) Entire Agreement; Amendments. This Agreement and the other Transaction Documents supersede all other prior oral or written agreements between the Buyers, the Company, their affiliates and Persons acting on their behalf with respect to the matters discussed herein, and this Agreement, the other Transaction Documents and the instruments referenced herein and therein contain the entire understanding of the parties with respect to the matters covered herein and therein and, except as specifically set forth herein or therein, neither the Company nor any Buyer makes any representation, warranty, covenant or undertaking with respect to such matters. Provisions of this Agreement may be amended and the observance thereof may be waived (either generally or in a particular instance and either retroactively or prospectively), only with the written consent of the Company and the holders of at least a majority of the aggregate number of shares of Common Stock issued or issuable under the Notes and Warrants (without regard to any restriction or limitation on the exercise of the Warrants or conversion of the Notes contained therein) and shall include (i) affiliates of Empery Asset Management, LP ("**Empery**") so long as Empery or any of its affiliates holds any Securities and (ii) affiliates of Ayrton Capital LLC ("**Ayrton**") so long as Ayrton or any of its affiliates holds any Securities (the "**Required Holders**"). Any amendment or waiver effected in accordance with this Section 9(e) shall be binding upon each Buyer and holder of Securities and the Company. No such amendment shall be effective to the extent that it applies to less than all of the Buyers or holders of Securities. No consideration shall be offered or paid to any Person to amend or consent to a waiver or modification of any provision of any of the Transaction Documents unless the same consideration (other than the reimbursement of legal fees) also is offered to all of the parties to the Transaction Documents, holders of Notes or holders of the Warrants, as the case may be. The Company has not, directly or indirectly, made any agreements with any Buyers relating to the terms or conditions of the transactions contemplated by the Transaction Documents except as set forth in the Transaction Documents. Without limiting the foregoing, the Company confirms that, except as set forth in this Agreement, no Buyer has made any commitment or promise or has any other obligation to provide any financing to the Company or otherwise.

(f) Notices. Any notices, consents, waivers or other communications required or permitted to be given under the terms of this Agreement or any of the other Transaction Document's must be in writing and will be deemed to have been delivered: (i) upon receipt, when delivered personally; (ii) upon delivery, when sent by facsimile (provided confirmation of transmission is mechanically or electronically generated and kept on file by the sending party), (iii) upon delivery, when sent by electronic mail (provided that the sending party does not receive an automated rejection notice); or (iv) one Business Day after deposit with an overnight courier service, in each case properly addressed to the party to receive the same. The addresses, facsimile numbers and e-mail addresses for such communications shall be:

If to the Company:

GT Biopharma, Inc.  
1825 K Street, Suite 510  
Washington, D.C. 20006  
Telephone: (800) 304-9888  
Facsimile: 202-785-0529  
Attention: Steven Weldon  
E-mail: [sww@gtbiopharma.com](mailto:sww@gtbiopharma.com)

With a copy to (for informational purposes only):

DLA Piper LLP (US)  
401 Congress Ave., Suite 2500  
Austin, Texas 78701  
Telephone: 512-457-7037  
Facsimile: 512-721-2212  
Attention: Jenifer Smith  
E-mail: [jenifer.smith@dlapiper.com](mailto:jenifer.smith@dlapiper.com)

If to the Transfer Agent:

ComputerShare Trust Company, N.A.  
8742 Lucent Blvd, Suite 225  
Telephone: 303-262-0787  
Facsimile: 303-262-0610  
Attention: Stevie Marcus  
E-mail: [stevie.marcus@computershare.com](mailto:stevie.marcus@computershare.com)

If to a Buyer, to its address, facsimile number and e-mail address set forth on the Schedule of Buyers, with copies to such Buyer's representatives as set forth on the Schedule of Buyers,

with a copy (for informational purposes only) to:

Schulte Roth & Zabel LLP  
919 Third Avenue  
New York, New York 10022  
Telephone: (212) 756-2000  
Facsimile: (212) 593-5955  
Attention: Eleazer N. Klein, Esq.  
E-mail: eleazer.klein@srz.com

or to such other address, facsimile number and/or e-mail address and/or to the attention of such other Person as the recipient party has specified by written notice given to each other party five (5) days prior to the effectiveness of such change. Written confirmation of receipt (A) given by the recipient of such notice, consent, waiver or other communication, (B) mechanically or electronically generated by the sender's facsimile machine or e-mail containing the time, date, recipient facsimile number and an image of the first page of such transmission or (C) provided by an overnight courier service shall be rebuttable evidence of personal service, receipt by facsimile or receipt from an overnight courier service in accordance with clause (i), (ii) or (iii) above, respectively.

(g) Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the parties and their respective successors and assigns, including any purchasers of the Notes or the Warrants. The Company shall not assign this Agreement or any rights or obligations hereunder without the prior written consent of the Required Holders, including by way of a Fundamental Transaction (unless the Company is in compliance with the applicable provisions governing Fundamental Transactions set forth in the Notes and the Warrants). A Buyer may assign some or all of its rights hereunder without the consent of the Company, in which event such assignee shall be deemed to be a Buyer hereunder with respect to such assigned rights.

(h) No Third Party Beneficiaries. This Agreement is intended for the benefit of the parties hereto and their respective permitted successors and assigns, and is not for the benefit of, nor may any provision hereof be enforced by, any other Person, except that each Indemnitee shall have the right to enforce the obligations of the Company with respect to Section 9(k).

(i) Survival. Unless this Agreement is terminated under Section 8, the representations and warranties of the Company and the Buyers contained in Sections 2 and 3, and the agreements and covenants set forth in Sections 4, 5 and 9 shall survive the Closing. Each Buyer shall be responsible only for its own representations, warranties, agreements and covenants hereunder.

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

(k) Indemnification. In consideration of each Buyer's execution and delivery of the Transaction Documents and acquiring the Securities thereunder and in addition to all of the Company's other obligations under the Transaction Documents, the Company shall defend, protect, indemnify and hold harmless each Buyer and each other holder of the Securities and all of their stockholders, partners, members, officers, directors, employees and direct or indirect investors and any of the foregoing Persons' agents or other representatives (including, without limitation, those retained in connection with the transactions contemplated by this Agreement) (collectively, the "**Indemnitees**") from and against any and all actions, causes of action, suits, claims, losses, costs, penalties, fees, liabilities and damages, and expenses in connection therewith (irrespective of whether any such Indemnitee is a party to the action for which indemnification hereunder is sought), and including reasonable attorneys' fees and disbursements (the "**Indemnified Liabilities**"), incurred by any Indemnitee as a result of, or arising out of, or relating to (a) any misrepresentation or breach of any representation or warranty made by the Company in the Transaction Documents or any other certificate, instrument or document contemplated hereby or thereby, (b) any breach of any covenant, agreement or obligation of the Company contained in the Transaction Documents or any other certificate, instrument or document contemplated hereby or thereby or (c) any cause of action, suit or claim brought or made against such Indemnitee by a third party (including for these purposes a derivative action brought on behalf of the Company) and arising out of or resulting from (i) the execution, delivery, performance or enforcement of the Transaction Documents or any other certificate, instrument or document contemplated hereby or thereby, (ii) any transaction financed or to be financed in whole or in part, directly or indirectly, with the proceeds of the issuance of the Securities, or (iii) the status of such Buyer or holder of the Securities as an investor in the Company pursuant to the transactions contemplated by the Transaction Documents. To the extent that the foregoing undertaking by the Company may be unenforceable for any reason, the Company shall make the maximum contribution to the payment and satisfaction of each of the Indemnified Liabilities that is permissible under applicable law. Except as otherwise set forth herein, the mechanics and procedures with respect to the rights and obligations under this Section 9(k) shall be the same as those set forth in Section 6 of the Registration Rights Agreement. The Company will not be liable to any Buyer under this indemnity: (i) for any settlement by a Buyer in connection with any claim effected without the Company's prior written consent, which consent shall not be unreasonably withheld, conditioned or delayed; or (ii) to the extent, but only to the extent, that a claim is attributable to any Buyer's breach of any of the representations, warranties, covenants or agreements made by such Buyer in this Agreement or in the other Transaction Documents.

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

(m) Remedies. Each Buyer and each holder of the Securities shall have all rights and remedies set forth in the Transaction Documents and all rights and remedies which such holders have been granted at any time under any other agreement or contract and all of the rights which such holders have under any law. Any Person having any rights under any provision of this Agreement shall be entitled to enforce such rights specifically (without posting a bond or other security), to recover damages by reason of any breach of any provision of this Agreement and to exercise all other rights granted by law. Furthermore, the Company recognizes that in the event that it fails to perform, observe, or discharge any or all of its obligations under the Transaction Documents, any remedy at law may prove to be inadequate relief to the Buyers. The Company therefore agrees that the Buyers shall be entitled to seek temporary and permanent injunctive relief in any such case without the necessity of proving actual damages and without posting a bond or other security.

(n) Rescission and Withdrawal Right. Notwithstanding anything to the contrary contained in (and without limiting any similar provisions of) the Transaction Documents, whenever any Buyer 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 Buyer 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.

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

(p) Independent Nature of Buyers' Obligations and Rights. The obligations of each Buyer under any Transaction Document are several and not joint with the obligations of any other Buyer, and no Buyer shall be responsible in any way for the performance of the obligations of any other Buyer under any Transaction Document. Nothing contained herein or in any other Transaction Document, and no action taken by any Buyer pursuant hereto or thereto, shall be deemed to constitute the Buyers as, and the Company acknowledges that the Buyers do not so constitute, a partnership, an association, a joint venture or any other kind of entity, or create a presumption that the Buyers are in any way acting in concert or as a group, and the Company shall not assert any such claim with respect to such obligations or the transactions contemplated by the Transaction Documents and the Company acknowledges that the Buyers are not acting in concert or as a group with respect to such obligations or the transactions contemplated by the Transaction Documents. The Company acknowledges and each Buyer confirms that it has independently participated in the negotiation of the transaction contemplated hereby with the advice of its own counsel and advisors. Each Buyer shall be entitled to independently protect and enforce its rights, including, without limitation, the rights arising out of this Agreement or out of any other Transaction Documents, and it shall not be necessary for any other Buyer to be joined as an additional party in any proceeding for such purpose.

**[Signature Page Follows]**



**IN WITNESS WHEREOF**, each Buyer and the Company have caused their respective signature page to this Securities Purchase Agreement to be duly executed as of the date first written above.

**COMPANY:**

**GT BIOPHARMA, INC.**

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

*[Signature Page to Securities Purchase Agreement]*

**IN WITNESS WHEREOF**, each Buyer and the Company have caused their respective signature page to this Securities Purchase Agreement to be duly executed as of the date first written above.

**BUYERS:**

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

**SCHEDULE OF BUYERS**

(1) Buyer	(2) Address and Facsimile Number	(3) Aggregate Principal Amount of Notes	(4) Number of Warrant Shares	(5) Purchase Price	(6) Legal Representative's Address and Facsimile Number
<b>Empery Asset Master Ltd.</b>	c/o Empery Asset Management, LP1 Rockefeller Plaza, Suite 1205New York, NY 10020Attention: Ryan M. LaneFacsimile: +1 212 608 3307Telephone: +1 212 608 3300Email: notices@emperyam.com	\$963,600.96	210,394	\$876,000.00	Schulte Roth & Zabel LLP919 Third AvenueNew York, New York 10022Attention: Eleazer Klein, Esq.Facsimile: (212) 593- 5955Telephone: (212) 756-2376
<b>Empery Tax Efficient, LP</b>	c/o Empery Asset Management, LP1 Rockefeller Plaza, Suite 1205New York, NY 10020Attention: Ryan M. LaneFacsimile: +1 212 608 3307Telephone: +1 212 608 3300Email: notices@emperyam.com	\$366,300.37	79,979	\$333,000.00	Schulte Roth & Zabel LLP919 Third AvenueNew York, New York 10022Attention: Eleazer Klein, Esq.Facsimile: (212) 593- 5955Telephone: (212) 756-2376
<b>Empery Tax Efficient II, LP</b>	c/o Empery Asset Management, LP1 Rockefeller Plaza, Suite 1205New York, NY 10020Attention: Ryan M. LaneFacsimile: +1 212 608 3307Telephone: +1 212 608 3300Email: notices@emperyam.com	\$870,100.87	189,979	\$791,000.00	Schulte Roth & Zabel LLP919 Third AvenueNew York, New York 10022Attention: Eleazer Klein, Esq.Facsimile: (212) 593- 5955Telephone: (212) 756-2376
<b>Siesta Fiesta Holdings, LLC</b>	c/o Siesta Fiesta Holdings, LLC 7924 Midnight Pass Road Sarasota, FL 34242 Attention: Scott Williams Facsimile: 407-657-4280 Telephone : 941-724-3504 Email Address: scoot61@comcast.net	\$55,000.06	12,009	\$50,000.00	
<b>James Heavener</b>	James W. Heavener 3300 University Blvd., Suite 218 Winter Park, FL 32792 Facsimile: 407-657-4280 Telephone : 407-865-4875 Email Address:bheavener@fullsail.com	\$918,500.92	200,547	\$835,000.00	
<b>Alto Opportunity Master Fund, SPC - Segregated Master Portfolio B</b>	c/o Ayrton Capital LLC 1180 Avenue of Americas, Suite 842 New York, NY 10036 Telephone: +1-646-793-9056 Email: wk@ayrtonllc.com	\$2,200,002.20	480,350	\$2,000,000.00	
<b>Adam Kasower</b>	25170 Jim Bridger Road Hidden Hills, CA 91302 Telephone: 818-429-1551 Email: adam@kasower.com	\$550,000.55	120,088	\$500,000.00	
<b>Red Mango Enterprises Limited</b>	Pictet & Cie (Europe) S.A. Hong Kong Branch, 9/F Chater House 8 Connaught Road Central, Hong Kong Facsimile: 852 3131 1808 Telephone: 852 3191 1805 Email Address: mchow@pictet.com	\$918,500.92	200,547	\$835,000.00	
<b>The Rosalinde and Arthur Gilbert Foundation</b>	2730 Wilshire Blvd., Suite 301 Santa Monica, CA 90403 Attention: Martin H. Blank, Jr. Telephone: 310-736-1617 Email: marty@mblank.com	\$385,000.39	84,062	\$350,000.00	

<b>The RSZ Trust</b>	11620 Wilshire Blvd., Suite 1000 Los Angeles, CA 90025 Attention: Richard S. Ziman Telephone: 310-966-3802 Email: rziman@rexfordindustrial.com	\$126,500.13	27,621	\$115,000.00
<b>Jeffrey Bronfman Revocable Living Trust</b>	1000 Cordova Place #710 Santa Fe, NM 87505 Attention: Jeffrey Bronfman Telephone: 505-988-5924 Email: jeffrejudv@aol.com	\$165,000.17	36,027	\$150,000.00
<b>Lipp Irrevocable Trust</b>	270 18th St. Santa Monica, CA 90402 Attention: Diane S. Lipp Telephone: 310-395-2679 Email: dedelipp@gmail.com	\$44,000.04	9,607	\$40,000.00
<b>Robert H. Lipp Separate Property Trust</b>	270 18th St. Santa Monica, CA 90402 Attention: Robert H. Lipp Telephone: 310-395-2679 Email: roblipp@gam-llc.com	\$154,000.15	33,625	\$140,000.00
<b>Diane S. Lipp Separate Property Trust</b>	270 18th St. Santa Monica, CA 90402 Attention: Diane S. Lipp Telephone: 310-395-2679 Email: dedelipp@gmail.com	\$44,000.04	9,607	\$40,000.00

## EXHIBITS

Exhibit A	Form of Notes
Exhibit B	Form of Warrants
Exhibit C	Form of Registration Rights Agreement
Exhibit D	Form of Irrevocable Transfer Agent Instructions
Exhibit E	Form of Opinion of Company Counsel
Exhibit F	Form of Secretary's Certificate
Exhibit G	Form of Officer's Certificate

## SCHEDULES

Schedule 3(a)	Subsidiaries
Schedule 3(k)	SEC Documents
Schedule 3(l)	Absence of Certain Changes
Schedule 3(n)	Regulatory Permits
Schedule 3(q)	Transactions with Affiliates
Schedule 3(r)	Equity Capitalization
Schedule 3(s)	Indebtedness and Other Contracts
Schedule 3(t)	Absence of Litigation
Schedule 3(x)	Intellectual Property Rights
Schedule 3(ee)	Ranking of Notes
Schedule 4(d)	Use of Proceeds

**EXHIBIT A**

Form of Note

(See attached.)

**EXHIBIT B**

Form of Warrant

(See attached.)

**EXHIBIT C**

Form of Registration Rights Agreement

(See attached.)



**EXHIBIT D**

Form of Irrevocable Transfer Agent Instructions

**GT BIOPHARMA, INC.**

January \_\_, 2018

Computershare Trust Company, N.A.  
250 Royall Street  
Canton, MA 02066  
Attn: Kathy Heagerty

Ladies and Gentlemen:

Reference is made to that certain Securities Purchase Agreement, dated as of January \_\_, 2018 (the "**Agreement**"), by and among GT Biopharma, Inc., a Delaware corporation (the "**Company**"), and the investors named on the Schedule of Buyers attached thereto (collectively, the "**Holders**"), pursuant to which the Company is issuing to the Holders (i) senior convertible notes (the "**Notes**"), which are convertible into shares of the common stock of the Company, par value \$0.001 per share (the "**Common Stock**") and (ii) warrants (the "**Warrants**"), which are exercisable to purchase shares of Common Stock.

This letter shall serve as our irrevocable authorization and direction to you (provided that you are the transfer agent of the Company at such time):

(i) to issue shares of Common Stock upon conversion of the Notes (the "**Conversion Shares**"), promptly upon your receipt of an instruction letter on Company letterhead and signed by a duly authorized officer of the Company, which Company shall provide to you upon its receipt of a properly completed and duly executed Conversion Notice, in the form attached hereto as Exhibit I. The Company shall instruct you as to whether such shares of Common Stock will contain a restrictive legend, and the details of such legends, if applicable.

(ii) to issue shares of Common Stock upon exercise of the Warrants (the "**Warrant Shares**"), promptly upon your receipt of an instruction letter on Company letterhead and signed by a duly authorized officer of the Company, which Company shall provide to you upon its receipt of a properly completed and duly executed Exercise Notice, in the form attached hereto as Exhibit II. The Company shall instruct you as to whether such Shares will contain a restrictive legend, and the details of such legends, if applicable.

Subject to compliance with Computershare's issuance, transfer, and restricted stock processing requirements, including, but not limited to, documents being submitted in good order, you acknowledge and agree that so long as you have previously received (a) written confirmation from the Company's legal counsel that either (i) a registration statement covering resales of the Conversion Shares and the Warrant Shares has been declared effective by the Securities and Exchange Commission (the "SEC") under the Securities Act of 1933, as amended (the "**1933 Act**"), or (ii) sales of the Conversion Shares and/or the Warrant Shares may be made in conformity with Rule 144 under the 1933 Act ("**Rule 144**") and (b) if applicable, a copy of such registration statement, then within two (2) business days for routine items of your receipt of a Company issuance instruction, you shall issue the certificates representing the Conversion Shares and/or the Warrant Shares, as applicable, registered in the names of such transferees, and such certificates shall not bear any legend restricting transfer of the Conversion Shares and/or the Warrant Shares thereby and should not be subject to any stop-transfer restriction; provided, however, that if such Conversion Shares and Warrant Shares are not registered for resale under the 1933 Act or able to be sold under Rule 144, then the certificates for such Conversion Shares and/or Warrant Shares shall bear the following legend:

THE SECURITIES REPRESENTED BY THIS CERTIFICATE HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR APPLICABLE STATE SECURITIES LAWS. THE SECURITIES MAY NOT BE OFFERED FOR SALE, SOLD, TRANSFERRED OR ASSIGNED (I) IN THE ABSENCE OF (A) AN EFFECTIVE REGISTRATION STATEMENT FOR THE SECURITIES UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR (B) AN OPINION OF COUNSEL SELECTED BY THE HOLDER, IN A GENERALLY ACCEPTABLE FORM, THAT REGISTRATION IS NOT REQUIRED UNDER SAID ACT OR (II) UNLESS SOLD PURSUANT TO RULE 144 OR RULE 144A UNDER SAID ACT. NOTWITHSTANDING THE FOREGOING, THE SECURITIES MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT OR OTHER LOAN OR FINANCING ARRANGEMENT SECURED BY THE SECURITIES.

A form of written confirmation from the Company's outside legal counsel that a registration statement covering resales of the Conversion Shares and the Warrant Shares has been declared effective by the SEC under the 1933 Act is attached hereto as Exhibit III.

The Company issues this instruction in accordance with, and this instruction and your performance hereunder are subject to, the terms of the Transfer Agency and Service Agreement currently in effect between you and the Company.

Please execute this letter in the space indicated to acknowledge your agreement to act in accordance with these instructions. Should you have any questions concerning this matter, please contact me at \_\_\_\_\_.

Very truly yours,

**GT BIOPHARMA, INC.**

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

Name:

Title:

THE FOREGOING INSTRUCTIONS ARE  
ACKNOWLEDGED AND AGREED TO

this \_\_\_ day of January, 2018

**COMPUTERSHARE TRUST COMPANY, N.A.**

By:

Name:

Title:

Enclosures

EXHIBIT I

GT BIOPHARAMA, INC.

**CONVERSION NOTICE**

Reference is made to the Senior Convertible Note (the "**Note**") issued to the undersigned by GT Biopharma, Inc., a Delaware corporation (the "**Company**"). In accordance with and pursuant to the Note, the undersigned hereby elects to convert the Conversion Amount (as defined in the Note) of the Note indicated below into shares of Common Stock par value \$0.001 per share (the "**Common Stock**") of the Company, as of the date specified below.

Date of Conversion:

Aggregate Conversion Amount to be converted or number of Conversion

Shares to be issued upon conversion:

Please confirm the following information:

Conversion Price:

If Aggregate Conversion Amount is provided above, number of  
shares of Common Stock to be issued:

Please issue the Common Stock into which the Note is being converted in the following name and to the following address:

Issue to:

Facsimile Number and Electronic Mail:

Authorization:

By:

Title:

Dated:

Account Number:

(if electronic book entry transfer)

Transaction Code Number:

(if electronic book entry transfer)

EXHIBIT II

**EXERCISE NOTICE  
TO BE EXECUTED BY THE REGISTERED HOLDER TO EXERCISE THIS  
WARRANT TO PURCHASE COMMON STOCK**

**GT BIOPHARMA, INC.**

The undersigned holder hereby exercises the right to purchase \_\_\_\_\_ of the shares of Common Stock ("**Warrant Shares**") of GT Biopharma, Inc., a Delaware corporation (the "**Company**"), evidenced by the attached Warrant to Purchase Common Stock (the "**Warrant**"). Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Warrant.

1. Form of Exercise Price. The Holder intends that payment of the Exercise Price shall be made as:

\_\_\_\_\_ a "Cash Exercise" with respect to \_\_\_\_\_ Warrant Shares; and/or  
\_\_\_\_\_ a "Cashless Exercise" with respect to \_\_\_\_\_ Warrant Shares.

2. Payment of Exercise Price. In the event that the holder has elected a Cash Exercise with respect to some or all of the Warrant Shares to be issued pursuant hereto, the holder shall pay the Aggregate Exercise Price in the sum of \$\_\_\_\_\_ to the Company in accordance with the terms of the Warrant.

3. Delivery of Warrant Shares. The Company shall deliver to the holder \_\_\_\_\_ Warrant Shares in accordance with the terms of the Warrant.

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

Name of Registered Holder

By:

Name:  
Title:

EXHIBIT III

**FORM OF NOTICE OF EFFECTIVENESS  
OF REGISTRATION STATEMENT**

ComputerShare Trust Company, N.A.

[ ]

[ ]

Attention: [ ]

Re: GT Biopharma, Inc.

Ladies and Gentlemen:

[We are][I am] counsel to GT Biopharma, Inc., a Delaware corporation (the "**Company**"), and have represented the Company in connection with that certain Securities Purchase Agreement, dated as of January 22, 2018 (the "**Securities Purchase Agreement**"), entered into by and among the Company and the buyers named therein (collectively, the "**Holder**s") pursuant to which the Company issued to the Holders senior convertible notes (the "**Notes**") pursuant to which shares of the Company's common stock, par value \$0.001 per share (the "**Common Stock**") are issuable thereunder and warrants exercisable for shares of Common Stock (the "**Warrants**"). Pursuant to the Securities Purchase Agreement, the Company also has entered into a Registration Rights Agreement with the Holders (the "**Registration Rights Agreement**") pursuant to which the Company agreed, among other things, to register the resale of the Registrable Securities (as defined in the Registration Rights Agreement), including the shares of Common Stock issuable pursuant to the terms of the Notes and upon exercise of the Warrants under the Securities Act of 1933, as amended (the "**1933 Act**"). In connection with the Company's obligations under the Registration Rights Agreement, on \_\_\_\_\_, 2014, the Company filed a Registration Statement on Form S-3 (File No. 333-\_\_\_\_\_) (the "**Registration Statement**") with the Securities and Exchange Commission (the "**SEC**") relating to the Registrable Securities which names each of the Holders as a selling stockholder thereunder.

In connection with the foregoing, [we][I] advise you that a member of the SEC's staff has advised [us][me] by telephone that the SEC has entered an order declaring the Registration Statement effective under the 1933 Act at [ENTER TIME OF EFFECTIVENESS] on [ENTER DATE OF EFFECTIVENESS] and [we][I] have no knowledge, after telephonic inquiry of a member of the SEC's staff, that any stop order suspending its effectiveness has been issued or that any proceedings for that purpose are pending before, or threatened by, the SEC and the Registrable Securities are available for resale under the 1933 Act pursuant to the Registration Statement.

This letter shall serve as our standing instruction to you that the shares of Common Stock are freely transferable by the Holders pursuant to the Registration Statement. You need not require further letters from us to effect any future legend-free issuance or reissuance of shares of Common Stock to the Holders as contemplated by the Company's Irrevocable Transfer Agent Instructions dated January [●], 2018.

Very truly yours,

[ISSUER'S COUNSEL]

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

CC: [LIST NAMES OF HOLDERS]

**EXHIBIT E**

Form of Opinion of Company Counsel

January [ ], 2018

Each Buyer identified on the signature pages to the Purchase Agreement (as defined below)

RE: GT Biopharma, Inc.

Ladies and Gentlemen:

We have acted as counsel to GT Biopharma, Inc., a Delaware corporation (the “*Company*”), in connection with the execution and delivery of the Securities Purchase Agreement, dated as of January 22, 2018 (the “*Purchase Agreement*”), by and among the Company and each Buyer identified on the signature pages thereto (the “*Buyers*”).

This opinion is being delivered to you pursuant to Section 7(ii) of the Purchase Agreement. Capitalized terms used in this opinion and not otherwise defined in this opinion shall have the meanings ascribed to them in the Purchase Agreement.

In connection with the opinions expressed herein, we have made such examination of law as we considered appropriate or advisable for purposes hereof. We have also examined originals or copies, certified or otherwise identified to our satisfaction of:

- (i) executed copies of the Purchase Agreement, the Registration Rights Agreement, the Notes and the Warrants (collectively, the “*Agreements*”);
- (ii) the Company’s Second Amended and Restated Certificate of Incorporation, and the Company’s Amended and Restated Bylaws, each as amended and in effect as of the date hereof, certified as true, accurate and complete by an officer of the Company (collectively, the “*Organizational Documents*”);
- (iii) the Certificate of Designations, Preferences and Rights of Series C Convertible Preferred Stock, filed with the Securities and Exchange Commission on April 1, 2002, and the Certificate of Designations, Preferences and Rights of Series J Convertible Preferred Stock, filed with the Securities and Exchange Commission on November 14, 2017 (collectively, the “*Certificates of Designations*”);
- (iv) the original or electronically transmitted certificates of good standing and qualification of the Company and its Subsidiaries issued as of a recent date by the Secretary of State of Delaware, the Department of State of Florida, the Department of Consumer and Regulatory Affairs, Corporations Division of the Government of the District of Columbia and the Secretary of State of California (the “*Good Standing Certificates*”);

- (v) the records of the proceedings and actions of the Company's Board of Directors (the "**Board**") with respect to the transactions contemplated by the Purchase Agreement, certified as true, accurate and complete, and in full force and effect, by an officer of the Company;
- (vi) a certificate of an officer of the Company (the "**Officer Certificate**"), dated the date hereof, as to certain factual matters; and
- (vii) such other certificates, documents and matters as we have deemed necessary and appropriate to render the opinions set forth in this opinion, subject to the limitations, assumptions, and qualifications noted in this opinion.

All references in this opinion letter to the Agreements shall refer only to the body of such agreements and the disclosure schedules attached to the Purchase Agreement, exclusive of any other documents incorporated by reference therein and no opinion is expressed with respect to any documents or provisions of any documents which purport to be incorporated by reference in any other document.

As to factual matters, we have relied solely upon, and assumed the accuracy, completeness, and genuineness of, the representations and warranties contained in the Purchase Agreement, statements made in the Officer's Certificate, certificates of public officials and oral and written representations made to us by officers of the Company. With your permission, we have made no independent investigation of any of the facts stated in any such certificate or representation.

For purposes of this opinion letter, we have assumed that: (i) each party to the Agreements (other than the Company) is duly organized, validly existing and in good standing under the laws of the respective state or jurisdiction in which it is organized and is duly qualified to engage in the transactions contemplated by the Agreements; (ii) the execution and delivery of the Agreements, and the consummation and performance of the transactions contemplated by the Agreements, by all parties (other than the Company) have been duly authorized by all necessary actions; (iii) each party to the Agreements (other than the Company) has the requisite power and authority to perform its obligations under the Agreements; (iv) each of the Agreements constitutes the legal, valid, and binding obligations of all parties thereto (other than the Company), enforceable against such parties (other than the Company) in accordance with their respective terms; (v) each party to the Agreements (other than the Company) is in compliance with all applicable laws, rules and regulations governing the transactions contemplated by the Agreements and the conduct of its respective businesses and is not subject to any statute, rule, regulation, agreement or other impediment that requires it to obtain the consent of or to make any declaration or filing with any governmental authority or any other person in connection with the transactions contemplated by the Agreements; (vi) all natural persons who are signatories to the Agreements were legally competent at the time of execution and delivery of the Agreements; (vii) all signatures on the Agreements and other documents reviewed by us are genuine; (viii) with respect to the transactions contemplated by the Agreements, all terms and conditions of the relationship among the Company and you are correctly and completely reflected in the Agreements; (ix) there has not been any mutual mistake of fact or understanding with respect to the Agreements, (x) if you are a corporation or other entity, that you have filed any required state franchise, income or similar tax returns and have paid any required state franchise, income or similar taxes; and (xi) that there are no extrinsic agreements or understandings among the parties to the Agreements that would modify or interpret the terms of the Agreements or the respective rights or obligations of the parties thereunder; and (xii) the Agreements, and the transactions contemplated thereby, were fair, just and reasonable to the Company at the time of their authorization, approval or ratification by the Board; and we express no opinion as to such matters.



Based upon the foregoing, and subject to the assumptions, qualifications and limitations set forth herein, we are of the opinion that:

- G. The Company is an entity duly formed and validly existing under the laws of the jurisdiction of its formation and is in good standing under such laws. The Company is duly qualified as a foreign corporation to do business and is in good standing in the State of Florida, the Government of the District of Columbia and the State of California.
- H. The Company has the requisite corporate power and authority to execute, deliver and perform all of its obligations under the Agreements, including, without limitation, the issuance of the Notes and the Warrants, and, upon conversion of the Notes, issue the Conversion Shares and, upon exercise of the Warrants, issue the Warrant Shares, in each case, in accordance with the terms thereof. The execution and delivery of the Agreements by the Company and the consummation by it of the transactions contemplated therein (including, without limitation, the issuance and sale of the Notes and the Warrants) have been duly authorized by the Board and no further consent or authorization of the Company, the Board or its stockholders is required therefor. The Agreements have been duly executed and delivered by the Company. The Agreements constitute valid and binding agreements or obligations of the Company, enforceable against the Company in accordance with their respective terms, except as enforcement may be limited by applicable bankruptcy, insolvency, reorganization, arrangement, moratorium or other similar laws affecting creditors' rights, and subject to general equity principles and to limitations on availability of equitable relief, including specific performance.
- I. The execution and delivery of the Agreements by the Company does not and the performance by the Company of its obligations thereunder will not conflict with or violate any provision of the Organizational Documents or any of the Certificates of Designations, and does not and will not, as the case may be, conflict with or violate (a) any governmental statute, rule or regulation which in our experience is typically applicable to transactions of the nature contemplated by the Agreements, (b) any order, writ, judgment, injunction, decree, determination or award which has been entered against the Company and of which we are aware, in each case to the extent the violation of which would materially and adversely affect the Company, taken as a whole or (c) any of the agreements listed on Exhibit A attached hereto.
- J. When so issued in accordance with the terms of the Notes, the Warrants and the Organizational Documents, the Conversion Shares and the Warrant Shares will be duly authorized and validly issued, fully paid and nonassessable upon receipt by the Company of full consideration therefor. The Conversion Shares and the Warrant Shares have been duly and validly reserved for issuance by all proper corporate action.

- K. Subject to the accuracy of the information provided by the Buyers pursuant to the Purchase Agreement, the offer and sale of the Notes and the Warrants in accordance with the Purchase Agreement and the issuance and delivery of the Conversion Shares and the Warrant Shares in accordance with the terms of the Notes and Warrants, as applicable, do not require registration under the Securities Act of 1933, as amended.
- L. The execution, delivery and performance by the Company of the Agreements and the issuance of the Notes, Warrants, Conversion Shares and Warrant Shares contemplated thereby, do not require any consent, license, permit, waiver, approval or authorization of, or designation, declaration, registration or filing with, any U.S. federal court, governmental or regulatory authority, or self-regulatory organization (other than any filing with the U.S. Securities and Exchange Commission, state securities regulatory authorities, or the OTC QB that may be required to be made by the Company) or from the stockholders of the Company.
- M. The Company and its Board of Directors have taken all necessary action, if any, 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 as a result of the Buyers and the Company fulfilling their obligations or exercising their rights under the Transaction Documents, including without limitation, the Company's issuance of Notes on the date hereof (and the Conversion Shares issuable pursuant to the terms thereof ) and the Warrants (and the Warrant Shares issuable pursuant to the terms thereof) and the Buyers' and their affiliates' ownership of such securities or any other securities of the Company acquired by the Buyer or their affiliates.
- N. To our knowledge, no action, suit, proceeding, inquiry or investigation before or by any court, public board or body or any governmental agency or self-regulatory organization is pending or threatened against the Company or any of its Subsidiaries or any of their properties or assets.
- O. The sale of the Notes and the use of the proceeds thereof as contemplated in the Transaction Documents will not violate or be inconsistent with the provisions of Regulation T, U or X of the Board of Governors of the Federal Reserve System of the United States.

Our opinions are qualified as follows:

A. Where we render an opinion "to our knowledge" or concerning an item "known to us" or our opinion otherwise uses a phrase of similar meaning, it is intended to indicate that, during the course of our representation of the Company, no information that would give us current actual knowledge of the inaccuracy of such statement has come to the attention of Jenifer Smith, Jay Buchanan and Nicole Huang, the attorneys in this firm who have rendered or are rendering substantive legal services to the Company in the transactions contemplated by the Purchase Agreement. However, except as otherwise expressly indicated, with your permission we have not undertaken any independent investigation to determine the accuracy of such statements and any limited inquiry undertaken by us during the preparation of this opinion letter should not be regarded as such an investigation. No inference as to our knowledge of any matters bearing on the accuracy of any such statement should be drawn from the fact of our representation of the Company.

B. The foregoing opinions are limited to the federal laws of the United States of America, the laws of the State of Texas and the Delaware General Corporation Law, each as in effect on the date hereof, and which in our experience are normally applicable to the transactions contemplated by the Purchase Agreement, but in each case without our having made any special investigation concerning any other law, rule or regulation (collectively, “*Applicable Laws*”). The members of this Firm that have worked on the transaction are not admitted to practice in the State of Delaware or the State of New York and do not purport to be experts on the laws of the State of Delaware generally or on the laws of the State of New York. Our opinions herein with respect to the Delaware General Corporation Law are based solely upon a review of such laws as reported in standard compilations and, with your permission, such opinions are based solely on such limited review. Any opinions herein regarding the Transaction Documents that are governed by the laws of the State of New York assume that the laws of the State of New York are identical to the laws of the State of Texas and are limited to the application of the laws of the State of Texas by the courts located in the State of Texas, without regard to principles regarding conflicts of laws.

C. We express no opinion as to compliance with U.S. federal securities laws (except as otherwise set forth in this opinion), state or non-U.S. securities laws, anti-trust, unfair competition, tax, banking, financial services, insurance, usury, anti-terrorism, anti-money laundering, pension, intellectual property, health, safety and welfare, environmental, land use, criminal, or privacy laws. We also express no opinion as to any laws that may apply to a party to the Agreements due to the nature of any person’s business or activities or the industry in which such person does business. We express no opinion as to the Company’s compliance or noncompliance with applicable federal or state antifraud statutes, laws, rules and regulations, including without limitation, the accuracy or completeness of the information provided to you in connection with the offer and sale of the Securities. Furthermore, we express no opinion regarding (i) laws, rules or regulations applicable to (1) patents, copyrights, trademarks and other proprietary rights and licenses and (2) health care regulatory matters or health care reimbursement, or (ii) matters regulated or administered by the United States Food and Drug Administration.

D. We express no opinion concerning the past, present or future value of any securities.

This opinion letter is predicated solely upon laws in existence and facts as we know them as of the date hereof and is limited to the matters expressly stated herein, and no opinion is implied or may be inferred beyond the matters expressly stated herein. We expressly disclaim any obligation to update this opinion after the date hereof for any reason, including but not limited to, any new or changed facts or law which come to our attention after the date hereof. This letter is based upon our professional knowledge and judgment at this time; however, it is not to be construed as a guaranty, nor is it a warranty that a court considering such matters would not rule in a manner contrary to the opinions set forth herein.

This opinion letter is intended solely for your benefit solely with respect to the transactions contemplated by the Purchase Agreement and may not be used by you for any other purpose and may not be made available to or relied upon by any other person or entity without our express prior written consent.

**EXHIBIT F**

Form of Secretary's Certificate

**GT BIOPHARMA, INC.**

**SECRETARY'S CERTIFICATE**

The undersigned hereby certifies that he is the duly elected, qualified and acting Secretary of GT Biopharma, Inc., a Delaware corporation (the "**Company**"), and that as such he is authorized to execute and deliver this certificate in the name and on behalf of the Company and in connection with the Securities Purchase Agreement, dated as of January 22, 2018, by and among the Company and the investors listed on the Schedule of Buyers attached thereto (the "**Securities Purchase Agreement**"), and further certifies in his official capacity, in the name and on behalf of the Company, the items set forth below. Capitalized terms used but not otherwise defined herein shall have the meaning set forth in the Securities Purchase Agreement.

- (i) Attached hereto as Exhibit A is a true, correct and complete copy of the unanimous written consent of the Board of Directors of the Company, dated January 22, 2018. The resolutions contained in Exhibit A have not in any way been amended, modified, revoked or rescinded, have been in full force and effect since their adoption to and including the date hereof and are now in full force and effect.
- (ii) Attached hereto as Exhibit B is a true, correct and complete copy of the Certificate of Incorporation of the Company, together with any and all amendments thereto, and no action has been taken to further amend, modify or repeal such Certificate of Incorporation, the same being in full force and effect in the attached form as of the date hereof.
- (iii) Attached hereto as Exhibit C is a true, correct and complete copy of the Bylaws of the Company and any and all amendments thereto, and no action has been taken to further amend, modify or repeal such Bylaws, the same being in full force and effect in the attached form as of the date hereof.

IN WITNESS WHEREOF, the undersigned has hereunto set his hand as of this \_\_ day of January, 2018.

\_\_\_\_\_  
Steven Weldon  
Secretary

I, Kathleen Clarence-Smith, Chief Executive Officer of the Company, hereby certify that Steven Weldon is the duly elected, qualified and acting Secretary of the Company and that the signature set forth above is his true signature.

\_\_\_\_\_  
Kathleen Clarence-Smith  
Chief Executive Officer

**EXHIBIT G**

Form of Officer's Certificate

**GT BIOPHARMA, INC.**

**OFFICER'S CERTIFICATE**

The undersigned officer of GT Biopharma, Inc., a Delaware corporation (the "**Company**"), hereby represents, warrants and certifies to the Buyers (as defined below), pursuant to Section 7(vii) of the Agreement (as defined below), as follows:

1. The representations and warranties of the Company set forth in Section 3 of the Securities Purchase Agreement, dated as of January \_\_, 2018 (the "**Agreement**"), among the Company and the investors identified on the Schedule of Buyers attached to the Agreement (the "**Buyers**"), are true and correct in all material respects (except for those representations and warranties that are qualified by materiality or Material Adverse Effect (as defined in the Agreement), which are accurate in all respects) as of the date hereof (except for representations and warranties that speak as of a specific date, which are true and correct as of such specified date).
2. The Company has performed, satisfied and complied in all material respects with the covenants, agreements and conditions required by the Transaction Documents (as defined in the Agreement) to be performed, satisfied and complied with by the Company as of the date hereof (except for covenants, agreements and conditions that are qualified by materiality or Material Adverse Effect, which have been performed, satisfied or complied with, in all respects).

Capitalized terms used but not otherwise defined herein shall have the meaning set forth in the Agreement.

**IN WITNESS WHEREOF**, the undersigned has executed this certificate this \_\_ day of January, 2018.

\_\_\_\_\_  
Name: Steven Weldon  
Title: Chief Financial Officer

## SCHEDULES

These Disclosure Schedules are provided pursuant to Sections 3 and 4 of the Securities Purchase Agreement dated January 22, 2018 (the “*Agreement*”) by and among GT Biopharma, Inc., a Delaware corporation, with headquarters located at 1825 K Street, Suite 510, Washington, D.C. 20006 (the “*Company*”), and the investors listed on the Schedule of Buyers attached thereto (individually, a “*Buyer*” and collectively, the “*Buyers*”). Capitalized terms used but not otherwise defined herein shall have the meanings ascribed to them in the Agreement.

These Disclosure Schedules are qualified in their entirety by the provisions of the Agreement, and are not intended to constitute, and shall not be construed as constituting, representations, warranties, or covenants of the Company except as and only to the extent explicitly provided in the Agreement. Matters reflected in these Disclosure Schedules are not necessarily limited to matters required by the Agreement to be reflected in the Disclosure Schedules. All references to “Section” refer to a section or subsection in the Agreement, unless the context otherwise requires. The headings in these Disclosure Schedules are for convenience of reference only and shall not affect the disclosures contained herein. The disclosures in these Disclosure Schedules shall apply to the corresponding numbered or lettered sections of the Agreement. Inclusion of a matter in the Disclosure Schedules with respect to a representation or warranty that addresses matters having a Material Adverse Effect shall not be deemed an indication that such matter does or may have a Material Adverse Effect. These Disclosure Schedules may include matters not required by the terms of the Agreement to be listed on the Disclosure Schedules, which additional matters are disclosed for purposes of information only, and inclusion of any such matter does not mean that all such matters are included.

**Schedule 3(a)**

**Organization and Qualification**

Oxis Biotech, Inc.

Georgetown Translational Pharmaceuticals, Inc.



None.

**Schedule 3(l)**

**Absence of Certain Changes**

None.

**Schedule 3(n)**

**Conduct of Business; Regulatory Permits**

None.

Master Consulting Agreement by and between the Company and KM Pharmaceuticals Consulting LLC, dated January 1, 2017.

Schedule 3(r)

Equity Capitalization

None.

**Schedule 3(s)****Indebtedness and Other Contracts**

(i)

On November 8, 2010, the Company entered into a financing arrangement with Gemini Pharmaceuticals, Inc., a product development and manufacturing partner of the Company, pursuant to which Gemini Pharmaceuticals made a \$250,000 strategic equity investment in the Company and agreed to make a \$750,000 purchase order line of credit facility available to the Company. Gemini Pharmaceuticals has lent \$31,000 to the Company pursuant to such letter of credit facility.

**Schedule 3(t)****Absence of Litigation**

On June 23, 2016, the Company was served with a complaint filed in the Circuit Court of the 13th Judicial Circuit in and for Hillsborough County, FL, Case No. 16-CA-004791. Suit was brought against the Company by Lippert/Heilshorn and Associates, Inc. who is alleging they are owed compensation for consulting services provided to the company. They are seeking payment of \$73,898. The Company has engaged legal counsel to answer the complaint.

On or immediately before February 15, 2017, MultiCell Immunotherapeutics filed an arbitration proceeding against the Company with the American Health Lawyers Association, Claim #3821. In its statement of claim, MultiCell is seeking \$207,783 plus interest and costs of arbitration pursuant to alleged contract rights against the Company under a research agreement between the parties. Following a hearing held September 1, 2017, the arbitrator awarded MultiCell the payment amount of \$207,783 plus interest in the amount of \$34,699. We are having legal counsel review to determine the extent to which the arbitrator's award is legally binding on the Company.

## Schedule 3(x)

## Intellectual Property Rights

(i)

<b>Appl. No./ Pat./Pub. No.</b>	<b>Title</b>	<b>Country</b>	<b>Status</b>
PCT Patent Application Number PCT/US2016/055722	Therapeutic compounds and methods	US	Pending
U.S. Patent Number 9,371,386	Methods and compositions for bi-specific targeting of cd19/cd22	US	Issued
U.S. Patent Application Number 15/187,579	Methods and compositions for bi-specific targeting of cd19/cd22	US	Pending
U.S. Patent Number 9580382	P62zz chemical inhibitor	US	Issued
U.S. Patent Application Number 14/727,710	P62zz chemical inhibitor	US	Pending
Chinese Patent Application 201280048718	P62zz chemical inhibitor	US	Pending
U.S. Patent Number 7,838,031	Method for administering a partial dose using a segmented pharmaceutical tablet	US	Issued
U.S. Patent Number 7,879,352	Scored pharmaceutical tablets comprising a plurality of segments	US	Issued
U.S. Patent Number 8,158,148	Pharmaceutical tablets comprising two or more unitary segments	US	Issued
U.S. Patent Number 8,231,902 (ABT-054)	Segmented pharmaceutical dosage forms	US	Issued
U.S. Patent Application Number 62/449,599	Neostigmine combination for treating Myasthenia Gravis	US	Pending
U.S. Patent Application Number 62/536,595	Method and composition for treating Myasthenia Gravis	US	Pending
U.S. Patent Application Number 62/536,580	Neostigmine pharmaceutical combination for treating Myasthenia Gravis	US	Pending
PCT Application Number PCT/US/18/12754	Use and composition for treating Myasthenia Gravis	PCT	Claims priority from US 62/443,904
PCT Application Number PCT/US/17/68944	Use and composition for preventing and treating motion sickness	PCT	Claims priority from US 62/440,575
Taiwan Application Number 107100813		TW	Awaiting FC Report
Taiwan Application Number 107100079		TW	Awaiting FC Report
US Patent Application Number 62/595,667	Use, method, and device for the prevention and treatment of motion sickness	US	Pending

(ii)

<b>Appl. No.</b>	<b>Title</b>	<b>Country</b>	<b>Status</b>
U.S. Patent Application Number 62/237,835	Therapeutic compounds and its uses	US	Expired
U.S. Patent Application Number 61/160,530	Methods and compositions for bi-specific targeting of cd19/cd22	US	Expired
U.S. Patent Application Number 61/521,287	P62zz chemical inhibitor	US	Expired
PCT Patent Application Number PCT/US2012/049911	P62zz chemical inhibitor	PCT	Expired
U.S. Patent Application Number 62/443,904	Use and composition for treating Myasthenia Gravis	US	Expired
U.S. Patent Application Number 62/440,575	Use and composition for preventing and treating motion sickness	US	Expired



**Schedule 3(cc)**

**Internal Accounting and Disclosure Controls**

As of June 30, 2017, management of the Company conducted an assessment of the effectiveness of the Company's internal control over financial reporting. In making this assessment, it used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission ("*COSO*") in Internal Control—Integrated Framework. In the course of the assessment, material weaknesses were identified in the Company's internal control over financial reporting.

Management determined that fundamental elements of an effective control environment were missing or inadequate as of June 30, 2017. The most significant issues identified were: 1) lack of segregation of duties due to very small staff and significant reliance on outside consultants, and 2) risks of executive override also due to lack of established policies, and small employee staff. Based on the material weaknesses identified above, management has concluded that internal control over financial reporting was not effective as of June 30, 2017.

Schedule 3(ee)

Ranking of Notes

None.

**Schedule 4(d)****Use of Proceeds**

The Company intends to use the proceeds from the sale of the Securities for research and development, general and administrative expenses, commissions and fees.

## REGISTRATION RIGHTS AGREEMENT

**REGISTRATION RIGHTS AGREEMENT** (this "**Agreement**"), dated as of January 22, 2018, by and among GT Biopharma, Inc., a Delaware corporation, with headquarters located at 1825 K Street, Suite 510, Washington, D.C. 20006 (the "**Company**"), and the investors listed on the Schedule of Buyers attached hereto (each, a "**Buyer**" and collectively, the "**Buyers**").

**WHEREAS:**

A. In connection with the Securities Purchase Agreement by and among the parties hereto of even date herewith (the "**Securities Purchase Agreement**"), the Company has agreed, upon the terms and subject to the conditions of the Securities Purchase Agreement, to issue and sell to each Buyer (i) senior convertible notes of the Company (the "**Notes**"), which will, among other things, be convertible into the Company's common stock, par value \$0.001 per share (the "**Common Stock**") (the shares of Common Stock issuable pursuant to the terms of the Notes, collectively, the "**Conversion Shares**") and (ii) warrants (the "**Warrants**") which will be exercisable to purchase shares of Common Stock (as exercised, collectively, the "**Warrant Shares**") in accordance with the terms of the Warrants.

B. In accordance with the terms of the Securities Purchase Agreement, the Company has agreed to provide certain registration rights under the Securities Act of 1933, as amended, and the rules and regulations thereunder, or any similar successor statute (collectively, the "**1933 Act**"), and applicable state securities laws.

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

1. Definitions.

Capitalized terms used herein and not otherwise defined herein shall have the respective meanings set forth in the Securities Purchase Agreement. As used in this Agreement, the following terms shall have the following meanings:

(a) "**Additional Effective Date**" means the date the Additional Registration Statement is declared effective by the SEC.

(b) "**Additional Effectiveness Deadline**" means the date which is the earlier of (x) (i) in the event that the Additional Registration Statement is not subject to a full review by the SEC, thirty (30) calendar days after the earlier of the Additional Filing Date and the Additional Filing Deadline or (ii) in the event that the Additional Registration Statement is subject to a full review by the SEC, sixty (60) calendar days after the earlier of the Additional Filing Date and the Additional Filing Deadline and (y) the fifth (5<sup>th</sup>) Business Day after the date the Company is notified (orally or in writing, whichever is earlier) by the SEC that such Additional Registration Statement will not be reviewed or will not be subject to further review; provided, however, that if the Additional Effectiveness Deadline falls on a Saturday, Sunday or other day that the SEC is closed for business, the Additional Effectiveness Deadline shall be extended to the next Business Day on which the SEC is open for business.

(c) **"Additional Filing Date"** means the date on which the Additional Registration Statement is filed with the SEC.

(d) **"Additional Filing Deadline"** means if Cutback Shares are required to be included in any Additional Registration Statement, the later of (i) the date sixty (60) days after the date substantially all of the Registrable Securities registered under the immediately preceding Registration Statement are sold and (ii) the date six (6) months from the Initial Effective Date or the most recent Additional Effective Date, as applicable.

(e) **"Additional Registrable Securities"** means, (i) any Cutback Shares not previously included on a Registration Statement and (ii) any capital stock of the Company issued or issuable with respect to the Notes, the Conversion Shares, the Warrants, the Warrant Shares, or the Cutback Shares, as applicable, as a result of any stock split, stock dividend, recapitalization, exchange or similar event or otherwise, without regard to any limitations on the issuance of shares of Common Stock pursuant to the terms of the Notes or exercise of the Warrants.

(f) **"Additional Registration Statement"** means a registration statement or registration statements of the Company filed under the 1933 Act covering the resale of any Additional Registrable Securities.

(g) **"Additional Required Registration Amount"** means any Cutback Shares not previously included on a Registration Statement, all subject to adjustment as provided in Section 2(f), without regard to any limitations on the issuance of shares of Common Stock pursuant to the terms of the Notes or exercise of the Warrants.

(h) **"Business Day"** means any day other than Saturday, Sunday or any other day on which commercial banks in the City of New York are authorized or required by law to remain closed.

(i) **"Closing Date"** shall have the meaning set forth in the Securities Purchase Agreement.

(j) **"Cutback Shares"** means any of the Initial Required Registration Amount or the Additional Required Registration Amount of Registrable Securities not included in all Registration Statements previously declared effective hereunder as a result of a limitation on the maximum number of shares of Common Stock of the Company permitted to be registered by the staff of the SEC pursuant to Rule 415. For the purpose of determining the Cutback Shares, in order to determine any applicable Required Registration Amount, unless an Investor gives written notice to the Company to the contrary with respect to the allocation of its Cutback Shares, first the Warrant Shares shall be excluded on a pro rata basis among the Investors until all of the Warrant Shares have been excluded, and second the Conversion Shares shall be excluded on a pro rata basis among the Investors until all of the Conversion Shares have been excluded.

- (l) **"Effective Date"** means the Initial Effective Date and the Additional Effective Date, as applicable.
- (m) **"Effectiveness Deadline"** means the Initial Effectiveness Deadline and the Additional Effectiveness Deadline, as applicable.
- (n) **"Eligible Market"** means the Principal Market, the OTC QX, The New York Stock Exchange, Inc., the NYSE American, the Nasdaq Global Select Market, the NASDAQ Global Market or the NASDAQ Capital Market.
- (o) **"Filing Deadline"** means the Initial Filing Deadline and the Additional Filing Deadline, as applicable.
- (p) **"Initial Effective Date"** means the date that the Initial Registration Statement has been declared effective by the SEC.
- (q) **"Initial Effectiveness Deadline"** means the date which is the earlier of (x) (i) in the event that the Initial Registration Statement is not subject to a full review by the SEC, sixty-five (65) calendar days after the Closing Date or (ii) in the event that the Initial Registration Statement is subject to a full review by the SEC, ninety-five (95) calendar days after the Closing Date and (y) the fifth (5<sup>th</sup>) Business Day after the date the Company is notified (orally or in writing, whichever is earlier) by the SEC that such Initial Registration Statement will not be reviewed or will not be subject to further review; provided, however, that if the Initial Effectiveness Deadline falls on a Saturday, Sunday or other day that the SEC is closed for business, the Initial Effectiveness Deadline shall be extended to the next Business Day on which the SEC is open for business.
- (r) **"Initial Filing Date"** means the date on which the Initial Registration Statement is filed with the SEC.
- (s) **"Initial Filing Deadline"** means the date which is forty (40) calendar days after the Closing Date.
- (t) **"Initial Registrable Securities"** means (i) the Conversion Shares issued or issuable pursuant to the terms of the Notes, (ii) the Warrant Shares issued or issuable upon exercise of the Warrants and (iii) any capital stock of the Company issued or issuable with respect to the Notes, the Conversion Shares, the Warrant Shares or the Warrants as a result of any stock split, stock dividend, recapitalization, exchange or similar event or otherwise, in each case without regard to any limitations on the issuance of shares of Common Stock pursuant to the terms of the Notes or exercise of the Warrants.
- (u) **"Initial Registration Statement"** means a registration statement or registration statements of the Company filed under the 1933 Act covering the resale of the Initial Registrable Securities.
- (v) **"Initial Required Registration Amount"** means the sum of (i) 200% of the maximum number of Conversion Shares issued and issuable pursuant to the Notes and (ii) the maximum number of Warrant Shares issued and issuable pursuant to the Warrants, each as of the Trading Day immediately preceding the applicable date of determination and all subject to adjustment as provided in Section 2(f), without regard to any limitations on the issuance of shares of Common Stock pursuant to the terms of the Notes or exercise of the Warrants.

(w) **"Investor"** means a Buyer or any transferee or assignee thereof to whom a Buyer assigns its rights under this Agreement and who agrees to become bound by the provisions of this Agreement in accordance with Section 9 and any transferee or assignee thereof to whom a transferee or assignee assigns its rights under this Agreement and who agrees to become bound by the provisions of this Agreement in accordance with Section 9.

(x) **"Person"** means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization and a government or any department or agency thereof.

(y) **"Principal Market"** means the OTC QB.

(z) **"register," "registered," and "registration"** refer to a registration effected by preparing and filing one or more Registration Statements (as defined below) in compliance with the 1933 Act and pursuant to Rule 415, and the declaration or ordering of effectiveness of such Registration Statement(s) by the SEC.

(aa) **"Registrable Securities"** means the Initial Registrable Securities and the Additional Registrable Securities.

(bb) **"Registration Statement"** means the Initial Registration Statement and the Additional Registration Statement, as applicable.

(cc) **"Required Holders"** means the holders of at least a majority of the Registrable Securities and shall include (i) affiliates of Empery Asset Management, LP ("**Empery**") so long as Empery or any of its affiliates holds any Registrable Securities and (ii) affiliates of Ayrton Capital LLC ("**Ayrton**") so long as Ayrton or any of its affiliates holds any Registrable Securities.

(dd) **"Required Registration Amount"** means either the Initial Required Registration Amount or the Additional Required Registration Amount, as applicable.

(ee) **"Rule 415"** means Rule 415 promulgated under the 1933 Act or any successor rule providing for offering securities on a continuous or delayed basis.

(ff) **"SEC"** means the United States Securities and Exchange Commission.

(gg) **"Trading Day"** means any day on which the Common Stock is traded on the Principal Market, or, if the Principal Market is not the principal trading market for the Common Stock, then on the principal securities exchange or securities market on which the Common Stock is then traded.

2. Registration.

(a) Initial Mandatory Registration. The Company shall prepare, and, as soon as practicable but in no event later than the Initial Filing Deadline, file with the SEC the Initial Registration Statement on Form S-3 covering the resale of all of the Initial Registrable Securities. In the event that Form S-3 is unavailable for such a registration, the Company shall use such other form as is available for such a registration on another appropriate form reasonably acceptable to the Required Holders, subject to the provisions of Section 2(e). The Initial Registration Statement prepared pursuant hereto shall register for resale at least the number of shares of Common Stock equal to the Initial Required Registration Amount determined as of the date the Initial Registration Statement is initially filed with the SEC, subject to adjustment as provided in Section 2(f). The Initial Registration Statement shall contain (except if otherwise directed by the Required Holders) the "Plan of Distribution" and "Selling Stockholders" sections in substantially the form attached hereto as Exhibit B. The Company shall use its best efforts to have the Initial Registration Statement declared effective by the SEC as soon as practicable, but in no event later than the Initial Effectiveness Deadline. By 9:30 a.m. New York time on the Business Day following the Initial Effective Date, the Company shall file with the SEC in accordance with Rule 424 under the 1933 Act the final prospectus to be used in connection with sales pursuant to such Initial Registration Statement.

(b) Additional Mandatory Registrations. The Company shall prepare, and, as soon as practicable but in no event later than the Additional Filing Deadline, file with the SEC an Additional Registration Statement on Form S-3 covering the resale of all of the Additional Registrable Securities not previously registered on an Additional Registration Statement hereunder. To the extent the staff of the SEC does not permit the Additional Required Registration Amount to be registered on an Additional Registration Statement, the Company shall file Additional Registration Statements successively trying to register on each such Additional Registration Statement the maximum number of remaining Additional Registrable Securities until the Additional Required Registration Amount has been registered with the SEC. In the event that Form S-3 is unavailable for such a registration, the Company shall use such other form as is available for such a registration on another appropriate form reasonably acceptable to the Required Holders, subject to the provisions of Section 2(e). Each Additional Registration Statement prepared pursuant hereto shall register for resale at least that number of shares of Common Stock equal to the Additional Required Registration Amount determined as of the date such Additional Registration Statement is initially filed with the SEC, subject to adjustment as provided in Section 2(f). Each Additional Registration Statement shall contain (except if otherwise directed by the Required Holders) the "Plan of Distribution" and "Selling Stockholders" sections in substantially the form attached hereto as Exhibit B. The Company shall use its best efforts to have each Additional Registration Statement declared effective by the SEC as soon as practicable, but in no event later than the Additional Effectiveness Deadline. By 9:30 a.m. New York time on the Business Day following the Additional Effective Date, the Company shall file with the SEC in accordance with Rule 424 under the 1933 Act the final prospectus to be used in connection with sales pursuant to such Additional Registration Statement.

( c ) Allocation of Registrable Securities. The initial number of Registrable Securities included in any Registration Statement and any increase or decrease in the number of Registrable Securities included therein shall be allocated pro rata among the Investors based on the number of Registrable Securities held by each Investor at the time the Registration Statement covering such initial number of Registrable Securities or increase or decrease thereof is declared effective by the SEC. In the event that an Investor sells or otherwise transfers any of such Investor's Registrable Securities, each transferee shall be allocated a pro rata portion of the then remaining number of Registrable Securities included in such Registration Statement for such transferor. Any shares of Common Stock included in a Registration Statement and which remain allocated to any Person which ceases to hold any Registrable Securities covered by such Registration Statement shall be allocated to the remaining Investors, pro rata based on the number of Registrable Securities then held by such Investors which are covered by such Registration Statement. In no event shall the Company include any securities other than Registrable Securities on any Registration Statement without the prior written consent of the Required Holders.



( d ) Legal Counsel. Subject to Section 5 hereof, the Required Holders shall have the right to select one legal counsel to review and oversee any registration pursuant to this Section 2 ("**Legal Counsel**"), which shall be Schulte Roth & Zabel LLP or such other counsel as thereafter designated by the Required Holders. The Company and Legal Counsel shall reasonably cooperate with each other in performing the Company's obligations under this Agreement.

( e ) Ineligibility for Form S-3. In the event that Form S-3 is not available for the registration of the resale of Registrable Securities hereunder, the Company shall (i) register the resale of the Registrable Securities on Form S-1 or another appropriate form reasonably acceptable to the Required Holders and (ii) undertake to register the Registrable Securities on Form S-3 as soon as such form is available, provided that the Company shall maintain the effectiveness of the Registration Statement then in effect until such time as a Registration Statement on Form S-3 covering the Registrable Securities has been declared effective by the SEC.

( f ) Sufficient Number of Shares Registered. In the event the number of shares available under a Registration Statement filed pursuant to Section 2(a) or Section 2(b) is insufficient to cover the Required Registration Amount of Registrable Securities required to be covered by such Registration Statement or an Investor's allocated portion of the Registrable Securities pursuant to Section 2(c), the Company shall amend the applicable Registration Statement, or file a new Registration Statement (on the short form available therefor, if applicable), or both, so as to cover at least the Required Registration Amount as of the Trading Day immediately preceding the date of the filing of such amendment or new Registration Statement, in each case, as soon as practicable, but in any event not later than fifteen (15) days after the necessity therefor arises. The Company shall use its best efforts to cause such amendment and/or new Registration Statement to become effective as soon as practicable following the filing thereof. For purposes of the foregoing provision, the number of shares available under a Registration Statement shall be deemed "insufficient to cover all of the Registrable Securities" if at any time the number of shares of Common Stock available for resale under the Registration Statement is less than the Required Registration Amount. The calculation set forth in the foregoing sentence shall be made without regard to any limitations on the issuance of shares of Common Stock pursuant to the terms of the Notes or exercise of the Warrants and such calculation shall assume (i) that the Notes are then convertible in full into shares of Common Stock at the then prevailing Conversion Rate (as defined in the Notes), (ii) the initial outstanding principal amount of the Notes remains outstanding through the scheduled Maturity Date (as defined in the Notes) and no redemptions of the Notes occur prior to the scheduled Maturity Date and (iii) the Warrants are then exercisable in full into shares of Common Stock at the then prevailing Exercise Price (as defined in the Warrants).

( g ) Effect of Failure to File and Obtain and Maintain Effectiveness of Registration Statement. If (i) the Initial Registration Statement when declared effective fails to register the Initial Required Registration Amount of Initial Registrable Securities (a "**Registration Failure**"), (ii) a Registration Statement covering all of the Registrable Securities required to be covered thereby and required to be filed by the Company pursuant to this Agreement is (A) not filed with the SEC on or before the applicable Filing Deadline (a "**Filing Failure**") or (B) not declared effective by the SEC on or before the applicable Effectiveness Deadline, (an "**Effectiveness Failure**") or (iii) on any day after the applicable Effective Date, sales of all of the Registrable Securities required to be included on such Registration Statement cannot be made (other than during an Allowable Grace Period (as defined in Section 3(r)) pursuant to such Registration Statement or otherwise (including, without limitation, because of the suspension of trading or any other limitation imposed by an Eligible Market, a failure to keep such Registration Statement effective, a failure to disclose such information as is necessary for sales to be made pursuant to such Registration Statement, a failure to register a sufficient number of shares of Common Stock or a failure to maintain the listing of the Common Stock) (a "**Maintenance Failure**") then, as partial relief for the damages to any holder by reason of any such delay in or reduction of its ability to sell the underlying shares of Common Stock (which remedy shall not be exclusive of any other remedies available at law or in equity, including, without limitation, specific performance or the additional obligation of the Company to register any Cutback Shares), the Company shall pay to each holder of Registrable Securities relating to such Registration Statement an amount in cash equal to two percent (2.0%) of the aggregate Purchase Price (as such term is defined in the Securities Purchase Agreement) of such Investor's Registrable Securities, whether or not included in such Registration Statement, on each of the following dates: (i) the day of a Registration Failure, (ii) the day of a Filing Failure; (iii) the day of an Effectiveness Failure; (iv) the initial day of a Maintenance Failure; (v) on the thirtieth day after the date of a Registration Failure and every thirtieth day thereafter (pro rated for periods totaling less than thirty days) until such Registration Failure is cured; (vi) on the thirtieth day after the date of a Filing Failure and every thirtieth day thereafter (pro rated for periods totaling less than thirty days) until such Filing Failure is cured; (vii) on the thirtieth day after the date of an Effectiveness Failure and every thirtieth day thereafter (pro rated for periods totaling less than thirty days) until such Effectiveness Failure is cured; and (viii) on the thirtieth day after the initial date of a Maintenance Failure and every thirtieth day thereafter (pro rated for periods totaling less than thirty days) until such Maintenance Failure is cured. The payments to which a holder shall be entitled pursuant to this Section 2(g) are referred to herein as "**Registration Delay Payments.**" Registration Delay Payments shall be paid on the earlier of (I) the dates set forth above and (II) the third Business Day after the event or failure giving rise to the Registration Delay Payments is cured. In the event the Company fails to make Registration Delay Payments in a timely manner, such Registration Delay Payments shall bear interest at the rate of one and one-half percent (1.5%) per month (prorated for partial months) until paid in full.

3. Related Obligations.

At such time as the Company is obligated to file a Registration Statement with the SEC pursuant to Section 2(a), 2(b), 2(e) or 2(f), the Company will use its best efforts to effect the registration of the Registrable Securities in accordance with the intended method of disposition thereof and, pursuant thereto, the Company shall have the following obligations:

(a) The Company shall promptly prepare and file with the SEC a Registration Statement with respect to the Registrable Securities and use its best efforts to cause such Registration Statement relating to the Registrable Securities to become effective as soon as practicable after such filing (but in no event later than the Effectiveness Deadline). The Company shall keep each Registration Statement effective pursuant to Rule 415 at all times until the earlier of (i) the date as of which the Investors may sell all of the Registrable Securities covered by such Registration Statement without restriction or limitation pursuant to Rule 144 and without the requirement to be in compliance with Rule 144(c)(1) (or any successor thereto) promulgated under the 1933 Act or (ii) the date on which the Investors shall have sold all of the Registrable Securities covered by such Registration Statement (the "**Registration Period**"). The Company shall ensure that each Registration Statement (including any amendments or supplements thereto and prospectuses contained therein) shall not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein, or necessary to make the statements therein (in the case of prospectuses, in the light of the circumstances in which they were made) not misleading. The term "best efforts" shall mean, among other things, that the Company shall submit to the SEC, within two (2) Business Days after the later of the date that (i) the Company learns that no review of a particular Registration Statement will be made by the staff of the SEC or that the staff has no further comments on a particular Registration Statement, as the case may be, and (ii) the approval of Legal Counsel pursuant to Section 3(c) (which approval is immediately sought), a request for acceleration of effectiveness of such Registration Statement to a time and date not later than two (2) Business Days after the submission of such request. The Company shall respond in writing to comments made by the SEC in respect of a Registration Statement as soon as practicable, but in no event later than fifteen (15) days after the receipt of comments by or notice from the SEC that an amendment is required in order for a Registration Statement to be declared effective.

(b) The Company shall prepare and file with the SEC such amendments (including post-effective amendments) and supplements to a Registration Statement and the prospectus used in connection with such Registration Statement, which prospectus is to be filed pursuant to Rule 424 promulgated under the 1933 Act, as may be necessary to keep such Registration Statement effective at all times during the Registration Period, and, during such period, comply with the provisions of the 1933 Act with respect to the disposition of all Registrable Securities of the Company covered by such Registration Statement until such time as all of such Registrable Securities shall have been disposed of in accordance with the intended methods of disposition by the seller or sellers thereof as set forth in such Registration Statement. In the case of amendments and supplements to a Registration Statement which are required to be filed pursuant to this Agreement (including pursuant to this Section 3(b)) by reason of the Company filing a report on Form 10-K, Form 10-Q, Form 8-K or any analogous report under the Securities Exchange Act of 1934, as amended (the "**1934 Act**"), the Company shall have incorporated such report by reference into such Registration Statement, if applicable, or shall file such amendments or supplements with the SEC on the same day on which the 1934 Act report is filed which created the requirement for the Company to amend or supplement such Registration Statement.

(c) The Company shall (A) permit Legal Counsel to review and comment upon (i) a Registration Statement at least five (5) Business Days prior to its filing with the SEC and (ii) all amendments and supplements to all Registration Statements (except for Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and any similar or successor reports) within a reasonable number of days prior to their filing with the SEC, and (B) not file any Registration Statement or amendment or supplement thereto in a form to which Legal Counsel reasonably objects. The Company shall not submit a request for acceleration of the effectiveness of a Registration Statement or any amendment or supplement thereto without the prior approval of Legal Counsel, which consent shall not be unreasonably withheld, conditioned or delayed. The Company shall furnish to Legal Counsel, without charge, (i) copies of any correspondence from the SEC or the staff of the SEC to the Company or its representatives relating to any Registration Statement, (ii) promptly after the same is prepared and filed with the SEC, one copy of any Registration Statement and any amendment(s) thereto, including financial statements and schedules, all documents incorporated therein by reference, if requested by an Investor, and all exhibits and (iii) upon the effectiveness of any Registration Statement, one copy of the prospectus included in such Registration Statement and all amendments and supplements thereto. The Company shall reasonably cooperate with Legal Counsel in performing the Company's obligations pursuant to this Section 3.

(d) Upon request, the Company shall furnish to each Investor whose Registrable Securities are included in any Registration Statement, without charge, (i) promptly after the same is prepared and filed with the SEC, at least one copy of such Registration Statement and any amendment(s) thereto, including financial statements and schedules, all documents incorporated therein by reference, if requested by an Investor, all exhibits and each preliminary prospectus, (ii) upon the effectiveness of any Registration Statement, ten (10) copies of the prospectus included in such Registration Statement and all amendments and supplements thereto (or such other number of copies as such Investor may reasonably request) and (iii) such other documents, including copies of any preliminary or final prospectus, as such Investor may reasonably request from time to time in order to facilitate the disposition of the Registrable Securities owned by such Investor.

(e) The Company shall use its best efforts to (i) register and qualify, unless an exemption from registration and qualification applies, the resale by Investors of the Registrable Securities covered by a Registration Statement under such other securities or "blue sky" laws of all applicable jurisdictions in the United States, (ii) prepare and file in those jurisdictions such amendments (including post-effective amendments) and supplements to such registrations and qualifications as may be necessary to maintain the effectiveness thereof during the Registration Period, (iii) take such other actions as may be necessary to maintain such registrations and qualifications in effect at all times during the Registration Period, and (iv) take all other actions reasonably necessary or advisable to qualify the Registrable Securities for sale in such jurisdictions; provided, however, that the Company shall not be required in connection therewith or as a condition thereto to (x) qualify to do business in any jurisdiction where it would not otherwise be required to qualify but for this Section 3(e), (y) subject itself to general taxation in any such jurisdiction, or (z) file a general consent to service of process in any such jurisdiction. The Company shall promptly notify Legal Counsel and each Investor who holds Registrable Securities of the receipt by the Company of any notification with respect to the suspension of the registration or qualification of any of the Registrable Securities for sale under the securities or "blue sky" laws of any jurisdiction in the United States or its receipt of actual notice of the initiation or threatening of any proceeding for such purpose.

(f) The Company shall notify Legal Counsel and each Investor in writing of the happening of any event, as promptly as practicable after becoming aware of such event, as a result of which the prospectus included in a Registration Statement, as then in effect, includes an untrue statement of a material fact or omission to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading (provided that in no event shall such notice contain any material, nonpublic information), and, subject to Section 3(r), promptly prepare a supplement or amendment to such Registration Statement to correct such untrue statement or omission, and, upon request, deliver ten (10) copies of such supplement or amendment to Legal Counsel and each Investor (or such other number of copies as Legal Counsel or such Investor may reasonably request). The Company shall also promptly notify Legal Counsel and each Investor in writing (i) when a prospectus or any prospectus supplement or post-effective amendment has been filed, and when a Registration Statement or any post-effective amendment has become effective (notification of such effectiveness shall be delivered to Legal Counsel and each Investor by facsimile or email on the same day of such effectiveness and by overnight mail), (ii) of any request by the SEC for amendments or supplements to a Registration Statement or related prospectus or related information, and (iii) of the Company's reasonable determination that a post-effective amendment to a Registration Statement would be appropriate. By 9:30 a.m. New York City time on the date following the date any post-effective amendment has become effective, the Company shall file with the SEC in accordance with Rule 424 under the 1933 Act the final prospectus to be used in connection with sales pursuant to such Registration Statement.

(g) The Company shall use its best efforts to prevent the issuance of any stop order or other suspension of effectiveness of a Registration Statement, or the suspension of the qualification of any of the Registrable Securities for sale in any jurisdiction and, if such an order or suspension is issued, to obtain the withdrawal of such order or suspension at the earliest possible moment and to notify Legal Counsel and each Investor who holds Registrable Securities being sold of the issuance of such order and the resolution thereof or its receipt of actual notice of the initiation or threat of any proceeding for such purpose.

(h) If any Investor is required under applicable securities laws to be described in the Registration Statement as an underwriter or an Investor believes that it could reasonably be deemed to be an underwriter of Registrable Securities, at the reasonable request of such Investor, the Company shall furnish to such Investor, on the date of the effectiveness of the Registration Statement and thereafter from time to time on such dates as an Investor may reasonably request (i) a letter, dated such date, from the Company's independent certified public accountants in form and substance as is customarily given by independent certified public accountants to underwriters in an underwritten public offering, addressed to the Investors, and (ii) an opinion, dated as of such date, of counsel representing the Company for purposes of such Registration Statement, in form, scope and substance as is customarily given in an underwritten public offering, addressed to the Investors.

(i) If any Investor is required under applicable securities laws to be described in the Registration Statement as an underwriter or an Investor believes that it could reasonably be deemed to be an underwriter of Registrable Securities, the Company shall make available for inspection by (i) such Investor, (ii) Legal Counsel and (iii) one firm of accountants or other agents retained by the Investors (collectively, the "**Inspectors**"), all pertinent financial and other records, and pertinent corporate documents and properties of the Company (collectively, the "**Records**"), as shall be reasonably deemed necessary by each Inspector, and cause the Company's officers, directors and employees to supply all information which any Inspector may reasonably request; provided, however, that each Inspector shall agree to hold in strict confidence and shall not make any disclosure (except to an Investor) or use of any Record or other information which the Company determines in good faith to be confidential, and of which determination the Inspectors are so notified, unless (a) the disclosure of such Records is necessary to avoid or correct a misstatement or omission in any Registration Statement or is otherwise required under the 1933 Act, (b) the release of such Records is ordered pursuant to a final, non-appealable subpoena or order from a court or government body of competent jurisdiction, or (c) the information in such Records has been made generally available to the public other than by disclosure in violation of this Agreement. Each Investor agrees that it shall, upon learning that disclosure of such Records is sought in or by a court or governmental body of competent jurisdiction or through other means, give prompt notice to the Company and allow the Company, at its expense, to undertake appropriate action to prevent disclosure of, or to obtain a protective order for, the Records deemed confidential. Nothing herein (or in any other confidentiality agreement between the Company and any Investor) shall be deemed to limit the Investors' ability to sell Registrable Securities in a manner which is otherwise consistent with applicable laws and regulations.

(j) The Company shall hold in confidence and not make any disclosure of information concerning an Investor provided to the Company unless (i) disclosure of such information is necessary to comply with federal or state securities laws, (ii) the disclosure of such information is necessary to avoid or correct a misstatement or omission in any Registration Statement, (iii) the release of such information is ordered pursuant to a subpoena or other final, non-appealable order from a court or governmental body of competent jurisdiction, or (iv) such information has been made generally available to the public other than by disclosure in violation of this Agreement or any other agreement. The Company agrees that it shall, upon learning that disclosure of such information concerning an Investor is sought in or by a court or governmental body of competent jurisdiction or through other means, give prompt written notice to such Investor and allow such Investor, at the Investor's expense, to undertake appropriate action to prevent disclosure of, or to obtain a protective order for, such information.

(k) The Company shall use its best efforts either to (i) cause all of the Registrable Securities covered by a Registration Statement to be listed on each securities exchange on which securities of the same class or series issued by the Company are then listed, if any, if the listing of such Registrable Securities is then permitted under the rules of such exchange or (ii) secure the inclusion for quotation of all of the Registrable Securities on the Principal Market or (iii) if, despite the Company's best efforts, the Company is unsuccessful in satisfying the preceding clauses (i) and (ii), to secure the inclusion for quotation on another Eligible Market for such Registrable Securities and, without limiting the generality of the foregoing, to use its best efforts to arrange for at least two market makers to register with the Financial Industry Regulatory Authority, Inc. ("**FINRA**") as such with respect to such Registrable Securities. The Company shall pay all fees and expenses in connection with satisfying its obligation under this Section 3(k).

(l) The Company shall cooperate with the Investors who hold Registrable Securities being offered and, to the extent applicable, facilitate the timely preparation and delivery of certificates (not bearing any restrictive legend) representing the Registrable Securities to be offered pursuant to a Registration Statement and enable such certificates to be in such denominations or amounts, as the case may be, as the Investors may reasonably request and registered in such names as the Investors may request.

(m) If requested by an Investor, the Company shall as soon as practicable (i) incorporate in a prospectus supplement or post-effective amendment such information as an Investor reasonably requests to be included therein relating to the sale and distribution of Registrable Securities, including, without limitation, information with respect to the number of Registrable Securities being offered or sold, the purchase price being paid therefor and any other terms of the offering of the Registrable Securities to be sold in such offering; (ii) make all required filings of such prospectus supplement or post-effective amendment after being notified of the matters to be incorporated in such prospectus supplement or post-effective amendment; and (iii) supplement or make amendments to any Registration Statement if reasonably requested by an Investor holding any Registrable Securities.

(n) The Company shall use its best efforts to cause the Registrable Securities covered by a Registration Statement to be registered with or approved by such other governmental agencies or authorities as may be necessary to consummate the disposition of such Registrable Securities.

(o) The Company shall make generally available to its security holders as soon as practical, but not later than ninety (90) days after the close of the period covered thereby, an earnings statement (in form complying with, and in the manner provided by, the provisions of Rule 158 under the 1933 Act) covering a twelve-month period beginning not later than the first day of the Company's fiscal quarter next following the applicable Effective Date of a Registration Statement.

(p) The Company shall otherwise use its best efforts to comply with all applicable rules and regulations of the SEC in connection with any registration hereunder.

(q) Within two (2) Business Days after a Registration Statement which covers Registrable Securities is ordered effective by the SEC, the Company shall deliver, and shall cause legal counsel for the Company to deliver, to the transfer agent for such Registrable Securities (with copies to the Investors whose Registrable Securities are included in such Registration Statement) confirmation that such Registration Statement has been declared effective by the SEC in the form attached hereto as Exhibit A.

(r) Notwithstanding anything to the contrary herein, at any time after the Effective Date, the Company may delay the disclosure of material, non-public information concerning the Company the disclosure of which at the time is not, in the good faith opinion of the Board of Directors of the Company and its counsel, in the best interest of the Company and, in the opinion of counsel to the Company, otherwise required (a "**Grace Period**"); provided, that the Company shall promptly (i) notify the Investors in writing of the existence of material, non-public information giving rise to a Grace Period (provided that in each notice the Company will not disclose the content of such material, non-public information to the Investors) and the date on which the Grace Period will begin, and (ii) notify the Investors in writing of the date on which the Grace Period ends; and, provided further, that no Grace Period shall exceed five (5) consecutive Trading Days and during any three hundred sixty five (365) day period such Grace Periods shall not exceed an aggregate of twenty (20) Trading Days and the first day of any Grace Period must be at least five (5) Trading Days after the last day of any prior Grace Period (each, an "**Allowable Grace Period**"). For purposes of determining the length of a Grace Period above, the Grace Period shall begin on and include the date the Investors receive the notice referred to in clause (i) and shall end on and include the later of the date the Investors receive the notice referred to in clause (ii) and the date referred to in such notice. The provisions of Section 3(g) hereof shall not be applicable during the period of any Allowable Grace Period. Upon expiration of the Grace Period, the Company shall again be bound by the first sentence of Section 3(f) with respect to the information giving rise thereto unless such material, non-public information is no longer applicable. Notwithstanding anything to the contrary, the Company shall cause its transfer agent to deliver unlegended shares of Common Stock to a transferee of an Investor in accordance with the terms of the Securities Purchase Agreement in connection with any sale of Registrable Securities with respect to which an Investor has entered into a contract for sale, prior to the Investor's receipt of the notice of a Grace Period and for which the Investor has not yet settled.

(s) Neither the Company nor any Subsidiary or affiliate thereof shall identify any Investor as an underwriter in any public disclosure or filing with the SEC, the Principal Market or any Eligible Market and any Buyer being deemed an underwriter by the SEC shall not relieve the Company of any obligations it has under this Agreement or any other Transaction Document (as defined in the Securities Purchase 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 B in the Registration Statement.

(t) Neither the Company nor any of its Subsidiaries has entered, as of the date hereof, nor shall the Company or any of its Subsidiaries, on or after the date of this Agreement, enter into any agreement with respect to its securities, that would have the effect of impairing the rights granted to the Buyers in this Agreement or otherwise conflicts with the provisions hereof.

#### 4. Obligations of the Investors.

(a) At least five (5) Business Days prior to the first anticipated Filing Date of a Registration Statement, the Company shall notify each Investor in writing of the information the Company requires from each such Investor if such Investor elects to have any of such Investor's Registrable Securities included in such Registration Statement. It shall be a condition precedent to the obligations of the Company to complete any registration pursuant to this Agreement with respect to the Registrable Securities of a particular Investor that such Investor shall furnish to the Company such information regarding itself, the Registrable Securities held by it and the intended method of disposition of the Registrable Securities held by it as shall be reasonably required to effect and maintain the effectiveness of the registration of such Registrable Securities and shall execute such documents in connection with such registration as the Company may reasonably request.



(b) Each Investor, by such Investor's acceptance of the Registrable Securities, agrees to cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of any Registration Statement hereunder, unless such Investor has notified the Company in writing of such Investor's election to exclude all of such Investor's Registrable Securities from such Registration Statement.

(c) Each Investor agrees that, upon receipt of any notice from the Company of the happening of any event of the kind described in Section 3(g) or the first sentence of Section 3(f), such Investor will immediately discontinue disposition of Registrable Securities pursuant to any Registration Statement(s) covering such Registrable Securities until such Investor's receipt of copies of the supplemented or amended prospectus as contemplated by Section 3(g) or the first sentence of Section 3(f) or receipt of notice that no supplement or amendment is required. Notwithstanding anything to the contrary, the Company shall cause its transfer agent to deliver unlegended shares of Common Stock to a transferee of an Investor in accordance with the terms of the Securities Purchase Agreement in connection with any sale of Registrable Securities with respect to which an Investor has entered into a contract for sale prior to the Investor's receipt of a notice from the Company of the happening of any event of the kind described in Section 3(g) or the first sentence of Section 3(f) and for which the Investor has not yet settled.

(d) Each Investor covenants and agrees that it will comply with the prospectus delivery requirements of the 1933 Act as applicable to it or an exemption therefrom in connection with sales of Registrable Securities pursuant to the Registration Statement.

5. Expenses of Registration.

All reasonable expenses, other than underwriting discounts and commissions, incurred in connection with registrations, filings or qualifications pursuant to Sections 2 and 3, including, without limitation, all registration, listing and qualifications fees, printers and accounting fees, and fees and disbursements of counsel for the Company shall be paid by the Company. The Company shall also reimburse the Investors for the fees and disbursements of Legal Counsel in connection with registration, filing or qualification pursuant to Sections 2 and 3 of this Agreement which amount shall be limited to \$10,000 for each such registration, filing or qualification.

6. Indemnification.

In the event any Registrable Securities are included in a Registration Statement under this Agreement:

(a) To the fullest extent permitted by law, the Company will, and hereby does, indemnify, hold harmless and defend each Investor, the directors, officers, partners, members, employees, agents, representatives of, and each Person, if any, who controls any Investor within the meaning of the 1933 Act or the 1934 Act (each, an "**Indemnified Person**"), against any losses, claims, damages, liabilities, judgments, fines, penalties, charges, costs, reasonable attorneys' fees, amounts paid in settlement or expenses, joint or several (collectively, "**Claims**"), incurred in investigating, preparing or defending any action, claim, suit, inquiry, proceeding, investigation or appeal taken from the foregoing by or before any court or governmental, administrative or other regulatory agency, body or the SEC, whether pending or threatened, whether or not an indemnified party is or may be a party thereto ("**Indemnified Damages**"), to which any of them may become subject insofar as such Claims (or actions or proceedings, whether commenced or threatened, in respect thereof) arise out of or are based upon: (i) any untrue statement or alleged untrue statement of a material fact in a Registration Statement or any post-effective amendment thereto or in any filing made in connection with the qualification of the offering under the securities or other "blue sky" laws of any jurisdiction in which Registrable Securities are offered ("**Blue Sky Filing**"), or the omission or alleged omission to state a material fact required to be stated therein or necessary to make the statements therein not misleading, (ii) any untrue statement or alleged untrue statement of a material fact contained in any preliminary prospectus if used prior to the effective date of such Registration Statement, or contained in the final prospectus (as amended or supplemented, if the Company files any amendment thereof or supplement thereto with the SEC) or the omission or alleged omission to state therein any material fact necessary to make the statements made therein, in light of the circumstances under which the statements therein were made, not misleading, (iii) any violation or alleged violation by the Company of the 1933 Act, the 1934 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 pursuant to a Registration Statement or (iv) any violation of this Agreement (the matters in the foregoing clauses (i) through (iv) being, collectively, "**Violations**"). Subject to Section 6(c), the Company shall reimburse the Indemnified Persons, promptly as such expenses are incurred and are due and payable (upon the presentation of invoices or other reasonably requested documentation), for any legal fees or other reasonable expenses incurred by them in connection with investigating or defending any such Claim. Notwithstanding anything to the contrary contained herein, the indemnification agreement contained in this Section 6(a): (i) shall not apply to a Claim by an Indemnified Person arising out of or based upon a Violation which occurs in reliance upon and in conformity with information furnished in writing to the Company by such Indemnified Person for such Indemnified Person expressly for use in connection with the preparation of the Registration Statement or any such amendment thereof or supplement thereto, if such prospectus was timely made available by the Company pursuant to Section 3(d); and (ii) shall not apply to amounts paid in settlement of any Claim if such settlement is effected without the prior written consent of the Company, which consent shall not be unreasonably withheld or delayed. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of the Indemnified Person and shall survive the transfer of the Registrable Securities by the Investors pursuant to Section 9.

(b) In connection with any Registration Statement in which an Investor is participating, each such Investor agrees to severally and not jointly indemnify, hold harmless and defend, to the same extent and in the same manner as is set forth in Section 6(a), the Company, each of its directors, each of its officers who signs the Registration Statement and each Person, if any, who controls the Company within the meaning of the 1933 Act or the 1934 Act (each, an "**Indemnified Party**"), against any Claim or Indemnified Damages to which any of them may become subject, under the 1933 Act, the 1934 Act or otherwise, insofar as such Claim or Indemnified Damages arise out of or are based upon any Violation, in each case to the extent, and only to the extent, that such Violation occurs in reliance upon and in conformity with written information furnished to the Company by such Investor expressly for use in connection with such Registration Statement; and, subject to Section 6(c), such Investor shall reimburse the Indemnified Party for any legal or other expenses reasonably incurred by an Indemnified Party in connection with investigating or defending any such Claim; provided, however, that the indemnity agreement contained in this Section 6(b) and the agreement with respect to contribution contained in Section 7 shall not apply to amounts paid in settlement of any Claim if such settlement is effected without the prior written consent of such Investor, which consent shall not be unreasonably withheld or delayed; provided, further, however, that the Investor shall be liable under this Section 6(b) for only that amount of a Claim or Indemnified Damages as does not exceed the net proceeds to such Investor as a result of the sale of Registrable Securities pursuant to such Registration Statement. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of such Indemnified Party and shall survive the transfer of the Registrable Securities by the Investors pursuant to Section 9.

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

(d) The indemnification required by this Section 6 shall be made by periodic payments of the amount thereof during the course of the investigation or defense, as and when bills are received or Indemnified Damages are incurred.

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

7. Contribution.

To the extent any indemnification by an indemnifying party is prohibited or limited by law, the indemnifying party agrees to make the maximum contribution with respect to any amounts for which it would otherwise be liable under Section 6 to the fullest extent permitted by law; provided, however, that: (i) no Person involved in the sale of Registrable Securities which Person is guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the 1933 Act) in connection with such sale shall be entitled to contribution from any Person involved in such sale of Registrable Securities who was not guilty of fraudulent misrepresentation; and (ii) contribution by any seller of Registrable Securities shall be limited in amount to the amount of net proceeds received by such seller from the sale of such Registrable Securities pursuant to such Registration Statement.

8. Reports Under the 1934 Act.

With a view to making available to the Investors the benefits of Rule 144 promulgated under the 1933 Act or any other similar rule or regulation of the SEC that may at any time permit the Investors to sell securities of the Company to the public without registration ("**Rule 144**"), the Company agrees to:

(a) make and keep public information available, as those terms are understood and defined in Rule 144;

(b) file with the SEC in a timely manner all reports and other documents required of the Company under the 1933 Act and the 1934 Act so long as the Company remains subject to such requirements and the filing of such reports and other documents is required for the applicable provisions of Rule 144; and

(c) furnish to each Investor so long as such Investor owns Registrable Securities, promptly upon request, (i) a written statement by the Company, if true, that it has complied with the reporting requirements of Rule 144, the 1933 Act and the 1934 Act, (ii) a copy of the most recent annual or quarterly report of the Company and such other reports and documents so filed by the Company, and (iii) such other information as may be reasonably requested to permit the Investors to sell such securities pursuant to Rule 144 without registration.

9. Assignment of Registration Rights.

The rights under this Agreement shall be automatically assignable by the Investors to any transferee of all or any portion of such Investor's Registrable Securities if: (i) the Investor agrees in writing with the transferee or assignee to assign such rights, and a copy of such agreement is furnished to the Company within a reasonable time after such assignment; (ii) the Company is, within a reasonable time after such transfer or assignment, furnished with written notice of (a) the name and address of such transferee or assignee, and (b) the securities with respect to which such registration rights are being transferred or assigned; (iii) immediately following such transfer or assignment the further disposition of such securities by the transferee or assignee is restricted under the 1933 Act or applicable state securities laws; (iv) at or before the time the Company receives the written notice contemplated by clause (ii) of this sentence the transferee or assignee agrees in writing with the Company to be bound by all of the provisions contained herein; and (v) such transfer shall have been made in accordance with the applicable requirements of the Securities Purchase Agreement.

10. Amendment of Registration Rights.

Provisions of this Agreement may be amended and the observance thereof may be waived (either generally or in a particular instance and either retroactively or prospectively), only with the written consent of the Company and the Required Holders; provided that any such amendment or waiver that complies with the foregoing but that disproportionately, materially and adversely affects the rights and obligations of any Investor relative to the comparable rights and obligations of the other Investors shall require the prior written consent of such adversely affected Investor. Any amendment or waiver effected in accordance with this Section 10 shall be binding upon each Investor and the Company. No such amendment shall be effective to the extent that it applies to less than all of the holders of the Registrable Securities. No consideration 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 (other than the reimbursement of legal fees) also is offered to all of the parties to this Agreement.

11. Miscellaneous.

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

(b) Any notices, consents, waivers or other communications required or permitted to be given under the terms of this Agreement must be in writing and will be deemed to have been delivered: (i) upon receipt, when delivered personally; (ii) upon delivery, when sent by facsimile (provided confirmation of transmission is mechanically or electronically generated and kept on file by the sending party); (iii) upon delivery, when sent by electronic mail (provided that the sending party does not receive an automated rejection notice) or (iv) one Business Day after deposit with a nationally recognized overnight delivery service, in each case properly addressed to the party to receive the same. The addresses, facsimile numbers and email addresses for such communications shall be:

If to the Company:

GT Biopharma, Inc.  
1825 K Street, Suite 510  
Washington, D.C. 20006  
Telephone: (800) 304-9888  
Facsimile: 202-785-0529  
Attention: Steven Weldon  
E-mail: [sww@gtbiopharma.com](mailto:sww@gtbiopharma.com)

With a copy (for informational purposes only) to:

DLA Piper LLP (US)  
401 Congress Ave., Suite 2500  
Austin, Texas 78701  
Telephone: 512-457-7037  
Facsimile: 512-721-2212  
Attention: Jenifer Smith  
E-mail: [jenifer.smith@dlapiper.com](mailto:jenifer.smith@dlapiper.com)

If to the Transfer Agent:

ComputerShare Trust Company, N.A.  
8742 Lucent Blvd, Suite 225  
Telephone: 303-262-0787  
Facsimile: 303-262-0610  
Attention: Stevie Marcus  
E-mail: [stevie.marcus@computershare.com](mailto:stevie.marcus@computershare.com)

If to Legal Counsel:

Schulte Roth & Zabel LLP  
919 Third Avenue  
New York, New York 10022  
Telephone: (212) 756-2000  
Facsimile: (212) 593-5955  
Attention: Eleazer Klein, Esq.  
Email: eleazer.klein@srz.com

If to a Buyer, to its address, facsimile number and/or email address set forth on the Schedule of Buyers attached hereto, with copies to such Buyer's representatives as set forth on the Schedule of Buyers, or to such other address, facsimile number and/or email address to the attention of such other Person as the recipient party has specified by written notice given to each other party five (5) days prior to the effectiveness of such change. Written confirmation of receipt (A) given by the recipient of such notice, consent, waiver or other communication, (B) mechanically or electronically generated by the sender's facsimile machine or email containing the time, date, recipient facsimile number or email address and, with respect to a facsimile, an image of the first page of such transmission or (C) provided by a courier or overnight courier service shall be rebuttable evidence of personal service, receipt by facsimile or receipt from a nationally recognized overnight delivery service in accordance with clause (i), (ii) or (iii) above, respectively.

(c) Failure of any party to exercise any right or remedy under this Agreement or otherwise, or delay by a party in exercising such right or remedy, shall not operate as a waiver thereof.

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

(e) If any provision of this Agreement is prohibited by law or otherwise determined to be invalid or unenforceable by a court of competent jurisdiction, the provision that would otherwise be prohibited, invalid or unenforceable shall be deemed amended to apply to the broadest extent that it would be valid and enforceable, and the invalidity or unenforceability of such provision shall not affect the validity of the remaining provisions of this Agreement so long as this Agreement as so modified continues to express, without material change, the original intentions of the parties as to the subject matter hereof and the prohibited nature, invalidity or unenforceability of the provision(s) in question does not substantially impair the respective expectations or reciprocal obligations of the parties or the practical realization of the benefits that would otherwise be conferred upon the parties. The parties will endeavor in good faith negotiations to replace the prohibited, invalid or unenforceable provision(s) with a valid provision(s), the effect of which comes as close as possible to that of the prohibited, invalid or unenforceable provision(s).

(f) This Agreement, the other Transaction Documents (as defined in the Securities Purchase Agreement) and the instruments referenced herein and therein constitute the entire agreement among the parties hereto with respect to the subject matter hereof and thereof. There are no restrictions, promises, warranties or undertakings, other than those set forth or referred to herein and therein. This Agreement, the other Transaction Documents and the instruments referenced herein and therein supersede all prior agreements and understandings among the parties hereto with respect to the subject matter hereof and thereof.

(g) Subject to the requirements of Section 9, this Agreement shall inure to the benefit of and be binding upon the permitted successors and assigns of each of the parties hereto.

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

(i) This Agreement may be executed in identical counterparts, each of which shall be deemed an original but all of which shall constitute one and the same agreement. This Agreement, once executed by a party, may be delivered to the other party hereto by facsimile transmission of a copy of this Agreement bearing the signature of the party so delivering this Agreement.

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

(k) All consents and other determinations required to be made by the Investors pursuant to this Agreement shall be made, unless otherwise specified in this Agreement, by the Required Holders, determined as if all of the outstanding Notes then held by the Investors have been converted for Registrable Securities without regard to any limitations on the issuance of shares of Common Stock pursuant to the terms of the Notes and the outstanding Warrants then held by Investors have been exercised for Registrable Securities without regard to any limitations on exercise of the Warrants.



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

(m) This Agreement is intended for the benefit of the parties hereto and their respective permitted successors and assigns, and is not for the benefit of, nor may any provision hereof be enforced by, any other Person.

(n) The obligations of each Investor hereunder are several and not joint with the obligations of any other Investor, and no provision of this Agreement is intended to confer any obligations on any Investor vis-à-vis any other Investor. Nothing contained herein, and no action taken by any Investor pursuant hereto, shall be deemed to constitute the Investors as a partnership, an association, a joint venture or any other kind of entity, or create a presumption that the Investors are in any way acting in concert or as a group with respect to such obligations or the transactions contemplated herein.

\* \* \* \* \*

**[Signature Page Follows]**

**IN WITNESS WHEREOF**, each Buyer and the Company have caused their respective signature page to this Registration Rights Agreement to be duly executed as of the date first written above.

**COMPANY:**

**GT BIOPHARMA, INC.**

By: /s/ \_\_\_\_\_

Name:

Title:

**IN WITNESS WHEREOF**, each Buyer and the Company have caused their respective signature page to this Registration Rights Agreement to be duly executed as of the date first written above.

**BUYERS:**

By: /s/ \_\_\_\_\_

Name:

Title:

**SCHEDULE OF BUYERS**

<b>Buyer</b>	<b>Buyer Address and Facsimile Number</b>	<b>Buyer's Representative's Address and Facsimile Number</b>
<b>Empery Asset Master Ltd.</b>	c/o Empery Asset Management, LP1 Rockefeller Plaza, Suite 1205New York, NY 10020Attention: Ryan M. LaneFacsimile: (212) 608 3307Telephone: (212) 608 3300Email: notices@emperyam.com	Schulte Roth & Zabel LLP 919 Third Avenue New York, NY 10022 Attn: Eleazer Klein, Esq. Facsimile: (212) 593-5955 Telephone: (212) 756-2000 Email: eleazer.klein@srz.com
<b>Empery Tax Efficient, LP</b>	c/o Empery Asset Management, LP1 Rockefeller Plaza, Suite 1205New York, NY 10020Attention: Ryan M. LaneFacsimile: (212) 608 3307Telephone: (212) 608 3300Email: notices@emperyam.com	Schulte Roth & Zabel LLP 919 Third Avenue New York, NY 10022 Attn: Eleazer Klein, Esq. Facsimile: (212) 593-5955 Telephone: (212) 756-2000 Email: eleazer.klein@srz.com
<b>Empery Tax Efficient II, LP</b>	c/o Empery Asset Management, LP1 Rockefeller Plaza, Suite 1205New York, NY 10020Attention: Ryan M. LaneFacsimile: (212) 608 3307Telephone: (212) 608 3300Email: notices@emperyam.com	Schulte Roth & Zabel LLP 919 Third Avenue New York, NY 10022 Attn: Eleazer Klein, Esq. Facsimile: (212) 593-5955 Telephone: (212) 756-2000 Email: eleazer.klein@srz.com
<b>Siesta Fiesta Holdings, LLC</b>	c/o Siesta Fiesta Holdings, LLC 7924 Midnight Pass Road Sarasota, FL 34242 Attention: Scott Williams Facsimile: 407-657-4280 Telephone : 941-724-3504 Email: scoot61@comcast.net	
<b>James Heavener</b>	James W. Heavener 3300 University Blvd., Suite 218 Winter Park, FL 32792 Facsimile: 407-657-4280 Telephone : 407-865-4875 Email: bheavener@fullsail.com	

<b>Alto Opportunity Master Fund, SPC - Segregated Master Portfolio B</b>	c/o Ayrton Capital LLC 1180 Avenue of Americas, Suite 842 New York, NY 10036 Telephone: +1-646-793-9056 Email: wk@ayrtonllc.com
<b>Adam Kasower</b>	25170 Jim Bridger Road Hidden Hills, CA 91302 Telephone: 818-429-1551 Email: adam@kasower.com
<b>Red Mango Enterprises Limited</b>	Pictet & Cie (Europe) S.A. Hong Kong Branch, 9/F Chater House 8 Connaught Road Central, Hong Kong Facsimile: 852 3131 1808 Telephone: 852 3191 1805 Email: mchow@pictet.com
<b>The Rosalinde and Arthur Gilbert Foundation</b>	2730 Wilshire Blvd., Suite 301 Santa Monica, CA 90403 Attention: Martin H. Blank, Jr. Telephone: 310-736-1617 Email: marty@mblank.com
<b>The RSZ Trust</b>	11620 Wilshire Blvd., Suite 1000 Los Angeles, CA 90025 Attention: Richard S. Ziman Telephone: 310-966-3802 Email: rziman@rexfordindustrial.com
<b>Jeffrey Bronfman Revocable Living Trust</b>	1000 Cordova Place #710 Santa Fe, NM 87505 Attention: Jeffrey Bronfman Telephone: 505-988-5924 Email: jeffreyudv@aol.com
<b>Lipp Irrevocable Trust</b>	270 18th St. Santa Monica, CA 90402 Attention: Diane S. Lipp Telephone: 310-395-2679 Email: dedelipp@gmail.com
<b>Robert H. Lipp Separate Property Trust</b>	270 18th St. Santa Monica, CA 90402 Attention: Robert H. Lipp Telephone: 310-395-2679 Email: roblipp@gam-llc.com
<b>Diane S. Lipp Separate Property Trust</b>	270 18th St. Santa Monica, CA 90402 Attention: Diane S. Lipp Telephone: 310-395-2679 Email: dedelipp@gmail.com

**FORM OF NOTICE OF EFFECTIVENESS  
OF REGISTRATION STATEMENT**

ComputerShare Trust Company, N.A.

[ ]

[ ]

Attention: [ ]

Re: GT Biopharma, Inc.

Ladies and Gentlemen:

[We are][I am] counsel to GT Biopharma, Inc., a Delaware corporation (the "**Company**"), and have represented the Company in connection with that certain Securities Purchase Agreement, dated as of January [●], 2018 (the "**Securities Purchase Agreement**"), entered into by and among the Company and the buyers named therein (collectively, the "**Holder**s") pursuant to which the Company issued to the Holders senior convertible notes (the "**Notes**") pursuant to which shares of the Company's common stock, par value \$0.001 per share (the "**Common Stock**") are issuable thereunder and warrants exercisable for shares of Common Stock (the "**Warrants**"). Pursuant to the Securities Purchase Agreement, the Company also has entered into a Registration Rights Agreement with the Holders (the "**Registration Rights Agreement**") pursuant to which the Company agreed, among other things, to register the resale of the Registrable Securities (as defined in the Registration Rights Agreement), including the shares of Common Stock issuable pursuant to the terms of the Notes and upon exercise of the Warrants under the Securities Act of 1933, as amended (the "**1933 Act**"). In connection with the Company's obligations under the Registration Rights Agreement, on \_\_\_\_\_, 2014, the Company filed a Registration Statement on Form S-3 (File No. 333-\_\_\_\_\_) (the "**Registration Statement**") with the Securities and Exchange Commission (the "**SEC**") relating to the Registrable Securities which names each of the Holders as a selling stockholder thereunder.

In connection with the foregoing, [we][I] advise you that a member of the SEC's staff has advised [us][me] by telephone that the SEC has entered an order declaring the Registration Statement effective under the 1933 Act at [ENTER TIME OF EFFECTIVENESS] on [ENTER DATE OF EFFECTIVENESS] and [we][I] have no knowledge, after telephonic inquiry of a member of the SEC's staff, that any stop order suspending its effectiveness has been issued or that any proceedings for that purpose are pending before, or threatened by, the SEC and the Registrable Securities are available for resale under the 1933 Act pursuant to the Registration Statement.

This letter shall serve as our standing instruction to you that the shares of Common Stock are freely transferable by the Holders pursuant to the Registration Statement. You need not require further letters from us to effect any future legend-free issuance or reissuance of shares of Common Stock to the Holders as contemplated by the Company's Irrevocable Transfer Agent Instructions dated January [●], 2018.

Very truly yours,

[ISSUER'S COUNSEL]

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

CC: [LIST NAMES OF HOLDERS]

**SELLING STOCKHOLDERS**

The shares of common stock being offered by the selling stockholders are those issuable to the selling stockholders pursuant to the terms of the convertible notes and upon exercise of the warrants. For additional information regarding the issuance of those convertible notes and warrants, see "Private Placement of Convertible Notes and Warrants" above. We are registering the shares of common stock in order to permit the selling stockholders to offer the shares for resale from time to time. Except for the ownership of the convertible notes and the warrants issued pursuant to the Securities Purchase Agreement, the selling stockholders have not had any material relationship with us within the past three years.

The table below lists the selling stockholders and other information regarding the beneficial ownership of the shares of common stock by each of the selling stockholders. The second column lists the number of shares of common stock beneficially owned by each selling stockholder, based on its ownership of the convertible notes and warrants, as of January 23, 2018, assuming conversion of all convertible notes and exercise of all warrants held by the selling stockholders on that date, without regard to any limitations on the issuance of shares of Common Stock pursuant to the terms of the Notes or exercise of the Warrants.

The third column lists the shares of common stock being offered by this prospectus by the selling stockholders.

In accordance with the terms of a registration rights agreement with the selling stockholders, this prospectus generally covers the resale of at least the sum of (i) 200% of the maximum number of shares of common stock issued and issuable pursuant to the convertible notes as of the Trading Day immediately preceding the date the registration statement is initially filed with the SEC, and (ii) the maximum number of shares of common stock issued and issuable upon exercise of the related warrants as of the Trading Day immediately preceding the date the registration statement is initially filed with the SEC. Because the conversion price of the convertible notes, the number of shares that will actually be issued may be more or less than the number of shares being offered by this prospectus. The fourth column assumes the sale of all of the shares offered by the selling stockholders pursuant to this prospectus. The fifth column lists the percentage ownership of our common stock by each selling stockholder after completion of this offering, assuming that each selling stockholder sells all of the shares covered by this prospectus, to the extent such percentage will exceed 1% of the total number of shares of common stock outstanding.

Under the terms of the convertible notes and the warrants, a selling stockholder may not convert the convertible notes or exercise the warrants to the extent such conversion or exercise would cause such selling stockholder, together with its affiliates, to beneficially own a number of shares of common stock which would exceed 4.99% of our then outstanding shares of common stock following such conversion or exercise, excluding for purposes of such determination shares of common stock issuable pursuant to the terms of the convertible notes which have not been converted and upon exercise of the warrants which have not been exercised. The number of shares in the second column does not reflect this limitation. The selling stockholders may sell all, some or none of their shares in this offering. See "Plan of Distribution."

<b>Name of Selling Stockholder</b>	<b>Number of Shares of Common Stock Beneficially Owned Prior to Offering</b>	<b>Maximum Number of Shares of Common Stock to be Sold Pursuant to this Prospectus</b>	<b>Number of Shares of Common Stock Beneficially Owned After Offering</b>	<b>Percentage of Shares of Common Stock Owned After Offering</b>
<b>Empery Asset Master, Ltd. (1)</b>				
<b>Empery Tax Efficient, LP (2)</b>				
<b>Empery Tax Efficient II, LP (3)</b>				
<b>[Other Buyers]</b>				

(1) Empery Asset Management LP, the authorized agent of Empery Asset Master Ltd ("EAM"), has discretionary authority to vote and dispose of the shares held by EAM and may be deemed to be the beneficial owner of these shares. Martin Hoe and Ryan Lane, in their capacity as investment managers of Empery Asset Management LP, may also be deemed to have investment discretion and voting power over the shares held by EAM. EAM, Mr. Hoe and Mr. Lane each disclaim any beneficial ownership of these shares. The business address for each of EAM, Empery Asset Management LP and Messrs. Hoe and Lane is c/o Empery Asset Management, LP, 1 Rockefeller Plaza, Suite 1205, New York, NY 10020.

(2) Empery Asset Management LP, the authorized agent of Empery Tax Efficient, LP ("ETE"), has discretionary authority to vote and dispose of the shares held by ETE and may be deemed to be the beneficial owner of these shares. Martin Hoe and Ryan Lane, in their capacity as investment managers of Empery Asset Management LP, may also be deemed to have investment discretion and voting power over the shares held by ETE. ETE, Mr. Hoe and Mr. Lane each disclaim any beneficial ownership of these shares. The business address for each of ETE, Empery Asset Management LP and Messrs. Hoe and Lane is c/o Empery Asset Management, LP, 1 Rockefeller Plaza, Suite 1205, New York, NY 10020.

(3) Empery Asset Management LP, the authorized agent of Empery Tax Efficient II, LP ("ETE II"), has discretionary authority to vote and dispose of the shares held by ETE II and may be deemed to be the beneficial owner of these shares. Martin Hoe and Ryan Lane, in their capacity as investment managers of Empery Asset Management LP, may also be deemed to have investment discretion and voting power over the shares held by ETE II. ETE II, Mr. Hoe and Mr. Lane each disclaim any beneficial ownership of these shares. The business address for each of ETE II, Empery Asset Management LP and Messrs. Hoe and Lane is c/o Empery Asset Management, LP, 1 Rockefeller Plaza, Suite 1205, New York, NY 10020.

(4) [Other Buyers]



## PLAN OF DISTRIBUTION

We are registering the shares of common stock issuable pursuant to the terms of the convertible notes and upon exercise of the warrants to permit the resale of these shares of common stock by the holders of the convertible notes and warrants from time to time after the date of this prospectus. We will not receive any of the proceeds from the sale by the selling stockholders of the shares of common stock. We will bear all fees and expenses incident to our obligation to register the shares of common stock.

The selling stockholders may sell all or a portion of the shares of common stock beneficially owned by them and offered hereby from time to time directly or through one or more underwriters, broker-dealers or agents. If the shares of common stock are sold through underwriters or broker-dealers, the selling stockholders will be responsible for underwriting discounts or commissions or agent's commissions. The shares of common stock may be sold in one or more transactions at fixed prices, at prevailing market prices at the time of the sale, at varying prices determined at the time of sale, or at negotiated prices. These sales may be effected in transactions, which may involve crosses or block transactions,

- on any national securities exchange or quotation service on which the securities may be listed or quoted at the time of sale;
- in the over-the-counter market;
- in transactions otherwise than on these exchanges or systems or in the over-the-counter market;
- through the writing of options, whether such options are listed on an options exchange or otherwise;
- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- short sales;
- sales pursuant to Rule 144;
- broker-dealers may agree with the selling securityholders to sell a specified number of such shares at a stipulated price per share;

- a combination of any such methods of sale; and
- any other method permitted pursuant to applicable law.

If the selling stockholders effect such transactions by selling shares of common stock to or through underwriters, broker-dealers or agents, such underwriters, broker-dealers or agents may receive commissions in the form of discounts, concessions or commissions from the selling stockholders or commissions from purchasers of the shares of common stock for whom they may act as agent or to whom they may sell as principal (which discounts, concessions or commissions as to particular underwriters, broker-dealers or agents may be in excess of those customary in the types of transactions involved). In connection with sales of the shares of common stock or otherwise, the selling stockholders may enter into hedging transactions with broker-dealers, which may in turn engage in short sales of the shares of common stock in the course of hedging in positions they assume. The selling stockholders may also sell shares of common stock short and deliver shares of common stock covered by this prospectus to close out short positions and to return borrowed shares in connection with such short sales. The selling stockholders may also loan or pledge shares of common stock to broker-dealers that in turn may sell such shares.

The selling stockholders may pledge or grant a security interest in some or all of the convertible notes, warrants or shares of common stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of common stock from time to time pursuant to this prospectus or any amendment to this prospectus under Rule 424(b) (3) or other applicable provision of the Securities Act of 1933, as amended, amending, if necessary, the list of selling stockholders to include the pledgee, transferee or other successors in interest as selling stockholders under this prospectus. The selling stockholders also may transfer and donate the shares of common stock in other circumstances in which case the transferees, donees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus.

The selling stockholders and any broker-dealer participating in the distribution of the shares of common stock may be deemed to be "underwriters" within the meaning of the Securities Act, and any commission paid, or any discounts or concessions allowed to, any such broker-dealer may be deemed to be underwriting commissions or discounts under the Securities Act. At the time a particular offering of the shares of common stock is made, a prospectus supplement, if required, will be distributed which will set forth the aggregate amount of shares of common stock being offered and the terms of the offering, including the name or names of any broker-dealers or agents, any discounts, commissions and other terms constituting compensation from the selling stockholders and any discounts, commissions or concessions allowed or reallocated or paid to broker-dealers.

Under the securities laws of some states, the shares of common stock may be sold in such states only through registered or licensed brokers or dealers. In addition, in some states the shares of common stock may not be sold unless such shares have been registered or qualified for sale in such state or an exemption from registration or qualification is available and is complied with.

There can be no assurance that any selling stockholder will sell any or all of the shares of common stock registered pursuant to the registration statement, of which this prospectus forms a part.

The selling stockholders and any other person participating in such distribution will be subject to applicable provisions of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder, including, without limitation, Regulation M of the Exchange Act, which may limit the timing of purchases and sales of any of the shares of common stock by the selling stockholders and any other participating person. Regulation M may also restrict the ability of any person engaged in the distribution of the shares of common stock to engage in market-making activities with respect to the shares of common stock. All of the foregoing may affect the marketability of the shares of common stock and the ability of any person or entity to engage in market-making activities with respect to the shares of common stock.

We will pay all expenses of the registration of the shares of common stock pursuant to the registration rights agreement, estimated to be \$[ ] in total, including, without limitation, Securities and Exchange Commission filing fees and expenses of compliance with state securities or "blue sky" laws; provided, however, that a selling stockholder will pay all underwriting discounts and selling commissions, if any. We will indemnify the selling stockholders against liabilities, including some liabilities under the Securities Act, in accordance with the registration rights agreements, or the selling stockholders will be entitled to contribution. We may be indemnified by the selling stockholders against civil liabilities, including liabilities under the Securities Act, that may arise from any written information furnished to us by the selling stockholder specifically for use in this prospectus, in accordance with the related registration rights agreement, or we may be entitled to contribution.

Once sold under the registration statement, of which this prospectus forms a part, the shares of common stock will be freely tradable in the hands of persons other than our affiliates.

## [FORM OF SENIOR CONVERTIBLE NOTE]

NEITHER THE ISSUANCE AND SALE OF THE SECURITIES REPRESENTED BY THIS CERTIFICATE NOR THE SECURITIES INTO WHICH THESE SECURITIES ARE CONVERTIBLE HAVE BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR APPLICABLE STATE SECURITIES LAWS. THE SECURITIES MAY NOT BE OFFERED FOR SALE, SOLD, TRANSFERRED OR ASSIGNED (I) IN THE ABSENCE OF (A) AN EFFECTIVE REGISTRATION STATEMENT FOR THE SECURITIES UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR (B) AN OPINION OF COUNSEL SELECTED BY THE HOLDER, IN A GENERALLY ACCEPTABLE FORM, THAT REGISTRATION IS NOT REQUIRED UNDER SAID ACT, OR (II) UNLESS SOLD PURSUANT TO RULE 144 OR RULE 144A UNDER SAID ACT. NOTWITHSTANDING THE FOREGOING, THE SECURITIES MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT OR OTHER LOAN OR FINANCING ARRANGEMENT SECURED BY THE SECURITIES. ANY TRANSFEREE OF THIS NOTE SHOULD CAREFULLY REVIEW THE TERMS OF THIS NOTE, INCLUDING SECTIONS 3(c)(iii) AND 18(a) HEREOF. THE PRINCIPAL AMOUNT REPRESENTED BY THIS NOTE AND, ACCORDINGLY, THE SECURITIES ISSUABLE UPON CONVERSION HEREOF MAY BE LESS THAN THE AMOUNTS SET FORTH ON THE FACE HEREOF PURSUANT TO SECTION 3(c)(iii) OF THIS NOTE.

GT Biopharma, Inc.

## SENIOR CONVERTIBLE NOTE

Issuance Date: January [ ], 2018

Original Principal Amount: U.S. \$[ ]

**FOR VALUE RECEIVED**, GT Biopharma, Inc., a Delaware corporation (the "**Company**"), hereby promises to pay to [BUYER] or registered assigns (the "**Holder**") in cash and/or in shares of Common Stock (as defined below) the amount set out above as the Original Principal Amount (as reduced pursuant to the terms hereof pursuant to redemption, conversion or otherwise and/or as increased pursuant to the terms hereof, the "**Principal**") when due, whether upon the Maturity Date (as defined below), acceleration, redemption or otherwise (in each case in accordance with the terms hereof) and to pay default interest ("**Interest**") on any outstanding Principal at the applicable Default Rate until the same becomes due and payable, whether upon the Maturity Date, acceleration, conversion, redemption or otherwise (in each case in accordance with the terms hereof). This Senior Convertible Note (including all Senior Convertible Notes issued in exchange, transfer or replacement hereof, this "**Note**") is one of an issue of Senior Convertible Notes issued pursuant to the Securities Purchase Agreement on the Closing Date (collectively, the "**Notes**" and such other Senior Convertible Notes, the "**Other Notes**"). Certain capitalized terms used herein are defined in Section 31.

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(1) PAYMENTS OF PRINCIPAL; PREPAYMENT. The Company acknowledges and agrees that this Note was issued at an original issue discount. On the Maturity Date, the Company shall pay to the Holder an amount in cash representing all outstanding Principal, accrued and unpaid Interest and accrued and unpaid Late Charges (as defined in Section 24(b)) on such Principal and Interest. The "**Maturity Date**" shall be July [ ], 2018<sup>1</sup>, as may be extended at the option of the Holder (i) in the event that, and for so long as, an Event of Default (as defined in Section 4(a)) shall have occurred and be continuing on the Maturity Date (as may be extended pursuant to this Section 1) or any event shall have occurred and be continuing on the Maturity Date (as may be extended pursuant to this Section 1) that with the passage of time and the failure to cure would result in an Event of Default and (ii) through the date that is ten (10) Business Days after the consummation of a Change of Control in the event that a Change of Control is publicly announced or a Change of Control Notice (as defined in Section 5(b)) is delivered prior to the Maturity Date. Other than as specifically permitted by this Note, the Company may not prepay any portion of the outstanding Principal, accrued and unpaid Interest or accrued and unpaid Late Charges on Principal and Interest, if any.

(2) DEFAULT INTEREST. This Note shall not bear any ordinary interest. Interest on this Note shall commence accruing immediately upon the occurrence of, and shall continue accruing during the continuance of, an Event of Default, at the Default Rate and shall be computed on the basis of a 360-day year of twelve 30-day months and shall be payable, if applicable, on the Maturity Date to the record holder of this Note on the Maturity Date in cash by wire transfer of immediately available funds pursuant to wire instructions provided by the Holder in writing to the Company. Prior to the payment of Interest on the Maturity Date, Interest on this Note shall accrue at the Default Rate and be payable by way of inclusion of the Interest in the Conversion Amount (as defined in Section 3(b)(i)) on each (i) Conversion Date (as defined in Section 3(c)(i)) in accordance with Section 3(c)(i) and/or (ii) Redemption Date. In the event that such Event of Default is subsequently cured, the Interest shall cease to accrue as of the date of such cure; provided, that the Interest as calculated and unpaid as of the cure of such Event of Default shall continue to be due and payable as set forth above; provided, further, that for the purpose of this Section 2, such Event of Default shall not be deemed cured unless and until any accrued and unpaid Interest shall be paid to the Holder.

(3) CONVERSION OF NOTES. At any time or times after the date set out above as the Issuance Date (the "**Issuance Date**"), this Note shall be convertible into shares of Common Stock on the terms and conditions set forth in this Section 3.

(a) Conversion Right. Subject to the provisions of Section 3(d), at any time or times on or after the Issuance Date, the Holder shall be entitled to convert any portion of the outstanding and unpaid Conversion Amount into fully paid and nonassessable shares of Common Stock in accordance with Section 3(c), at the Conversion Rate (as defined below). The Company shall not issue any fraction of a share of Common Stock upon any conversion. If the issuance would result in the issuance of a fraction of a share of Common Stock, the Company shall round such fraction of a share of Common Stock up to the nearest whole share. The Company shall pay any and all transfer, stamp and similar taxes that may be payable with respect to the issuance and delivery of Common Stock upon conversion of any Conversion Amount.

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<sup>1</sup> Insert date that is the six (6) months immediately following the Issuance Date, or if such date falls on a Holiday, the next day that is not a Holiday.

(b) Conversion Rate. The number of shares of Common Stock issuable upon conversion of any Conversion Amount pursuant to Section 3(a) shall be determined by dividing (x) such Conversion Amount by (y) the Conversion Price (the "**Conversion Rate**").

(i) "**Conversion Amount**" means the sum of (A) the portion of the Principal to be converted, redeemed or otherwise with respect to which this determination is being made, (B) accrued and unpaid Interest, if any, with respect to such Principal and (C) accrued and unpaid Late Charges, if any, with respect to such Principal and Interest.

(ii) "**Conversion Price**" means, as of any Conversion Date or other date of determination, \$4.58 per share, subject to adjustment as provided herein.

(c) Mechanics of Conversion.

(i) Optional Conversion. To convert any Conversion Amount into shares of Common Stock on any date (a "**Conversion Date**"), the Holder shall (A) transmit by facsimile or electronic mail (or otherwise deliver), for delivery on or prior to 11:59 p.m., New York time, on such date, a copy of an executed notice of conversion in the form attached hereto as Exhibit I (a "**Conversion Notice**") to the Company and (B) if required by Section 3(c)(iii), but without delaying the Company's requirement to deliver shares of Common Stock on the applicable Share Delivery Date (as defined below), surrender this Note to a common carrier for delivery to the Company as soon as practicable on or following such date (or an indemnification undertaking with respect to this Note in the case of its loss, theft or destruction). The Holder may also indicate in a Conversion Notice the number of shares of Common Stock it seeks to receive upon conversion of any portion of this Note and the reduction of the Conversion Amount pursuant to such conversion shall be determined at the end of such Conversion Date by multiplying such number of shares of Common Stock by the applicable Conversion Price. No ink-original Conversion Notice shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Conversion Notice be required. On or before the first (1st) Business Day following the date of delivery of a Conversion Notice, the Company shall transmit by facsimile or electronic mail a confirmation of receipt of such Conversion Notice to the Holder and the Company's transfer agent (the "**Transfer Agent**"). On or before the earlier of (i) the second (2nd) Trading Day and (ii) the number of Trading Days comprising the Standard Settlement Period, in each case, following the date of delivery of a Conversion Notice (a "**Share Delivery Date**"), the Company shall (x) provided that the Transfer Agent is participating in the Depository Trust Company ("**DTC**") Fast Automated Securities Transfer Program, credit such aggregate number of shares of Common Stock to which the Holder shall be entitled to the Holder's or its designee's balance account with DTC through its Deposit Withdrawal At Custodian system or (y) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, issue and deliver to the address as specified in the Conversion Notice, a certificate, registered in the name of the Holder or its designee, for the number of shares of Common Stock to which the Holder shall be entitled. If this Note is physically surrendered for conversion as required by Section 3(c)(iii) and the outstanding Principal of this Note is greater than the Principal portion of the Conversion Amount being converted, then the Company shall as soon as practicable and in no event later than three (3) Business Days after delivery of this Note and at its own expense, issue and deliver to the Holder a new Note (in accordance with Section 18(d)) representing the outstanding Principal not converted. The Person or Persons entitled to receive the shares of Common Stock issuable upon a conversion of this Note shall be treated for all purposes as the record holder or holders of such shares of Common Stock on the Conversion Date, irrespective of the date such shares of Common Stock are credited to the Holder's account with DTC or the date of delivery of the certificates evidencing such shares of Common Stock, as the case may be.

(ii) Company's Failure to Timely Convert. If the Company shall fail on or prior to the applicable Share Delivery Date to issue and deliver a certificate to the Holder, if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, or credit the Holder's balance account with DTC, if the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program, for the number of shares of Common Stock to which the Holder is entitled upon the Holder's conversion of any Conversion Amount (a "**Conversion Failure**"), then (A) the Company shall pay damages to the Holder for each Trading Day of such Conversion Failure in an amount equal to 1.5% of the product of (1) the sum of the number of shares of Common Stock not issued to the Holder on or prior to the Share Delivery Date and to which the Holder is entitled, and (2) any trading price of the Common Stock selected by the Holder in writing as in effect at any time during the period beginning on the applicable Conversion Date and ending on the applicable Share Delivery Date and (B) the Holder, upon written notice to the Company, may void its Conversion Notice with respect to, and retain or have returned, as the case may be, any portion of this Note that has not been converted pursuant to such Conversion Notice; provided that the voiding of a Conversion Notice shall not affect the Company's obligations to make any payments which have accrued prior to the date of such notice pursuant to this Section 3(c)(ii) or otherwise. In addition to the foregoing, if the Company shall fail on or prior to the applicable Share Delivery Date to issue and deliver a certificate to the Holder, if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, or credit the Holder's balance account with DTC, if the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program, for the number of shares of Common Stock to which the Holder is entitled upon the Holder's conversion of any Conversion Amount or on any date of the Company's obligation to deliver shares of Common Stock as contemplated pursuant to clause (y) below, and if on or after such Trading Day the Holder purchases (in an open market transaction or otherwise) Common Stock to deliver in satisfaction of a sale by the Holder of Common Stock issuable upon such conversion that the Holder anticipated receiving from the Company (a "**Buy-In**"), then the Company shall, within three (3) Trading Days after the Holder's request and in the Holder's discretion, either (x) pay cash to the Holder in an amount equal to the Holder's total purchase price (including brokerage commissions and other out-of-pocket expenses, if any) for the shares of Common Stock so purchased (the "**Buy-In Price**"), at which point the Company's obligation to issue and deliver such certificate or credit the Holder's balance account with DTC for the shares of Common Stock to which the Holder is entitled upon the Holder's conversion of the applicable Conversion Amount shall terminate, or (y) promptly honor its obligation to deliver to the Holder a certificate or certificates representing such shares of Common Stock or credit the Holder's balance account with DTC for such shares of Common Stock 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 shares of Common Stock, times (B) any trading price of the Common Stock selected by the Holder in writing as in effect at any time during the period beginning on the applicable Conversion Date and ending on the applicable Share Delivery Date. Nothing herein shall limit the Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon conversion of this Note as required pursuant to the terms hereof.

(iii) Registration; Book-Entry. The Company shall maintain a register (the "**Register**") for the recordation of the names and addresses of the holders of each Note and the Principal amount of the Notes (and stated interest thereon) held by such holders (the "**Registered Notes**"). The entries in the Register shall be conclusive and binding for all purposes absent manifest error. The Company and the holders of the Notes shall treat each Person whose name is recorded in the Register as the owner of a Note for all purposes, including, without limitation, the right to receive payments of Principal and Interest, if any, hereunder, notwithstanding notice to the contrary. A Registered Note may be assigned or sold in whole or in part only by registration of such assignment or sale on the Register. Upon its receipt of a request to assign or sell all or part of any Registered Note by the Holder, the Company shall record the information contained therein in the Register and issue one or more new Registered Notes in the same aggregate Principal amount as the Principal amount of the surrendered Registered Note to the designated assignee or transferee pursuant to Section 17. Notwithstanding anything to the contrary in this Section 3(c)(iii), the Holder may assign any Note or any portion thereof to an Affiliate of the Holder or a Related Fund of the Holder without delivering a request to assign or sell such Note to the Company and the recordation of such assignment or sale in the Register (a "**Related Party Assignment**"); provided, that (x) the Company may continue to deal solely with such assigning or selling Holder unless and until the Holder has delivered a request to assign or sell such Note or portion thereof to the Company for recordation in the Register; (y) the failure of such assigning or selling Holder to deliver a request to assign or sell such Note or portion thereof to the Company shall not affect the legality, validity, or binding effect of such assignment or sale and (z) such assigning or selling Holder shall, acting solely for this purpose as a non-fiduciary agent of the Company, maintain a register (the "**Related Party Register**") comparable to the Register on behalf of the Company, and any such assignment or sale shall be effective upon recordation of such assignment or sale in the Related Party Register. Notwithstanding anything to the contrary set forth herein, upon conversion of any portion of this Note in accordance with the terms hereof, the Holder shall not be required to physically surrender this Note to the Company unless (A) the full Conversion Amount represented by this Note is being converted or (B) the Holder has provided the Company with prior written notice (which notice may be included in a Conversion Notice) requesting reissuance of this Note upon physical surrender of this Note. The Holder and the Company shall maintain records showing the Principal, Interest and Late Charges, if any, converted and the dates of such conversions or shall use such other method, reasonably satisfactory to the Holder and the Company, so as not to require physical surrender of this Note upon conversion.



(iv) Pro Rata Conversion; Disputes. In the event that the Company receives a Conversion Notice from this Note and one or more holder of Other Notes for the same Conversion Date and the Company can convert some, but not all, of such portions of this Note and the Other Notes submitted for conversion, the Company, subject to Section 3(d), shall convert from the Holder and each holder of Other Notes electing to have this Note or the Other Notes converted on such date a pro rata amount of such holder's portion of the Note and its Other Notes submitted for conversion based on the Principal amount of this Note and the Other Notes submitted for conversion on such date by such holder relative to the aggregate Principal amount of this Note and all Other Notes submitted for conversion on such date. In the event of a dispute as to the number of shares of Common Stock issuable to the Holder in connection with a conversion of this Note, the Company shall issue to the Holder the number of shares of Common Stock not in dispute and resolve such dispute in accordance with Section 23.

(d) Beneficial Ownership. Notwithstanding anything to the contrary contained herein, the Company shall not issue any shares of Common Stock pursuant to the terms of this Note, and the Holder shall not have the right to any shares otherwise issuable pursuant to the terms of this Note and any such issuance shall be null and void and treated as if never made, to the extent that after giving effect to such issuance, the Holder together with the other Attribution Parties collectively would beneficially own in excess of 4.99% (the "**Maximum Percentage**") of the shares of Common Stock outstanding immediately after giving effect to such issuance. For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by the Holder and the other Attribution Parties shall include the number of shares of Common Stock held by the Holder and all other Attribution Parties plus the number of shares of Common Stock issuable upon conversion of this Note with respect to which the determination of such sentence is being made, but shall exclude shares of Common Stock which would be issuable upon (i) conversion of the remaining, nonconverted portion of this Note beneficially owned by the Holder or any of the other Attribution Parties and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any convertible notes or convertible preferred stock or warrants, including the Other Notes and Warrants) beneficially owned by the Holder or any other Attribution Party subject to a limitation on conversion or exercise analogous to the limitation contained in this Section 3(d). For purposes of this Section 3(d), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act. For purposes of determining the number of outstanding shares of Common Stock the Holder may acquire upon the conversion of the Note without exceeding the Maximum Percentage, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (i) the Company's most recent Annual Report on Form 10-K, Quarterly Report on Form 10-Q, Current Report on Form 8-K or other public filing with the SEC, as the case may be, (ii) a more recent public announcement by the Company or (iii) any other written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding (the "**Reported Outstanding Share Number**"). If the Company receives a Conversion Notice from the Holder at a time when the actual number of outstanding shares of Common Stock is less than the Reported Outstanding Share Number, the Company shall notify the Holder in writing of the number of shares of Common Stock then outstanding and, to the extent that such Conversion Notice would otherwise cause the Holder's beneficial ownership, as determined pursuant to this Section 3(d), to exceed the Maximum Percentage, the Holder must notify the Company of a reduced number of shares of Common Stock to be purchased pursuant to such Conversion Notice. For any reason at any time, upon the written or oral request of the Holder, the Company shall within one (1) Trading Day confirm orally and in writing or by electronic mail to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Note, by the Holder and any other Attribution Party since the date as of which the Reported Outstanding Share Number was reported. In the event that the issuance of shares of Common Stock to the Holder upon conversion of this Note results in the Holder and the other Attribution Parties being deemed to beneficially own, in the aggregate, more than the Maximum Percentage of the number of outstanding shares of Common Stock (as determined under Section 13(d) of the Exchange Act), the number of shares so issued by which the Holder's and the other Attribution Parties' aggregate beneficial ownership exceeds the Maximum Percentage (the "**Excess Shares**") shall be deemed null and void and shall be cancelled ab initio, and the Holder shall not have the power to vote or to transfer the Excess Shares. Upon delivery of a written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to any other percentage not in excess of 9.99% as specified in such notice; provided that (i) any such increase in the Maximum Percentage will not be effective until the sixty-first (61<sup>st</sup>) day after such notice is delivered to the Company and (ii) any such increase or decrease will apply only to the Holder and the other Attribution Parties and not to any other holder of Notes that is not an Attribution Party of the Holder. For purposes of clarity, the shares of Common Stock issuable pursuant to the terms of this Note in excess of the Maximum Percentage shall not be deemed to be beneficially owned by the Holder for any purpose including for purposes of Section 13(d) or Rule 16a-1(a)(1) of the Exchange Act. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 3(d) to the extent necessary to correct this paragraph (or any portion of this paragraph) which may be defective or inconsistent with the intended beneficial ownership limitation contained in this Section 3(d) or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitation contained in this paragraph may not be waived and shall apply to a successor holder of this Note.

(4) RIGHTS UPON EVENT OF DEFAULT.

(a) Event of Default. Each of the following events shall constitute an "**Event of Default**":

(i) the failure of the applicable Registration Statement required to be filed pursuant to the Registration Rights Agreement to be filed within fifteen (15) days after the applicable time period specified in the Registration Rights Agreement or to be declared effective by the SEC on or prior to the date that is thirty (30) days after the applicable Effectiveness Deadline (as defined in the Registration Rights Agreement), or, while the applicable Registration Statement is required to be maintained effective pursuant to the terms of the Registration Rights Agreement, the effectiveness of the applicable Registration Statement lapses for any reason (including, without limitation, the issuance of a stop order) or is unavailable to any holder of the Notes for sale of all of such holder's Registrable Securities in accordance with the terms of the Registration Rights Agreement, and such lapse or unavailability continues for a period of fifteen (15) consecutive Trading Days or for more than an aggregate of thirty (30) Trading Days in any 365-day period (other than days during an Allowable Grace Period (as defined in the Registration Rights Agreement));

(ii) (A) the suspension of the Common Stock from trading on an Eligible Market for a period of two (2) consecutive Trading Days or for more than an aggregate of fifteen (15) Trading Days in any 365-day period or (B) the failure of the Common Stock to be listed on an Eligible Market;

(iii) the Company's (A) failure to cure a Conversion Failure by delivery of the required number of shares of Common Stock within five (5) Business Days after the applicable Conversion Date or (B) notice, written or oral, to the Holder or any holder of the Other Notes, including by way of public announcement or through any of its agents, at any time, of its intention not to comply with a request for conversion of this Note or any Other Notes into shares of Common Stock that is tendered in accordance with the provisions of this Note or the Other Notes, other than pursuant to Section 3(d) (and analogous provisions under the Other Notes);

(iv) at any time following the fifth (5<sup>th</sup>) consecutive Business Day that the Holder's Authorized Share Allocation (as defined in Section 10(a)) is less than the sum of (A) 200% of the number of shares of Common Stock that the Holder would be entitled to receive upon a conversion of the full Conversion Amount of this Note (without regard to any limitations on conversion set forth in Section 3(d) or otherwise) and (B) the number of shares of Common Stock that the Holder would be entitled to receive upon exercise in full of the Holder's Warrants (without regard to any limitations on exercise set forth in the Warrants);

(v) the Company's failure to pay to the Holder any amount of Principal, Interest, Late Charges or other amounts when and as due under this Note or the Other Notes (including, without limitation, the Company's failure to pay any redemption amounts hereunder) or any other Transaction Document, except, in the case of a failure to pay Interest and/or Late Charges when and as due, in which case only if such failure continues for a period of at least an aggregate of five (5) Business Days;

(vi) any default under, redemption of or acceleration prior to maturity of any Indebtedness of the Company or any of its Subsidiaries other than with respect to this Note or any Other Notes;

(vii) the Company or any of its Subsidiaries, pursuant to or within the meaning of Title 11, U.S. Code, or any similar Federal, foreign or state law for the relief of debtors (collectively, "**Bankruptcy Law**"), (A) commences a voluntary case, (B) consents to the entry of an order for relief against it in an involuntary case, (C) consents to the appointment of a receiver, trustee, assignee, liquidator or similar official (a "**Custodian**"), (D) makes a general assignment for the benefit of its creditors or (E) admits in writing that it is generally unable to pay its debts as they become due;

(viii) a court of competent jurisdiction enters an order or decree under any Bankruptcy Law that (A) is for relief against the Company or any of its Subsidiaries in an involuntary case, (B) appoints a Custodian of the Company or any of its Subsidiaries or (C) orders the liquidation of the Company or any of its Subsidiaries;

(ix) a final judgment or judgments for the payment of money aggregating in excess of \$250,000 are rendered against the Company or any of its Subsidiaries and which judgments are not, within sixty (60) days after the entry thereof, bonded, discharged or stayed pending appeal, or are not discharged within sixty (60) days after the expiration of such stay; provided, however, that any judgment which is covered by insurance or an indemnity from a credit worthy party shall not be included in calculating the \$250,000 amount set forth above so long as the Company provides the Holder a written statement from such insurer or indemnity provider (which written statement shall be reasonably satisfactory to the Holder) to the effect that such judgment is covered by insurance or an indemnity and the Company will receive the proceeds of such insurance or indemnity within thirty (30) days of the issuance of such judgment;

(x) other than as specifically set forth in another clause of this Section 4(a), the Company or any of its Subsidiaries breaches any representation, warranty, covenant or other term or condition of any Transaction Document, except, in the case of a breach of a covenant or other term or condition of any Transaction Document which is curable, only if such breach continues for a period of at least an aggregate of five (5) Business Days;

(xi) any breach or failure in any respect to comply with Sections 13, 14 or 15 of this Note;

(xii) any material damage to, or loss, theft or destruction of, a material amount of property of the Company, whether or not insured, or any strike, lockout, labor dispute, embargo, condemnation, act of God or public enemy, or other casualty which causes, for more than fifteen (15) consecutive days, the cessation or substantial curtailment of revenue producing activities at any facility of the Company or any Subsidiary, if any such event or circumstance could reasonably be expected to have a Material Adverse Effect (as defined in the Securities Purchase Agreement);

(xiii) a false or inaccurate certification (including a false or inaccurate deemed certification) by the Company that the Equity Conditions are satisfied or that there has been no Equity Conditions Failure or as to whether any Event of Default has occurred; or

(xiv) any Event of Default (as defined in the Other Notes) occurs with respect to any Other Notes.

(b) Redemption Right. Upon the occurrence of an Event of Default with respect to this Note or any Other Note, the Company shall within one (1) Business Day deliver written notice thereof via facsimile or electronic mail and overnight courier (an "**Event of Default Notice**") to the Holder. At any time after the earlier of the Holder's receipt of an Event of Default Notice and the Holder becoming aware of an Event of Default, the Holder may require the Company to redeem (an "**Event of Default Redemption**") all or any portion of this Note by delivering written notice thereof (the "**Event of Default Redemption Notice**") to the Company, which Event of Default Redemption Notice shall indicate the portion of this Note the Holder is electing to require the Company to redeem. Each portion of this Note subject to redemption by the Company pursuant to this Section 4(b) shall be redeemed by the Company in cash by wire transfer of immediately available funds at a price equal to the Conversion Amount being redeemed (the "**Event of Default Redemption Price**"). Redemptions required by this Section 4(b) shall be made in accordance with the provisions of Section 11. To the extent redemptions required by this Section 4(b) are deemed or determined by a court of competent jurisdiction to be prepayments of the Note by the Company, such redemptions shall be deemed to be voluntary prepayments. Notwithstanding anything to the contrary in this Section 4, but subject to Section 3(d), until the Event of Default Redemption Price (together with any interest thereon) is paid in full, the Conversion Amount submitted for redemption under this Section 4(b) (together with any interest thereon) may be converted, in whole or in part, by the Holder into Common Stock pursuant to Section 3.

(5) RIGHTS UPON FUNDAMENTAL TRANSACTION AND CHANGE OF CONTROL.

(a) Assumption. The Company shall not enter into or be party to a Fundamental Transaction while any Notes remain outstanding unless the Successor Entity assumes in writing all of the obligations of the Company under this Note and the other Transaction Documents in accordance with the provisions of this Section 5(a) pursuant to written agreements in form and substance satisfactory to the Required Holders and approved by the Required Holders prior to such Fundamental Transaction, including agreements, if so requested by the Holder, to deliver to each holder of Notes in exchange for such Notes a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to the Notes, including, without limitation, having a principal amount and interest rate equal to the Principal amounts and the Default Rate of the Notes then outstanding held by such holder, having similar conversion rights and having similar ranking to the Notes, and satisfactory to the Required Holders. Any security issuable or potentially issuable to the Holder pursuant to the terms of this Note on the consummation of a Fundamental Transaction shall be registered and freely tradable by the Holder without any restriction or limitation or the requirement to be subject to any holding period pursuant to any applicable securities laws. No later than (i) five (5) days prior to the occurrence or consummation of any Fundamental Transaction or (ii) if later, the first Trading Day following the date the Company first becomes aware of the occurrence or potential occurrence of a Fundamental Transaction, the Company shall deliver written notice thereof via facsimile or electronic mail and overnight courier to the Holder. Upon the occurrence or consummation of any Fundamental Transaction, and it shall be a required condition to the occurrence or consummation of any Fundamental Transaction that, the Company and the Successor Entity or Successor Entities, jointly and severally, shall succeed to, and the Company shall cause any Successor Entity or Successor Entities to jointly and severally succeed to, and be added to the term "Company" under this Note (so that from and after the date of such Fundamental Transaction, each and every provision of this Note referring to the "Company"

shall refer instead to each of the Company and the Successor Entity or Successor Entities, jointly and severally), and the Company and the Successor Entity or Successor Entities, jointly and severally, may exercise every right and power of the Company prior thereto and shall assume all of the obligations of the Company prior thereto under this Note with the same effect as if the Company and such Successor Entity or Successor Entities, jointly and severally, had been named as the Company in this Note, and, solely at the request of the Holder, if the Successor Entity and/or Successor Entities is a publicly traded corporation whose common capital stock is quoted on or listed for trading on an Eligible Market, the Company shall, or shall cause the Successor Entity, to deliver (in addition to and without limiting any right under this Note) to the Holder in exchange for this Note a security of the Successor Entity and/or Successor Entities evidenced by a written instrument substantially similar in form and substance to this Note and convertible for a corresponding number of shares of capital stock of the Successor Entity and/or Successor Entities (the "**Successor Capital Stock**") equivalent (as set forth below) to the shares of Common Stock acquirable and receivable upon conversion of this Note (without regard to any limitations on the conversion of this Note) prior to such Fundamental Transaction (such corresponding number of shares of Successor Capital Stock to be delivered to the Holder shall equal the greater of (I) the quotient of (A) the aggregate dollar value of all consideration (including cash consideration and any consideration other than cash ("**Non-Cash Consideration**"), in such Fundamental Transaction, as such values are set forth in any definitive agreement for the Fundamental Transaction that has been executed at the time of the first public announcement of the Fundamental Transaction or, if no such value is determinable from such definitive agreement, as determined in accordance with Section 23 with the term "Non-Cash Consideration" being substituted for the term "Conversion Price") that the Holder would have been entitled to receive upon the happening of such Fundamental Transaction or the record, eligibility or other determination date for the event resulting in such Fundamental Transaction, had this Note been converted immediately prior to such Fundamental Transaction or the record, eligibility or other determination date for the event resulting in such Fundamental Transaction (without regard to any limitations on the conversion of this Note) (the "**Aggregate Consideration**") divided by (B) the per share Closing Sale Price of such Successor Capital Stock on the Trading Day immediately prior to the consummation or occurrence of the Fundamental Transaction and (II) the product of (A) the quotient obtained by dividing (x) the Aggregate Consideration, by (y) the Closing Sale Price of the Common Stock on the Trading Day immediately prior to the consummation or occurrence of the Fundamental Transaction and (B) the highest exchange ratio pursuant to which any stockholder of the Company may exchange Common Stock for Successor Capital Stock) (provided, however, to the extent that the Holder's right to receive any such shares of publicly traded common stock (or their equivalent) of the Successor Entity would result in the Holder and its other Attribution Parties exceeding the Maximum Percentage, if applicable, then the Holder shall not be entitled to receive such shares to such extent (and shall not be entitled to beneficial ownership of such shares of publicly traded common stock (or their equivalent) of the Successor Entity as a result of such consideration to such extent) and the portion of such shares shall be held in abeyance for the Holder until such time or times, as its right thereto would not result in the Holder and its other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be delivered such shares to the extent as if there had been no such limitation), and such security shall be satisfactory to the Holder, and with an identical conversion price to the Conversion Price hereunder (such adjustments to the number of shares of capital stock and such conversion price

being for the purpose of protecting after the consummation or occurrence of such Fundamental Transaction the economic value of this Note that was in effect immediately prior to the consummation or occurrence of such Fundamental Transaction, as elected by the Holder solely at its option). Upon occurrence or consummation of the Fundamental Transaction, and it shall be a required condition to the occurrence or consummation of such Fundamental Transaction that, the Company and the Successor Entity or Successor Entities shall deliver to the Holder confirmation that there shall be issued upon conversion of this Note at any time after the occurrence or consummation of the Fundamental Transaction, as applicable, as elected by the Holder solely at its option, shares of Common Stock, Successor Capital Stock or, in lieu of the shares of Common Stock or Successor Capital Stock (or other securities, cash, assets or other property purchasable upon the conversion of this Note prior to such Fundamental Transaction), such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights), which for purposes of clarification may continue to be shares of Common Stock, if any, that the Holder would have been entitled to receive upon the happening of such Fundamental Transaction or the record, eligibility or other determination date for the event resulting in such Fundamental Transaction, had this Note been converted immediately prior to such Fundamental Transaction or the record, eligibility or other determination date for the event resulting in such Fundamental Transaction (without regard to any limitations on the conversion of this Note), as adjusted in accordance with the provisions of this Note. The provisions of this Section 5(a) shall apply similarly and equally to successive Fundamental Transactions.

(b) Redemption Right. While any Notes remain outstanding, no later than five (5) days prior to the consummation of a Change of Control, but not prior to the public announcement of such Change of Control, the Company shall deliver written notice thereof via facsimile or electronic mail and overnight courier to the Holder (a "**Change of Control Notice**"). At any time during the period beginning on the earlier to occur of (x) any oral or written agreement by the Company or any of its Subsidiaries, upon consummation of which the transaction contemplated thereby would reasonably be expected to result in a Change of Control, (y) the Holder becoming aware of a Change of Control and (z) the Holder's receipt of a Change of Control Notice and ending twenty-five (25) Trading Days after the date of the consummation of such Change of Control, the Holder may require the Company to redeem (a "**Change of Control Redemption**") all or any portion of this Note by delivering written notice thereof ("**Change of Control Redemption Notice**") to the Company, which Change of Control Redemption Notice shall indicate the Conversion Amount the Holder is electing to require the Company to redeem. The portion of this Note subject to redemption pursuant to this Section 5(b) shall be redeemed by the Company in cash by wire transfer of immediately available funds at a price equal to the Conversion Amount being redeemed (the "**Change of Control Redemption Price**"). Redemptions required by this Section 5 shall be made in accordance with the provisions of Section 11 and shall have priority to payments to stockholders in connection with a Change of Control. To the extent redemptions required by this Section 5(b) are deemed or determined by a court of competent jurisdiction to be prepayments of the Note by the Company, such redemptions shall be deemed to be voluntary prepayments. Notwithstanding anything to the contrary in this Section 5, but subject to Section 3(d), until the Change of Control Redemption Price (together with any interest thereon) is paid in full, the Conversion Amount submitted for redemption under this Section 5(b) (together with any interest thereon) may be converted, in whole or in part, by the Holder into Common Stock pursuant to Section 3.

(6) DISTRIBUTION OF ASSETS; RIGHTS UPON ISSUANCE OF PURCHASE RIGHTS AND OTHER CORPORATE EVENTS.

(a) Distribution of Assets. While any Notes remain outstanding, if the Company shall declare or make any dividend or other distributions of its assets (or rights to acquire its assets) to any or all holders of shares of Common Stock, by way of return of capital or otherwise (including without limitation, any distribution of cash, stock or other securities, property, Options, evidence of Indebtedness or any other assets by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (the "**Distributions**"), then the Holder will be entitled to such Distributions as if the Holder had held the number of shares of Common Stock acquirable upon complete conversion of this Note (without taking into account any limitations or restrictions on the convertibility of this Note) immediately prior to the date on which a record is taken for such Distribution or, if no such record is taken, the date as of which the record holders of Common Stock are to be determined for such Distributions (provided, however, that to the extent that the Holder's right to participate in any such Distribution would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Distribution to such extent (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Distribution (and beneficial ownership) to such extent) and the portion of such Distribution shall be held in abeyance for the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such rights (and any rights under this Section 6(a) on such initial rights or on any subsequent such rights to be held similarly in abeyance) to the same extent as if there had been no such limitation).

(b) Purchase Rights. While any Notes remain outstanding, if at any time the Company grants, issues or sells any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of Common Stock (the "**Purchase Rights**"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete conversion of this Note (without taking into account any limitations or restrictions on the convertibility of this Note) immediately prior to the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, that to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Purchase Right to such extent (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Purchase Right (and beneficial ownership) to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such right (and any Purchase Right granted, issued or sold on such initial Purchase Right or on any subsequent Purchase Right to be held similarly in abeyance) to the same extent as if there had been no such limitation).



(c) Other Corporate Events. While any Notes remain outstanding, in addition to and not in substitution for any other rights hereunder, prior to the occurrence or consummation of any Fundamental Transaction pursuant to which holders of shares of Common Stock are entitled to receive securities, cash, assets or other property with respect to or in exchange for shares of Common Stock (a "**Corporate Event**"), the Company shall make appropriate provision to ensure that, and any applicable Successor Entity or Successor Entities shall ensure that, and it shall be a required condition to the occurrence or consummation of such Corporate Event that, the Holder will thereafter have the right to receive upon conversion of this Note at any time after the occurrence or consummation of the Corporate Event, shares of Common Stock or Successor Capital Stock or, if so elected by the Holder, in lieu of the shares of Common Stock (or other securities, cash, assets or other property) purchasable upon the conversion of this Note prior to such Corporate Event (but not in lieu of such items still issuable under Sections 6(a) and 6(b), which shall continue to be receivable on the Common Stock or on such shares of stock, securities, cash, assets or any other property otherwise receivable with respect to or in exchange for shares of Common Stock), such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights and any shares of Common Stock) which the Holder would have been entitled to receive upon the occurrence or consummation of such Corporate Event or the record, eligibility or other determination date for the event resulting in such Corporate Event, had this Note been converted immediately prior to such Corporate Event or the record, eligibility or other determination date for the event resulting in such Corporate Event (without regard to any limitations on conversion of this Note). Provision made pursuant to the preceding sentence shall be in a form and substance satisfactory to the Required Holders. The provisions of this Section 6 shall apply similarly and equally to successive Corporate Events.

(7) RIGHTS UPON ISSUANCE OF OTHER SECURITIES.

(a) Adjustment of Conversion Price upon Issuance of Common Stock. If and whenever on or after the Subscription Date through the first (1<sup>st</sup>) day immediately following the earlier of (i) the date of consummation of a financing that qualifies as a Qualified Financing (as defined in the Warrants) or (ii) the date that no Notes remain outstanding, the Company issues or sells, or in accordance with this Section 7(a) is deemed to have issued or sold, any shares of Common Stock (including the issuance or sale of shares of Common Stock owned or held by or for the account of the Company, but excluding shares of Common Stock deemed to have been issued or sold by the Company in connection with any Excluded Securities) for a consideration per share (the "**New Issuance Price**") less than a price (the "**Applicable Price**") equal to the Conversion Price in effect immediately prior to such issue or sale or deemed issuance or sale (the foregoing a "**Dilutive Issuance**"), then immediately after such Dilutive Issuance the Conversion Price then in effect shall be reduced to an amount equal to the New Issuance Price. For purposes of determining the adjusted Conversion Price under this Section 7(a), the following shall be applicable:

(i) Issuance of Options. If the Company in any manner grants or sells any Options and the lowest price per share for which one share of Common Stock is issuable upon the exercise of any such Option or upon conversion or exchange or exercise of any Convertible Securities issuable upon exercise of any such Option is less than the Applicable Price, then such share of Common Stock shall be deemed to be outstanding and to have been issued and sold by the Company at the time of the granting or sale of such Option for such price per share. For purposes of this Section 7(a)(i), the "lowest price per share for which one share of Common Stock is issuable upon the exercise of any such Options or upon conversion or exchange or exercise of any Convertible Securities issuable upon exercise of such Option" shall be equal to the sum of the lowest amounts of consideration (if any) received or receivable by the Company with respect to any one share of Common Stock upon granting or sale of the Option, upon exercise of the Option and upon conversion or exchange or exercise of any Convertible Security issuable upon exercise of such Option less any consideration paid or payable by the Company with respect to such one share of Common Stock upon the granting or sale of such Option, upon exercise of such Option and upon conversion exercise or exchange of any Convertible Security issuable upon exercise of such Option. No further adjustment of the Conversion Price shall be made upon the actual issuance of such shares of Common Stock or of such Convertible Securities upon the exercise of such Options or upon the actual issuance of such shares of Common Stock upon conversion or exchange or exercise of such Convertible Securities.

(ii) Issuance of Convertible Securities. If the Company in any manner issues or sells any Convertible Securities and the lowest price per share for which one share of Common Stock is issuable upon the conversion or exchange or exercise thereof is less than the Applicable Price, then such share of Common Stock shall be deemed to be outstanding and to have been issued and sold by the Company at the time of the issuance or sale of such Convertible Securities for such price per share. For the purposes of this Section 7(a)(ii), the "lowest price per share for which one share of Common Stock is issuable upon the conversion or exchange or exercise thereof" shall be equal to the sum of the lowest amounts of consideration (if any) received or receivable by the Company with respect to any one share of Common Stock upon the issuance or sale of the Convertible Security and upon the conversion or exchange or exercise of such Convertible Security less any consideration paid or payable by the Company with respect to such one share of Common Stock upon the issuance or sale of the Convertible Security and upon the conversion or exchange or exercise of such Convertible Security. No further adjustment of the Conversion Price shall be made upon the actual issuance of such shares of Common Stock upon conversion or exchange or exercise of such Convertible Securities, and if any such issue or sale of such Convertible Securities is made upon exercise of any Options for which adjustment of the Conversion Price has been or is to be made pursuant to other provisions of this Section 7(a), no further adjustment of the Conversion Price shall be made by reason of such issue or sale.

(iii) Change in Option Price or Rate of Conversion. If the purchase price provided for in any Options, the additional consideration, if any, payable upon the issue, conversion, exchange or exercise of any Convertible Securities, or the rate at which any Convertible Securities are convertible into or exchangeable or exercisable for shares of Common Stock increases or decreases at any time, the Conversion Price in effect at the time of such increase or decrease shall be adjusted to the Conversion Price which would have been in effect at such time had such Options or Convertible Securities provided for such increased or decreased purchase price, additional consideration or increased or decreased conversion rate, as the case may be, at the time initially granted, issued or sold. For purposes of this Section 7(a)(iii), if the terms of any Option or Convertible Security that was outstanding as of the Subscription Date are increased or decreased in the manner described in the immediately preceding sentence, then such Option or Convertible Security and the shares of Common Stock deemed issuable upon exercise, conversion or exchange thereof shall be deemed to have been issued as of the date of such increase or decrease. No adjustment pursuant to this Section 7(a) shall be made if such adjustment would result in an increase of the Conversion Price then in effect.

(iv) Calculation of Consideration Received. In case any Option is issued in connection with the issue or sale of other securities of the Company, together comprising one integrated transaction, (x) the Options will be deemed to have been issued for the Option Value of such Options and (y) the other securities issued or sold in such integrated transaction shall be deemed to have been issued or sold for the difference of (I) the aggregate consideration received by the Company less any consideration paid or payable by the Company pursuant to the terms of such other securities of the Company, less (II) the Option Value of such Options. If any shares of Common Stock, Options or Convertible Securities are issued or sold or deemed to have been issued or sold for cash, the consideration other than cash received therefor will be deemed to be the net amount received by the Company therefor. If any shares of Common Stock, Options or Convertible Securities are issued or sold for a consideration other than cash, the amount of such consideration received by the Company will be the fair value of such consideration, except where such consideration consists of publicly traded securities, in which case the amount of consideration received by the Company will be the Closing Sale Price of such publicly traded securities on the date of receipt of such publicly traded securities. If any shares of Common Stock, Options or Convertible Securities are issued to the owners of the non-surviving entity in connection with any merger in which the Company is the surviving entity, the amount of consideration therefor will be deemed to be the fair value of such portion of the net assets and business of the non-surviving entity as is attributable to such shares of Common Stock, Options or Convertible Securities, as the case may be. The fair value of any consideration other than cash or publicly traded securities will be determined jointly by the Company and the Required Holders. If such parties are unable to reach agreement within ten (10) Business Days after the occurrence of an event requiring valuation (the "**Valuation Event**"), the fair value of such consideration will be determined within five (5) Business Days after the tenth (10<sup>th</sup>) Business Day following the Valuation Event by an independent, reputable appraiser jointly selected by the Company and the Required Holders. The determination of such appraiser shall be final and binding upon all parties absent manifest error and the fees and expenses of such appraiser shall be borne by the Company. Notwithstanding anything to the contrary contained herein, if any calculation pursuant to this Section 7(a)(iv) would result in a dollar value that is lower than the par value of the Common Stock, then such dollar value shall be deemed to equal the par value of the Common Stock.

(v) Record Date. If the Company takes a record of the holders of shares of Common Stock for the purpose of entitling them (A) to receive a dividend or other distribution payable in shares of Common Stock, Options or in Convertible Securities or (B) to subscribe for or purchase shares of Common Stock, Options or Convertible Securities, then such record date will be deemed to be the date of the issue or sale of the shares of Common Stock deemed to have been issued or sold upon the declaration of such dividend or the making of such other distribution or the date of the granting of such right of subscription or purchase, as the case may be.

(vi) No Readjustments. For the avoidance of doubt, in the event the Conversion Price has been adjusted pursuant to this Section 7(a) and the Dilutive Issuance that triggered such adjustment does not occur, is not consummated, is unwound or is cancelled after the facts for any reason whatsoever, in no event shall the Conversion Price be readjusted to the Conversion Price that would have been in effect if such Dilutive Issuance had not occurred or been consummated.

(b) Adjustment of Conversion Price upon Subdivision or Combination of Common Stock. If the Company at any time on or after the Subscription Date subdivides (by any stock split, stock dividend, recapitalization or otherwise) one or more classes of its outstanding shares of Common Stock into a greater number of shares, the Conversion Price in effect immediately prior to such subdivision will be proportionately reduced. If the Company at any time on or after the Subscription Date combines (by combination, reverse stock split or otherwise) one or more classes of its outstanding shares of Common Stock into a smaller number of shares, the Conversion Price in effect immediately prior to such combination will be proportionately increased.

(c) Other Events. If any event occurs of the type contemplated by the provisions of this Section 7 but not expressly provided for by such provisions (including, without limitation, the granting of stock appreciation rights, phantom stock rights or other rights with equity features), then the Company's Board of Directors will make an appropriate adjustment in the Conversion Price so as to protect the rights of the Holder under this Note; provided, that no such adjustment will increase the Conversion Price as otherwise determined pursuant to this Section 7.

(d) Voluntary Adjustment by Company. The Company may at any time during the term of this Note, with the prior written consent of the Required Holders, reduce the then current Conversion Price to any amount and for any period of time deemed appropriate by the Board of Directors of the Company.

(8) COMPANY REDEMPTIONS.

(a) General. At any time and from time to time after the Issuance Date, the Company shall: (i) have the right to redeem all or any portion of the Conversion Amount then remaining under this Note and the Other Notes (the "**Company Optional Redemption Amount**") as designated in the applicable Company Optional Redemption Notice on a Company Optional Redemption Date (each as defined below) (a "**Company Optional Redemption**") and (ii) to the extent the Company or any of its Subsidiaries consummates a Subsequent Placement (the date of the consummation of such Subsequent Placement, a "**Subsequent Placement Date**"), the Company shall be required to use at least fifty percent (50%) of the gross proceeds raised in such Subsequent Placement to redeem the Conversion Amount then remaining under this Note and the Other Notes (a "**Company Mandatory Redemption Amount**") on the applicable Company Mandatory Redemption Date (as defined below) (a "**Company Mandatory Redemption**"). The portion of this Note and the Other Notes subject to redemption pursuant to this Section 8(a) shall be redeemed by the Company on the applicable Company Optional Redemption Date (as defined below) or Company Mandatory Redemption Date, as applicable, in cash by wire transfer of immediately available funds pursuant to wire instructions provided by the Holder in writing to the Company at a price equal to the greater of (x) 100% of the Conversion Amount to be redeemed and (y) the product of (A) the Conversion Amount being redeemed and (B) the quotient determined by dividing (I) the greatest Closing Sale Price of the shares of Common Stock during the period beginning on the date immediately preceding the Company Optional Redemption Notice Date (as defined below) or the Company Mandatory Redemption Notice Date, as the case may be, and ending on the related Company Optional Redemption Date or Company Mandatory Redemption Date, as applicable, by (II) the lowest Conversion Price in effect during such period; provided, however, that this clause (y) shall equal zero dollars (\$0) solely in the event that no Equity Conditions Failure occurs at any time during period commencing from the applicable Company Optional Redemption Notice Date or the Company Mandatory Redemption Notice Date, as the case may be, through the related Company Optional Redemption Date or Company Mandatory Redemption Date, as applicable (a "**Company Optional Redemption Price**" or "**Company Mandatory Redemption Price**", as applicable). The Company may exercise its right to require a Company Optional Redemption under this Section 8 by delivering prior written notice thereof fifteen (15) Trading Days prior to the applicable Company Optional Redemption Date (as defined below) by facsimile or electronic mail and overnight courier to the Holder and all, but not less than all, of the holders of the Other Notes (a "**Company Optional Redemption Notice**" and the date all of the holders of the Notes received such notice is referred to as a "**Company Optional Redemption Notice Date**"). The Company shall be required to effect a Company Mandatory Redemption under this Section 8 by delivering written notice thereof by no later than the first (1<sup>st</sup>) Trading Day following a Subsequent Placement Date by facsimile or electronic mail and overnight courier to the Holder and all, but not less than all, of the holders of the Other Notes (a "**Company Mandatory Redemption Notice**" and the date all of the holders of the Notes received such notice is referred to as a "**Company Mandatory Redemption Notice Date**"). Each Company Optional Redemption Notice and each Company Mandatory Redemption Notice shall be irrevocable. The Company may not effect more than five (5) Company Optional Redemptions. Each Company Optional Redemption Notice shall (i) state the date on which the applicable Company Optional Redemption shall occur (a "**Company Optional Redemption Date**"), which date shall be fifteen (15) Trading Days following the applicable Company Optional Redemption Notice Date or, if such date falls on a Holiday, the next day that is not a Holiday and (ii) state the aggregate Conversion Amount of the Notes which the Company has elected to be subject to Company Optional Redemption from the Holder and all of the holders of the Other Notes pursuant to this Section 8(a) (and analogous provisions under the Other Notes) on such Company Optional Redemption Date. Each Company Mandatory Redemption Notice shall (i) state the date on which the applicable Company Mandatory Redemption shall occur (a "**Company Mandatory Redemption Date**"), which date shall be fifteen (15) Trading Days following the applicable Company Mandatory Redemption Notice Date or, if such date falls on a Holiday, the next day that is not a Holiday, (ii) the gross proceeds raised by the Company or its Subsidiary in the applicable Subsequent Placement triggering such Company Mandatory Redemption and the date of the consummation of such Subsequent Placement and (iii) state the aggregate Conversion Amount of the Notes which the Company has elected to be subject to Company Mandatory Redemption from the Holder and all of the holders of the Other Notes pursuant to this Section 8(a) (and analogous provisions under the Other Notes) on such Company Mandatory Redemption Date. Notwithstanding anything to the contrary in this Section 8, until the applicable Company Optional Redemption Price or Company Mandatory Redemption Price, as applicable, is paid in full, such Company Optional Redemption Amount or Company Mandatory Redemption Amount, as applicable, may be converted, subject to Section 3(d), in whole or in part, by the Holder into shares of Common Stock pursuant to Section 3. All Conversion Amounts converted by the Holder after a Company Optional Redemption Notice Date or Company Mandatory Redemption Notice Date, as applicable, shall reduce the Company Optional Redemption Amount or Company Mandatory Redemption Amount, as applicable, of this Note required to be redeemed on such Company Optional Redemption Date or Company Mandatory Redemption Date, as applicable, unless the Holder otherwise indicates in the applicable Conversion Notice. Company Optional Redemptions and Company Mandatory Redemptions made pursuant to this Section 8 shall be made in accordance with Section 11. To the extent redemptions required by this Section 8 are deemed or determined by a court of competent jurisdiction to be prepayments of the Note by the Company, such redemptions shall be deemed to be voluntary prepayments. Notwithstanding anything to the contrary contained in this Note, failure of the Company to comply with any notice requirement hereunder, including without limitation, the conditions of the Company Mandatory Redemption Notice, shall not relieve the Company from any other obligation hereunder, including without limitation, its obligation to comply with a Company Mandatory Redemption.

(b) Pro Rata Redemption Requirement. If the Company elects to cause a Company Optional Redemption or is required to cause a Company Mandatory Redemption pursuant to Section 8(a), then it must simultaneously take the same action in the same proportion with respect to the Other Notes. If the Company elects to cause a Company Optional Redemption, or is required to cause Company Mandatory Redemption, pursuant to Section 8(a) (or similar provisions under the Other Notes) with respect to less than all of the Conversion Amounts of the Notes then outstanding, then the Company shall require redemption of a Conversion Amount from each of the holders of the Notes equal to the product of (i) the aggregate Company Optional Redemption Amount of Notes which the Company has elected to cause to be redeemed, or the aggregate Company Mandatory Redemption Amount of Notes which the Company is required to redeem, as applicable, pursuant to Section 8(a), multiplied by (ii) the fraction, the numerator of which is the sum of the aggregate Original Principal Amount of the Notes purchased by such holder of outstanding Notes and the denominator of which is the sum of the aggregate Original Principal Amount of the Notes purchased by all holders holding outstanding Notes (such fraction with respect to each holder is referred to as its "**Company Redemption Allocation Percentage**", and such amount with respect to each holder is referred to as its "**Pro Rata Company Redemption Amount**"); provided, however that in the event that any holder's Pro Rata Company Redemption Amount exceeds the outstanding Principal amount of such holder's Note, then such excess Pro Rata Company Redemption Amount shall be allocated amongst the remaining holders of Notes in accordance with the foregoing formula. In the event that the initial holder of any Notes shall sell or otherwise transfer any of such holder's Notes, the transferee shall be allocated a pro rata portion of such holder's Company Redemption Allocation Percentage and Pro Rata Company Redemption Amount.

(9) NONCIRCUMVENTION. The Company hereby covenants and agrees that the Company will not, by amendment of its Certificate of Incorporation, Bylaws or through any reorganization, transfer of assets, consolidation, merger, scheme of arrangement, 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 Note, and will at all times in good faith carry out all of the provisions of this Note and take all action as may be required to protect the rights of the Holder of this Note.

(10) RESERVATION OF AUTHORIZED SHARES.

(a) Reservation. The Company shall initially reserve out of its authorized and unissued shares of Common Stock a number of shares of Common Stock for each of this Note and the Other Notes equal to 200% of the Conversion Rate with respect to the Conversion Amount of each such Note as of the Issuance Date. So long as any of this Note and the Other Notes are outstanding, the Company shall take all action necessary to reserve and keep available out of its authorized and unissued Common Stock, solely for the purpose of effecting the conversion of this Note and the Other Notes, the number of shares of Common Stock specified above in this Section 10(a) as shall from time to time be necessary to effect the conversion of all of the Notes then outstanding; provided, that at no time shall the number of shares of Common Stock so reserved be less than the number of shares required to be reserved pursuant hereto (in each case, without regard to any limitations on conversions) (the "**Required Reserve Amount**"). The initial number of shares of Common Stock reserved for conversions of this Note and the Other Notes and each increase in the number of shares so reserved shall be allocated pro rata among the Holder and the holders of the Other Notes based on the Principal amount of this Note and the Other Notes held by each holder at the Closing (as defined in the Securities Purchase Agreement) or increase in the number of reserved shares, as the case may be (the "**Authorized Share Allocation**"). In the event that a holder shall sell or otherwise transfer this Note or any of such holder's Other Notes, each transferee shall be allocated a pro rata portion of such holder's Authorized Share Allocation. Any shares of Common Stock reserved and allocated to any Person which ceases to hold any Notes shall be allocated to the Holder and the remaining holders of Other Notes, pro rata based on the Principal amount of this Note and the Other Notes then held by such holders.

(b) Insufficient Authorized Shares. If at any time while any of the Notes remain outstanding the Company does not have a sufficient number of authorized and unreserved shares of Common Stock to satisfy its obligation to reserve for issuance upon conversion of the Notes at least a number of shares of Common Stock equal to the Required Reserve Amount (an "**Authorized Share Failure**"), then the Company shall immediately take all action necessary to increase the Company's authorized shares of Common Stock to an amount sufficient to allow the Company to reserve the Required Reserve Amount for the Notes then outstanding. Without limiting the generality of the foregoing sentence, as soon as practicable after the date of the occurrence of an Authorized Share Failure, but in no event later than sixty (60) days after the occurrence of such Authorized Share Failure, the Company shall either (x) obtain the written consent of its stockholders for the approval of an increase in the number of authorized shares of Common Stock and provide each stockholder with an information statement with respect thereto or (y) hold a meeting of its stockholders for the approval of an increase in the number of authorized shares of Common Stock. In connection with such meeting, the Company shall provide each stockholder with a proxy statement and shall use its best efforts to solicit its stockholders' approval of such increase in authorized shares of Common Stock and to cause its Board of Directors to recommend to the stockholders that they approve such proposal. Notwithstanding the foregoing, if during any such time of an Authorized Share Failure, the Company is able to obtain the written consent of a majority of the shares of its issued and outstanding Common Stock to approve the increase in the number of authorized shares of Common Stock, the Company may satisfy this obligation by obtaining such consent and submitting for filing with the SEC an Information Statement on Schedule 14C. If, upon any conversion of this Note, the Company does not have sufficient authorized shares to deliver in satisfaction of such conversion, then unless the Holder elects to rescind such attempted conversion, the Holder may require the Company to pay to the Holder within three (3) Trading Days of the applicable attempted conversion, cash in an amount equal to the product of (i) the number of shares of Common Stock that the Company is unable to deliver pursuant to this Section 10, and (ii) the highest Closing Sale Price of the Common Stock during the period beginning on the date of the applicable Conversion Date and ending on the date the Company makes the applicable cash payment.

(11) REDEMPTIONS.

(a) Mechanics. The Company shall deliver the applicable Event of Default Redemption Price to the Holder within three (3) Business Days after the Company's receipt of the Holder's Event of Default Redemption Notice (the "**Event of Default Redemption Date**"). If the Holder has submitted a Change of Control Redemption Notice in accordance with Section 5(b), the Company shall deliver the applicable Change of Control Redemption Price to the Holder (i) concurrently with the consummation of such Change of Control if such notice is received prior to the consummation of such Change of Control and (ii) within three (3) Business Days after the Company's receipt of such notice otherwise (such date, the "**Change of Control Redemption Date**"). The Company shall deliver the applicable Company Optional Redemption Price to the Holder on the applicable Company Optional Redemption Date. The Company shall deliver the applicable Company Mandatory Redemption Price to the Holder on the applicable Company Mandatory Redemption Date. The Company shall pay the applicable Redemption Price to the Holder in cash by wire transfer of immediately available funds pursuant to wire instructions provided by the Holder in writing to the Company on the applicable due date. In the event of a redemption of less than all of the Conversion Amount of this Note, the Company shall promptly cause to be issued and delivered to the Holder a new Note (in accordance with Section 18(d)) representing the outstanding Principal which has not been redeemed and any accrued Interest on such Principal which shall be calculated as if no Redemption Notice has been delivered. In the event that the Company does not pay the applicable Redemption Price to the Holder within the time period required, at any time thereafter and until the Company pays such unpaid Redemption Price in full, the Holder shall have the option, in lieu of redemption, to require the Company to promptly return to the Holder all or any portion of this Note representing the Conversion Amount that was submitted for redemption and for which the applicable Redemption Price has not been paid. Upon the Company's receipt of such notice, (x) the applicable Redemption Notice shall be null and void with respect to such Conversion Amount, (y) the Company shall immediately return this Note, or issue a new Note (in accordance with Section 18(d)), to the Holder, and in each case the principal amount of this Note or such new Note (as the case may be) shall be increased by an amount equal to the difference between (1) the applicable Redemption Price (as the case may be, and as adjusted pursuant to this Section 11, if applicable) minus (2) the Principal portion of the Conversion Amount submitted for redemption and (z) the Conversion Price of this Note or such new Notes (as the case may be) shall be automatically adjusted with respect to each conversion effected thereafter by the Holder to the lowest of (A) the Conversion Price as in effect on the date on which the applicable Redemption Notice is voided (B) 85% of the lowest Closing Bid Price of the Common Stock during the period beginning on and including the date on which the applicable Redemption Notice is delivered to the Company and ending on and including the date on which the applicable Redemption Notice is voided and (C) 85% of the quotient of (I) the sum of the five (5) lowest Weighted Average Prices of the Common Stock during the twenty (20) consecutive Trading Day period ending on and including the Trading Day immediately preceding the applicable Conversion Date divided by (II) five (5).



(b) Redemption by Other Holders. Upon the Company's receipt of notice from any of the holders of the Other Notes for redemption or repayment as a result of an event or occurrence substantially similar to the events or occurrences described in Section 4(b) or Section 5(b) or pursuant to equivalent provisions set forth in the Other Notes (each, an "**Other Redemption Notice**"), the Company shall immediately, but no later than one (1) Business Day of its receipt thereof, forward to the Holder by facsimile or electronic mail a copy of such notice. If the Company receives a Redemption Notice and one or more Other Redemption Notices, during the seven (7) Business Day period beginning on and including the date which is three (3) Business Days prior to the Company's receipt of the Holder's Redemption Notice and ending on and including the date which is three (3) Business Days after the Company's receipt of the Holder's Redemption Notice and the Company is unable to redeem all principal, interest and other amounts designated in such Redemption Notice and such Other Redemption Notices received during such seven (7) Business Day period, then the Company shall redeem a pro rata amount from the Holder and each holder of the Other Notes based on the Principal amount of this Note and the Other Notes submitted for redemption pursuant to such Redemption Notice and such Other Redemption Notices received by the Company during such seven (7) Business Day period.

(c) Insufficient Assets. If upon a Redemption Date, the assets of the Company are insufficient to pay the applicable Redemption Price, the Company shall (i) take all appropriate action reasonably within its means to maximize the assets available for paying the applicable Redemption Price, (ii) redeem out of all such assets available therefor on the applicable Redemption Date the maximum possible portion of the applicable Redemption Price that it can redeem on such date, pro rata among the Holder and the holders of the Other Notes to be redeemed in proportion to the aggregate Principal amount of this Note and the Other Notes outstanding on the applicable Redemption Date and (iii) following the applicable Redemption Date, at any time and from time to time when additional assets of the Company become available to pay the balance of the applicable Redemption Price of this Note and the Other Notes, the Company shall use such assets, at the end of the then current fiscal quarter, to pay the balance of such Redemption Price of this Note and the Other Notes, or such portion thereof for which assets are then available, on the basis set forth above at the applicable Redemption Price, and such assets will not be used prior to the end of such fiscal quarter for any other purpose. Interest on the Principal amount of this Note and the Other Notes that have not been redeemed shall continue to accrue until such time as the Company redeems this Note and the Other Notes. The Company shall pay to the Holder the applicable Redemption Price without regard to the legal availability of funds unless expressly prohibited by applicable law or unless the payment of the applicable Redemption Price could reasonably be expected to result in personal liability to the directors of the Company.

(12) VOTING RIGHTS. The Holder shall have no voting rights as the holder of this Note, except as required by law and as expressly provided in this Note.

(13) RANK. All payments due under this Note (a) shall rank *pari passu* with all Other Notes and (b) except for Permitted Indebtedness, shall be senior to all other Indebtedness of the Company and its Subsidiaries.

(14) NEGATIVE COVENANTS. Until all of the Notes have been converted, redeemed or otherwise satisfied in accordance with their terms, the Company shall not, and the Company shall not permit any of its Subsidiaries without the prior written consent of the Required Holders to, directly or indirectly:

(a) incur or guarantee, assume or suffer to exist any Indebtedness, other than Permitted Indebtedness;

(b) allow or suffer to exist any mortgage, lien, pledge, charge, security interest or other encumbrance upon or in any property or assets (including accounts and contract rights) owned by the Company or any of its Subsidiaries (collectively, "**Liens**") other than Permitted Liens;

(c) redeem, defease, repurchase, repay or make any payments in respect of, by the payment of cash or cash equivalents (in whole or in part, whether by way of open market purchases, tender offers, private transactions or otherwise), all or any portion of any Indebtedness (other than this Note and the Other Notes), whether by way of payment in respect of principal of (or premium, if any) or interest on, such Indebtedness if at the time such payment is due or is otherwise made or, after giving effect to such payment, an event constituting, or that with the passage of time and without being cured would constitute, an Event of Default has occurred and is continuing;

(d) redeem, defease, repurchase, repay or make any payments in respect of, by the payment of cash or cash equivalents (in whole or in part, whether by way of open market purchases, tender offers, private transactions or otherwise), all or any portion of any Indebtedness (including, without limitation Permitted Indebtedness other than this Note and the Other Notes), by way of payment in respect of principal of (or premium, if any) such Indebtedness. For clarity, such restriction shall not preclude the payment of regularly scheduled interest payments which may accrue under such Permitted Indebtedness;

(e) redeem or repurchase its Equity Interest (except on a pro rata basis among all holders thereof);

(f) declare or pay any cash dividend or distribution on any Equity Interest of the Company or of its Subsidiaries;

(g) make, or permit any of its Subsidiaries to make, any change in the nature of its business as described in the Company's most recent Annual Report filed on Form 10-K with the SEC or modify its corporate structure or purpose; or

(h) encumber or allow any Liens on, any of its owned or licensed copyright rights, copyright applications, copyright registrations and like protections in each work of authorship and derivative work, whether published or unpublished, any patents, patent applications and like protections, including improvements, divisions, continuations, renewals, reissues, extensions, and continuations-in-part of the same, trademarks, service marks and, to the extent permitted under applicable law, any applications therefor, whether registered or not, and the goodwill of the business of the Company and its Subsidiaries connected with and symbolized thereby, know-how, operating manuals, trade secret rights, rights to unpatented inventions, and any claims for damage by way of any past, present, or future infringement of any of the foregoing, in each case, other than Permitted Liens; or

(i) enter into, renew, extend or be a party to, any transaction or series of related transactions (including, without limitation, the purchase, sale, lease, transfer or exchange of property or assets of any kind or the rendering of services of any kind) with any Affiliate, except in the ordinary course of business in a manner and to an extent consistent with past practice for fair consideration and on terms no less favorable to it or its Subsidiaries than would be obtainable in a comparable arm's length transaction with a Person that is not an Affiliate thereof.

(15) AFFIRMATIVE COVENANTS. Until all of the Notes have been converted, redeemed or otherwise satisfied in accordance with their terms, the Company shall, and the Company shall cause each Subsidiary to, directly or indirectly:

(a) maintain and preserve, and cause each of its Subsidiaries to maintain and preserve, its existence, rights and privileges, and become or remain, and cause each of its Subsidiaries to become or remain, duly qualified and in good standing in each jurisdiction in which the character of the properties owned or leased by it or in which the transaction of its business makes such qualification necessary, except for any failures that would not reasonably be expected to result in a Material Adverse Effect;

(b) maintain and preserve, and cause each of its Subsidiaries to maintain and preserve, all of its properties which are necessary or useful in the proper conduct of its business in good working order and condition, ordinary wear and tear excepted, and comply, and cause each of its Subsidiaries to comply, at all times with the provisions of all leases to which it is a party as lessee or under which it occupies property, so as to prevent any loss or forfeiture thereof or thereunder; except for any failures that would not reasonably be expected to result in a Material Adverse Effect and

(c) maintain, insurance in such amounts and covering such risks as is required by any governmental authority having jurisdiction with respect thereto or as is carried generally in accordance with reasonable business practice by companies in similar businesses similarly situated.

(16) VOTE TO ISSUE, OR CHANGE THE TERMS OF, NOTES; MFN. Any provision of this Note may be changed or amended with the prior written consent of the Holder and the Company, and any provision of this Note may be waived with the prior written consent of the Holder. In addition, the affirmative vote of the Required Holders at a meeting duly called for such purpose or the written consent without a meeting of the Required Holders shall be required for any change or amendment or waiver of any provision of all Notes (including this Note and all Other Notes). Any change or amendment by the Company and the Required Holders, and any waiver by the Required Holders, shall be binding all holders of Notes (including the Holder of this Note and all Other Notes). The Company hereby covenants and agrees that if, and whenever on or after the date hereof, the Company amends or modifies any term of any of the Notes held by any Person (each document amending such terms, an "**Amendment Document**"), then (i) the Company shall provide notice thereof to the Holder immediately following the occurrence thereof and (ii) the terms and conditions of this Note shall be, without any further action by the Holder or the Company, automatically amended and modified in an economically and legally equivalent manner such that the Holder shall receive the benefit of such amended or modified terms and/or conditions (as the case may be) set forth in such Amendment Document, provided that upon written notice to the Company at any time the Holder may elect not to accept the benefit of any such amended or modified term or condition, in which event the term or condition contained in this Note shall apply to the Holder as it was in effect immediately prior to such amendment or modification as if such amendment or modification never occurred with respect to the Holder. The provisions of the foregoing sentence shall apply similarly and equally to each Amendment Document

(17) TRANSFER. This Note and any shares of Common Stock issued upon conversion of this Note may be offered, sold, assigned or transferred by the Holder without the consent of the Company, subject only to the provisions of Section 2(f) of the Securities Purchase Agreement.

(18) REISSUANCE OF THIS NOTE.

(a) Transfer. If this Note is to be transferred, the Holder shall surrender this Note to the Company, whereupon the Company will forthwith issue and deliver upon the order of the Holder a new Note (in accordance with Section 18(d) and subject to Section 3(c)(iii)), registered as the Holder may request, representing the outstanding Principal being transferred by the Holder and, if less than the entire outstanding Principal is being transferred, a new Note (in accordance with Section 18(d)) to the Holder representing the outstanding Principal not being transferred. The Holder and any assignee, by acceptance of this Note, acknowledge and agree that, by reason of the provisions of Section 3(c)(iii) following conversion or redemption of any portion of this Note, the outstanding Principal represented by this Note may be less than the Principal stated on the face of this Note.

(b) Lost, Stolen or Mutilated Note. Upon receipt by the Company of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Note, and, in the case of loss, theft or destruction, of any indemnification undertaking by the Holder to the Company in customary form and, in the case of mutilation, upon surrender and cancellation of this Note, the Company shall execute and deliver to the Holder a new Note (in accordance with Section 18(d)) representing the outstanding Principal.

(c) Note Exchangeable for Different Denominations. This Note is exchangeable, upon the surrender hereof by the Holder at the principal office of the Company, for a new Note or Notes (in accordance with Section 18(d) representing in the aggregate the outstanding Principal of this Note, and each such new Note will represent such portion of such outstanding Principal as is designated by the Holder at the time of such surrender.

(d) Issuance of New Notes. Whenever the Company is required to issue a new Note pursuant to the terms of this Note, such new Note (i) shall be of like tenor with this Note, (ii) shall represent, as indicated on the face of such new Note, the Principal remaining outstanding (or in the case of a new Note being issued pursuant to Section 18(a) or Section 18(c), the Principal designated by the Holder which, when added to the principal represented by the other new Notes issued in connection with such issuance, does not exceed the Principal remaining outstanding under this Note immediately prior to such issuance of new Notes), (iii) shall have an issuance date, as indicated on the face of such new Note, which is the same as the Issuance Date of this Note, (iv) shall have the same rights and conditions as this Note, and (v) shall represent accrued and unpaid Interest and Late Charges, if any, on the Principal and Interest of this Note, from the Issuance Date.

(19) REMEDIES, CHARACTERIZATIONS, OTHER OBLIGATIONS, BREACHES AND INJUNCTIVE RELIEF. The remedies provided in this Note shall be cumulative and in addition to all other remedies available under this Note and any of the other Transaction Documents at law or in equity (including a decree of specific performance and/or other injunctive relief), and nothing herein shall limit the Holder's right to pursue actual and consequential damages for any failure by the Company to comply with the terms of this Note. Amounts set forth or provided for herein with respect to payments, conversion, redemption and the like (and the computation thereof) shall be the amounts to be received by the Holder and shall not, except as expressly provided herein, be subject to any other obligation of the Company (or the performance thereof). The Company acknowledges that a breach by it of its obligations hereunder will cause irreparable harm to the Holder and that the remedy at law for any such breach may be inadequate. The Company therefore agrees that, in the event of any such breach or threatened breach, the Holder shall be entitled, in addition to all other available remedies, to an injunction restraining any breach, without the necessity of showing economic loss and without any bond or other security being required.

(20) PAYMENT OF COLLECTION, ENFORCEMENT AND OTHER COSTS. If (a) this Note is placed in the hands of an attorney for collection or enforcement or is collected or enforced through any legal proceeding or the Holder otherwise takes action to collect amounts due under this Note or to enforce the provisions of this Note or (b) there occurs any bankruptcy, reorganization, receivership of the Company or other proceedings affecting Company creditors' rights and involving a claim under this Note, then the Company shall pay the costs incurred by the Holder for such collection, enforcement or action or in connection with such bankruptcy, reorganization, receivership or other proceeding, including, but not limited to, attorneys' fees and disbursements.

(21) CONSTRUCTION; HEADINGS. This Note shall be deemed to be jointly drafted by the Company and all the purchasers of the Notes pursuant to the Securities Purchase Agreement (the "**Purchasers**") and shall not be construed against any person as the drafter hereof. The headings of this Note are for convenience of reference and shall not form part of, or affect the interpretation of, this Note.

(22) FAILURE OR INDULGENCE NOT WAIVER. No failure or delay on the part of the Holder in the exercise of any power, right or privilege hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any such power, right or privilege preclude other or further exercise thereof or of any other right, power or privilege.

(23) DISPUTE RESOLUTION. In the case of a dispute as to the determination of the Closing Bid Price or the Closing Sale Price or the arithmetic calculation of the Conversion Rate, the Conversion Price or any Redemption Price, the Company shall submit the disputed determinations or arithmetic calculations via facsimile or electronic mail within one (1) Business Day of receipt, or deemed receipt, of the Conversion Notice or Redemption Notice or other event giving rise to such dispute, as the case may be, to the Holder. If the Holder and the Company are unable to agree upon such determination or calculation within one (1) Business Day of such disputed determination or arithmetic calculation being submitted to the Holder, then the Company shall, within one (1) Business Day submit via facsimile or electronic mail (a) the disputed determination of the Closing Bid Price or the Closing Sale Price to an independent, reputable investment bank selected by the Holder and approved by the Company, such approval not to be unreasonably withheld, conditioned or delayed, or (b) the disputed arithmetic calculation of the Conversion Rate, Conversion Price or any Redemption Price to an independent, outside accountant, selected by the Holder and approved by the Company, such approval not to be unreasonably withheld, conditioned or delayed. The Company, at the Company's expense, shall cause the investment bank or the accountant, as the case may be, to perform the determinations or calculations and notify the Company and the Holder of the results no later than five (5) Business Days from the time it receives the disputed determinations or calculations. Such investment bank's or accountant's determination or calculation, as the case may be, shall be binding upon all parties absent demonstrable error.

(24) NOTICES; PAYMENTS.

(a) Notices. Whenever notice is required to be given under this Note, unless otherwise provided herein, such notice shall be given in accordance with Section 9(f) of the Securities Purchase Agreement. The Company shall provide the Holder with prompt written notice of all actions taken pursuant to this Note, including in reasonable detail a description of such action and the reason therefore. Without limiting the generality of the foregoing, the Company shall give written notice to the Holder (i) immediately upon any adjustment of the Conversion Price, setting forth in reasonable detail, and certifying, the calculation of such adjustment and (ii) at least five (5) days prior to the date on which the Company closes its books or takes a record (A) with respect to any dividend or distribution upon the Common Stock, (B) with respect to any pro rata subscription offer to holders of Common Stock or (C) for determining rights to vote with respect to any Fundamental Transaction, dissolution or liquidation, provided in each case that such information shall be made known to the public prior to or in conjunction with such notice being provided to the Holder.

(b) Payments. Whenever any payment of cash is to be made by the Company to any Person pursuant to this Note, such payment shall be made in lawful money of the United States of America by a check drawn on the account of the Company and sent via overnight courier service to such Person at such address as previously provided to the Company in writing (which address, in the case of each of the Purchasers, shall initially be as set forth on the Schedule of Buyers attached to the Securities Purchase Agreement); provided, that the Holder may elect to receive a payment of cash via wire transfer of immediately available funds by providing the Company with prior written notice setting out such request and the Holder's wire transfer instructions. Whenever any amount expressed to be due by the terms of this Note is due on any day which is not a Business Day, the same shall instead be due on the next succeeding day which is a Business Day. Any amount of Principal or other amounts due under the Transaction Documents which is not paid when due shall result in a late charge being incurred and payable by the Company in an amount equal to interest on such amount at the rate of five percent (5.0%) per annum from the date such amount was due until the same is paid in full ("**Late Charge**").

(25) CANCELLATION. After all Principal, accrued Interest and other amounts at any time owed on this Note have been paid in full, this Note shall automatically be deemed canceled, shall be surrendered to the Company for cancellation and shall not be reissued.

(26) WAIVER OF NOTICE. To the extent permitted by law, the Company hereby waives demand, notice, protest and all other demands and notices in connection with the delivery, acceptance, performance, default or enforcement of this Note and the Securities Purchase Agreement.

(27) GOVERNING LAW; JURISDICTION; JURY TRIAL. This Note shall be construed and enforced in accordance with, and all questions concerning the construction, validity, interpretation and performance of this Note shall be governed by, the internal laws of the State of New York, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of New York or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of New York. The Company hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in The City of New York, Borough of Manhattan, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. The Company hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof to such party at the address set forth in Section 9(f) of the Securities Purchase Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. Nothing contained herein shall be deemed or operate to preclude the Holder from bringing suit or taking other legal action against the Company in any other jurisdiction to collect on the Company's obligations to the Holder, to realize on any collateral or any other security for such obligations, or to enforce a judgment or other court ruling in favor of the Holder. **THE COMPANY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION WITH OR ARISING OUT OF THIS NOTE OR ANY TRANSACTION CONTEMPLATED HEREBY.**

(28) SEVERABILITY. If any provision of this Note is prohibited by law or otherwise determined to be invalid or unenforceable by a court of competent jurisdiction, the provision that would otherwise be prohibited, invalid or unenforceable shall be deemed amended to apply to the broadest extent that it would be valid and enforceable, and the invalidity or unenforceability of such provision shall not affect the validity of the remaining provisions of this Note so long as this Note as so modified continues to express, without material change, the original intentions of the parties as to the subject matter hereof and the prohibited nature, invalidity or unenforceability of the provision(s) in question does not substantially impair the respective expectations or reciprocal obligations of the parties or the practical realization of the benefits that would otherwise be conferred upon the parties. The parties will endeavor in good faith negotiations to replace the prohibited, invalid or unenforceable provision(s) with a valid provision(s), the effect of which comes as close as possible to that of the prohibited, invalid or unenforceable provision(s).

(29) DISCLOSURE. Upon receipt or delivery by the Company of any notice in accordance with the terms of this Note, unless the Company has in good faith determined that the matters relating to such notice do not constitute material, nonpublic information relating to the Company or its Subsidiaries, the Company shall within one (1) Business Day after any such receipt or delivery publicly disclose such material, nonpublic information on a Current Report on Form 8-K or otherwise. In the event that the Company believes that a notice contains material, nonpublic information relating to the Company or its Subsidiaries, the Company so shall indicate to the Holder contemporaneously with delivery of such notice, and in the absence of any such indication, the Holder shall be allowed to presume that all matters relating to such notice do not constitute material, nonpublic information relating to the Company or its Subsidiaries.

(30) USURY. This Note is subject to the express condition that at no time shall the Company be obligated or required to pay interest hereunder at a rate or in an amount which could subject the Holder to either civil or criminal liability as a result of being in excess of the maximum interest rate or amount which the Company is permitted by applicable law to contract or agree to pay. If by the terms of this Note, the Company is at any time required or obligated to pay interest hereunder at a rate or in an amount in excess of such maximum rate or amount, the rate or amount of interest under this Note shall be deemed to be immediately reduced to such maximum rate or amount and the interest payable shall be computed at such maximum rate or be in such maximum amount and all prior interest payments in excess of such maximum rate or amount shall be applied and shall be deemed to have been payments in reduction of the principal balance of this Note.

(31) CERTAIN DEFINITIONS. For purposes of this Note, the following terms shall have the following meanings:

(a) "**Affiliate**" means, with respect to any Person, any other Person that directly or indirectly controls, is controlled by, or is under common control with, such Person, it being understood for purposes of this definition that "control" of a Person means the power directly or indirectly either to vote 10% or more of the stock having ordinary voting power for the election of directors of such Person or direct or cause the direction of the management and policies of such Person whether by contract or otherwise.



(b) "**Approved Stock Plan**" means any employee benefit plan which has been approved by the Board of Directors of the Company, pursuant to which the Company's securities may be issued to any employee, officer or director for services provided to the Company.

(c) "**Attribution Parties**" means, collectively, the following Persons and entities: (i) any investment vehicle, including, any funds, feeder funds or managed accounts, currently, or from time to time after the Issuance Date, directly or indirectly managed or advised by the Holder's investment manager or any of its Affiliates or principals, (ii) any direct or indirect Affiliates of the Holder or any of the foregoing, (iii) any Person acting or who could be deemed to be acting as a Group together with the Holder or any of the foregoing and (iv) any other Persons whose beneficial ownership of the Company's Common Stock would or could be aggregated with the Holder's and the other Attribution Parties for purposes of Section 13(d) of the Exchange Act. For clarity, the purpose of the foregoing is to subject collectively the Holder and all other Attribution Parties to the Maximum Percentage.

(d) "**Bloomberg**" means Bloomberg Financial Markets.

(e) "**Business Day**" means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed.

(f) "**Change of Control**" means any Fundamental Transaction other than (i) any reorganization, recapitalization or reclassification of the Common Stock in which holders of the Company's voting power immediately prior to such reorganization, recapitalization or reclassification continue after such reorganization, recapitalization or reclassification to hold publicly traded securities and, directly or indirectly, are, in all material respect, the holders of the voting power of the surviving entity (or entities with the authority or voting power to elect the members of the board of directors (or their equivalent if other than a corporation) of such entity or entities) after such reorganization, recapitalization or reclassification or (ii) pursuant to a migratory merger effected solely for the purpose of changing the jurisdiction of incorporation of the Company.

(g) "**Closing Bid Price**" and "**Closing Sale Price**" means, for any security as of any date, the last closing bid price and last closing trade price, respectively, for such security on the Principal Market, as reported by Bloomberg, or, if the Principal Market begins to operate on an extended hours basis and does not designate the closing bid price or the closing trade price, as the case may be, then the last bid price or last trade price, respectively, of such security prior to 4:00:00 p.m., New York Time, as reported by Bloomberg, or, if the Principal Market is not the principal securities exchange or trading market for such security, the last closing bid price or last trade price, respectively, of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg, or if the foregoing do not apply, the last closing bid price or last trade price, respectively, of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no closing bid price or last trade price, respectively, is reported for such security by Bloomberg, the average of the bid prices, or the ask prices, respectively, of any market makers for such security as reported in the OTC Link or "pink sheets" by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Closing Bid Price or the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Bid Price or the Closing Sale Price, as the case may be, of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 23. All such determinations to be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or similar transaction during the applicable calculation period.

(h) "**Closing Date**" shall have the meaning set forth in the Securities Purchase Agreement, which date is the date the Company initially issued Notes pursuant to the terms of the Securities Purchase Agreement.

(i) "**Common Stock**" means (i) the Company's shares of Common Stock, par value \$0.001 per share, and (ii) any share capital into which such Common Stock shall have been changed or any share capital resulting from a reclassification of such Common Stock.

(j) "**Common Stock Equivalents**" means, collectively, Options and Convertible Securities.

(k) "**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.

(l) "**Convertible Securities**" means any stock or securities (other than Options) directly or indirectly convertible into or exercisable or exchangeable for shares of Common Stock.

(m) "**Default Rate**" means 10.0% per annum.

(n) "**Eligible Market**" means the Principal Market, The New York Stock Exchange, the NYSE American, the Nasdaq Global Market, the Nasdaq Global Select Market, the Nasdaq Capital Market or the OTC QX.

(o) "**Equity Conditions**" means each of the following conditions: (i) on each day during the applicable Equity Conditions Measuring Period, either (x) all Registration Statements filed and required to be filed pursuant to the Registration Rights Agreement shall be effective and available for the resale of all remaining Registrable Securities including the shares of Common Stock issuable upon conversion of the Conversion Amount that is subject to the applicable Company Optional Redemption or Company Mandatory Redemption, as applicable, requiring the satisfaction of the Equity Conditions, in accordance with the terms of the Registration Rights Agreement and there shall not have been any Grace Periods (as defined in the Registration Rights Agreement) or (y) all Conversion Shares issuable pursuant to the terms of this Note and the Other Notes and exercise of the Warrants, including the shares of Common Stock issuable upon conversion of the Conversion Amount that is subject to the applicable Company Optional Redemption or Company Mandatory Redemption, as applicable, requiring the satisfaction of the Equity Conditions, shall be eligible for sale without restriction or limitation pursuant to Rule 144 (assuming that all Warrant Shares were issued pursuant to a Cashless Exercise (as defined in the Warrants) and without the need for registration under any applicable federal or state securities laws; (ii) on each day during the Equity Conditions Measuring Period, the Common Stock is designated for quotation on the Principal Market or any other Eligible Market and shall not have been suspended from trading on such exchange or market (other than suspensions of not more than two (2) days and occurring prior to the applicable date of determination due to business announcements by the Company) nor shall delisting or suspension by such exchange or market been threatened, commenced or pending either (A) in writing by such exchange or market or (B) by falling below the then effective minimum listing maintenance requirements of such exchange or market; (iii) during the Equity Conditions Measuring Period, the Company shall have delivered Conversion Shares pursuant to the terms of this Note and the Other Notes and Warrant Shares upon exercise of the Warrants to the holders on a timely basis as set forth in Section 3(c) hereof (and analogous provisions under the Other Notes) and Section 1(a) of the Warrants; (iv) the shares of Common Stock issuable upon conversion of the Conversion Amount that is subject to the applicable Company Optional Redemption or Company Mandatory Redemption, as applicable, requiring the satisfaction of the Equity Conditions may be issued in full without violating Section 3(d) hereof and the rules or regulations of the Principal Market or any other applicable Eligible Market; (v) during the Equity Conditions Measuring Period, the Company shall not have failed to timely make any payments pursuant to any Transaction Document; (vi) during the Equity Conditions Measuring Period, there shall not have occurred either (A) the public announcement of a pending, proposed or intended Fundamental Transaction which has not been abandoned, terminated or consummated, (B) an Event of Default or (C) an event that with the passage of time or giving of notice would constitute an Event of Default; (vii) the Company shall have no knowledge of any fact that would cause (x) the Registration Statements required pursuant to the Registration Rights Agreement not to be effective and available for the resale of all remaining Registrable Securities, including the shares of Common Stock issuable upon conversion of the Conversion Amount that is subject to the applicable Company Optional or Company Mandatory Redemption, as applicable, Redemption requiring the satisfaction of the Equity Conditions, in accordance with the terms of the Registration Rights Agreement or (y) any shares of Common Stock issuable pursuant to the terms of this Note and the Other Notes and shares of Common Stock issuable upon exercise of the Warrants, including the shares of Common Stock issuable upon conversion of the Conversion Amount that is subject to the applicable Company Optional Redemption or Company Mandatory Redemption, as applicable, requiring the satisfaction of the Equity Conditions, not to be eligible for sale without restriction or limitation pursuant to Rule 144 and without the requirement to be in compliance with Rule 144(c)(1) (or any successor thereto) promulgated under the Securities Act and any applicable state securities laws; (viii) during the Equity Conditions Measuring Period, the Company otherwise shall have been in compliance with and shall not have breached any provision, covenant, representation or warranty of any Transaction Document; (ix) the Holder shall not be in possession of any material, nonpublic information received from the Company, any Subsidiary or its respective agent or affiliates; and (x) the shares of Common Stock issuable upon conversion of the Conversion Amount that is subject to the applicable Company Optional Redemption or Company Mandatory Redemption, as applicable, requiring the satisfaction of the Equity Conditions are duly authorized and listed and eligible for trading without restriction on an Eligible Market.

(p) "**Equity Conditions Failure**" means that on any applicable date of determination, the Equity Conditions have not each been satisfied (or waived in writing by the Holder).

(q) "**Equity Conditions Measuring Period**" means each day during the period beginning thirty (30) Trading Days prior to the applicable date of determination and ending on and including the applicable date of determination.

(r) "**Equity Interests**" means (a) all shares of capital stock (whether denominated as common capital stock or preferred capital stock), equity interests, beneficial, partnership or membership interests, joint venture interests, participations or other ownership or profit interests in or equivalents (regardless of how designated) of or in a Person (other than an individual), whether voting or non-voting and (b) all securities convertible into or exchangeable for any of the foregoing and all warrants, Options or other rights to purchase, subscribe for or otherwise acquire any of the foregoing, whether or not presently convertible, exchangeable or exercisable.

(s) "**Exchange Act**" means the Securities Exchange Act of 1934, as amended.

(t) "**Excluded Securities**" means any shares of Common Stock issued or issuable: (i) in connection with any Approved Stock Plan; (ii) pursuant to the terms of the Notes or upon the exercise of the Warrants; provided that the terms of such Notes or Warrants are not amended, modified or changed on or after the Subscription Date; and (iii) upon conversion or exercise of any Options or Convertible Securities which are outstanding on the day immediately preceding the Subscription Date, provided that the terms of such Options or Convertible Securities are not amended, modified or changed on or after the Subscription Date.

(u) "**Fundamental Transaction**" means (A) that the Company shall, directly or indirectly, including through Subsidiaries, Affiliates or otherwise, in one or more related transactions, (i) consolidate or merge with or into (whether or not the Company is the surviving corporation) another Subject Entity, or (ii) sell, assign, transfer, convey or otherwise dispose of all or substantially all of the properties or assets of the Company or any of its "significant subsidiaries" (as defined in Rule 1-02 of Regulation S-X) to one or more Subject Entities, or (iii) make, or allow one or more Subject Entities to make, or allow the Company to be subject to or have its Common Stock be subject to or party to one or more Subject Entities making, a purchase, tender or exchange offer that is accepted by the holders of at least either (x) 50% of the outstanding shares of Common Stock, (y) 50% of the outstanding shares of Common Stock calculated as if any shares of Common Stock held by all Subject Entities making or party to, or Affiliated with any Subject Entities making or party to, such purchase, tender or exchange offer were not outstanding; or (z) such number of shares of Common Stock such that all Subject Entities making or party to, or Affiliated with any Subject Entity making or party to, such purchase, tender or exchange offer, become collectively the beneficial owners (as defined in Rule 13d-3 under the Exchange Act) of at least 50% of the outstanding shares of Common Stock, or (iv) consummate a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with one or more Subject Entities whereby such Subject Entities, individually or in the aggregate, acquire, either (x) at least 50% of the outstanding shares of Common Stock, (y) at least 50% of the outstanding shares of Common Stock calculated as if any shares of Common Stock held by all the Subject Entities making or party to, or Affiliated with any Subject Entity making or party to, such stock purchase agreement or other business combination were not outstanding; or (z) such number of shares of Common Stock such that the Subject Entities become collectively the beneficial owners (as defined in Rule 13d-3 under the Exchange Act) of at least 50% of the outstanding shares of Common Stock, or (v) reorganize, recapitalize or reclassify its Common Stock, (B) that the Company shall, directly or indirectly, including through Subsidiaries, Affiliates or otherwise, in one or more related transactions allow any Subject Entity individually or the Subject Entities in the aggregate to be or become the "beneficial owner" (as defined in Rule 13d-3 under the Exchange Act), directly or indirectly, whether through acquisition, purchase, assignment, conveyance, tender, tender offer, exchange, reduction in outstanding shares of Common Stock, merger, consolidation, business combination, reorganization, recapitalization, spin-off, scheme of arrangement, reorganization, recapitalization or reclassification or otherwise in any manner whatsoever, of either (x) at least 50% of the aggregate ordinary voting power represented by issued and outstanding Common Stock, (y) at least 50% of the aggregate ordinary voting power represented by issued and outstanding Common Stock not held by all such Subject Entities as of the Subscription Date calculated as if any shares of Common Stock held by all such Subject Entities were not outstanding, or (z) a percentage of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock or other equity securities of the Company sufficient to allow such Subject Entities to effect a statutory short form merger or other transaction requiring other stockholders of the Company to surrender their shares of Common Stock without approval of the stockholders of the Company or (C) directly or indirectly, including through Subsidiaries, Affiliates or otherwise, in one or more related transactions, the issuance of or the entering into any other instrument or transaction structured in a manner to circumvent, or that circumvents, the intent of this definition in which case this definition shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this definition to the extent necessary to correct this definition or any portion of this definition which may be defective or inconsistent with the intended treatment of such instrument or transaction.

(v) "**GAAP**" means United States generally accepted accounting principles, consistently applied.

(w) "**Group**" means a "group" as that term is used in Section 13(d) of the Exchange Act and as defined in Rule 13d-5 thereunder.

(x) "**Holiday**" means a day other than a Business Day or on which trading does not take place on the Principal Market.

(y) "**Indebtedness**" of any Person means, without duplication (i) all indebtedness for borrowed money, (ii) all obligations issued, undertaken or assumed as the deferred purchase price of property or services, including (without limitation) "capital leases" in accordance with GAAP (other than trade payables entered into in the ordinary course of business consistent with past practice), (iii) all reimbursement or payment obligations with respect to letters of credit, surety bonds and other similar instruments, (iv) 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, (v) 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), (vi) all monetary obligations under any leasing or similar arrangement which, in connection with GAAP, consistently applied for the periods covered thereby, is classified as a capital lease, (vii) all indebtedness referred to in clauses (i) through (vi) above secured by (or for which the holder of such Indebtedness has an existing right, contingent or otherwise, to be secured by) any mortgage, deed of trust, lien, pledge, charge, security interest or other encumbrance of any nature whatsoever in or upon any property or assets (including accounts and contract rights) with respect to any asset or property 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 (viii) all Contingent Obligations in respect of indebtedness or obligations of others of the kinds referred to in clauses (i) through (vii) above.

(z) "**Option Value**" means the value of an Option based on the Black and Scholes Option Pricing model obtained from the "OV" function on Bloomberg determined as of (A) the Trading Day prior to the public announcement of the applicable Option if the issuance of such Option is publicly announced or (B) the Trading Day immediately following the issuance of the applicable Option if the issuance of such Option is not publicly announced, for pricing purposes and reflecting (i) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the remaining term of the applicable Option as of the applicable date of determination, (ii) an expected volatility equal to the greater of 100% and the 100 day volatility obtained from the HVT function on Bloomberg as of the day immediately following the public announcement of (A) the Trading Day immediately following the public announcement of the applicable Option if the issuance of such Option is publicly announced or (B) the Trading Day immediately following the issuance of the applicable Option if the issuance of such Option is not publicly announced, (iii) (iii) the underlying price per share used in such calculation shall be the highest Weighted Average Price of the Common Stock during the period beginning on the Trading Day prior to the execution of definitive documentation relating to the issuance of the applicable Option and ending on (A) the Trading Day immediately following the public announcement of such issuance, if the issuance of such Option is publicly announced or (B) the Trading Day immediately following the issuance of the applicable Option if the issuance of such Option is not publicly announced, (iv) a zero cost of borrow and (v) a 360 day annualization factor.

(aa) "**Options**" means any rights, warrants or options to subscribe for or purchase shares of Common Stock or Convertible Securities.

(bb) "**Parent Entity**" of a Person means an entity that, directly or indirectly, controls the applicable Person, including such entity whose common capital stock or equivalent equity security is quoted or listed on an Eligible Market (or, if so elected by the Required Holders, any other market, exchange or quotation system), or, if there is more than one such Person or such entity, the Person or entity designated by the Required Holders or in the absence of such designation, such Person or such entity with the largest public market capitalization as of the date of consummation of the Fundamental Transaction.

(cc) "**Permitted Indebtedness**" means (i) Indebtedness evidenced by this Note and the Other Notes, (ii) trade payables incurred in the ordinary course of business consistent with past practice, and (iii) Indebtedness secured by Permitted Liens described in clauses (iv) and (v) of the definition of Permitted Liens.

(dd) "**Permitted Liens**" means (i) any Lien for taxes not yet due or delinquent or being contested in good faith by appropriate proceedings for which adequate reserves have been established in accordance with GAAP, (ii) any statutory Lien arising in the ordinary course of business by operation of law with respect to a liability that is not yet due or delinquent, (iii) any Lien created by operation of law, such as materialmen's liens, mechanics' liens and other similar liens, arising in the ordinary course of business with respect to a liability that is not yet due or delinquent or that are being contested in good faith by appropriate proceedings, (iv) Liens (A) upon or in any equipment acquired or held by the Company or any of its Subsidiaries to secure the purchase price of such equipment or Indebtedness incurred solely for the purpose of financing the acquisition or lease of such equipment, or (B) existing on such equipment at the time of its acquisition, provided that the Lien is confined solely to the property so acquired and improvements thereon, and the proceeds of such equipment, (v) Liens incurred in connection with the extension, renewal or refinancing of the Indebtedness secured by Liens of the type described in clause (iv) above, provided that any extension, renewal or replacement Lien shall be limited to the property encumbered by the existing Lien and the principal amount of the Indebtedness being extended, renewed or refinanced does not increase, (vi) leases or subleases and licenses and sublicenses granted to others in the ordinary course of the Company's business, not interfering in any material respect with the business of the Company and its Subsidiaries taken as a whole, (vii) Liens in favor of customs and revenue authorities arising as a matter of law to secure payments of custom duties in connection with the importation of goods, and (viii) Liens arising from judgments, decrees or attachments in circumstances not constituting an Event of Default under Section 4(a)(ix).

(ee) "**Person**" means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization, any other entity and a government or any department or agency thereof.

(ff) "**Principal Market**" means the OTC QB.

(gg) "**Redemption Dates**" means, collectively, the Event of Default Redemption Dates, the Change of Control Redemption Dates, the Company Optional Redemption Dates and the Company Mandatory Redemption Dates, as applicable,, each of the foregoing, individually, a Redemption Date.

(hh) "**Redemption Notices**" means, collectively, the Event of Default Redemption Notices, the Change of Control Redemption Notices, the Company Optional Redemption Notices and Company Mandatory Redemption Notices, as applicable, each of the foregoing, individually, a Redemption Notice.

(ii) "**Redemption Prices**" means, collectively, the Event of Default Redemption Prices, the Change of Control Redemption Prices, the Company Optional Redemption Prices and the Company Mandatory Redemption Prices, as applicable, each of the foregoing, individually, a Redemption Price.

(jj) "**Registrable Securities**" shall have the meaning ascribed to such term in the Registration Rights Agreement.

(kk) "**Registration Rights Agreement**" means that certain registration rights agreement dated as of the Subscription Date by and among the Company and the Purchasers relating to, among other things, the registration of the resale of the shares of Common Stock issuable upon conversion of this Note and the Other Notes and exercise of the Warrants.

(ll) "**Registration Statement**" shall have the meaning ascribed to such term in the Registration Rights Agreement.

(mm) "**Related Fund**" means, with respect to any Person, a fund or account managed by such Person or an Affiliate of such Person.

(nn) "**Required Holders**" means the holders of Notes representing at least a majority of the aggregate principal amount of the Notes then outstanding and shall include (i) Empery Asset Management, LP so long as Empery Asset Management, LP or any of its Affiliates holds any Notes and (ii) Ayrton Capital LLC so long as Ayrton Capital LLC or any of its Affiliates holds any Notes.

(oo) "**SEC**" means the United States Securities and Exchange Commission.

(pp) "**Securities Purchase Agreement**" means that certain securities purchase agreement dated as of the Subscription Date by and among the Company and the Purchasers of the Notes pursuant to which the Company issued the Notes and Warrants.

(i) "**Standard Settlement Period**" means the standard settlement period, expressed in a number of Trading Days, on the Company's primary trading market with respect to the Common Stock as in effect on the date of delivery of the applicable Conversion Notice.

(qq) "**Subject Entity**" means any Person, Persons or Group or any Affiliate or associate of any such Person, Persons or Group.

(rr) "**Subsequent Placement**" means any direct or indirect, offer, sale, grant any option to purchase, or other disposition of any of its or its Subsidiaries' equity or equity equivalent securities, including without limitation any debt, preferred stock or other instrument or security whether or not such security is, at any time during its life and under any circumstances, convertible into or exchangeable or exercisable for Common Stock or Common Stock Equivalents.



(ss) "**Subscription Date**" means January 22, 2018.

(tt) "**Subsidiary**" has the meaning ascribed to such term in the Securities Purchase Agreement.

(uu) "**Successor Entity**" means one or more Person or Persons (or, if so elected by the Required Holders, the Company or Parent Entity) formed by, resulting from or surviving any Fundamental Transaction or one or more Person or Persons (or, if so elected by the Required Holders, the Company or the Parent Entity) with which such Fundamental Transaction shall have been entered into.

(i) "**Trading Day**" means any day on which the Common Stock is traded on the Principal Market, or, if the Principal Market is not the principal trading market for the Common Stock on such day, then on the principal securities exchange or securities market on which the Common Stock is then traded.

(vv) "**Transaction Document**" has the meaning ascribed to such term in the Securities Purchase Agreement.

(ww) "**Warrant Shares**" means shares of Common Stock issuable by the Company upon the exercise of any of the Warrants.

(xx) "**Warrants**" has the meaning ascribed to such term in the Securities Purchase Agreement, and shall include all warrants issued in exchange therefor or replacement thereof.

(yy) "**Weighted Average Price**" means, for any security as of any date, the dollar volume-weighted average price for such security on the Principal Market during the period beginning at 9:30:01 a.m., New York time (or such other time as the Principal Market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as the Principal Market publicly announces is the official close of trading), as reported by Bloomberg through its "Volume at Price" function or, if the foregoing does not apply, the dollar volume-weighted average price of such security in the over-the-counter market on the electronic bulletin board for such security during the period beginning at 9:30:01 a.m., New York time (or such other time as such market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as such market publicly announces is the official close of trading), as reported by Bloomberg, or, if no dollar volume-weighted average price is reported for such security by Bloomberg for such hours, the average of the highest Closing Bid Price and the lowest closing ask price of any of the market makers for such security as reported in the OTC Link or "pink sheets" by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Weighted Average Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Weighted Average Price of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 23 with the term "Weighted Average Price" being substituted for the term "Exercise Price." All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

[Signature Page Follows]

IN WITNESS WHEREOF, the Company has caused this Note to be duly executed as of the Issuance Date set out above.

**GT Biopharma, Inc.**

By:

Name:

Title:

**EXHIBIT I**

GT BIOPHARAMA, INC.

**CONVERSION NOTICE**

Reference is made to the Senior Convertible Note (the "**Note**") issued to the undersigned by GT Biopharma, Inc., a Delaware corporation (the "**Company**"). In accordance with and pursuant to the Note, the undersigned hereby elects to convert the Conversion Amount (as defined in the Note) of the Note indicated below into shares of Common Stock par value \$0.001 per share (the "**Common Stock**") of the Company, as of the date specified below.

Date of Conversion: \_\_\_\_\_

Aggregate Conversion Amount to be converted or number of Conversion \_\_\_\_\_

Shares to be issued upon conversion: \_\_\_\_\_

Please confirm the following information:

Conversion Price: \_\_\_\_\_

If Aggregate Conversion Amount is provided above, number of shares  
of Common Stock to be issued: \_\_\_\_\_

Please issue the Common Stock into which the Note is being converted in the following name and to the following address:

Issue to: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Facsimile Number and Electronic Mail: \_\_\_\_\_

Authorization: \_\_\_\_\_

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

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

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

Account Number: \_\_\_\_\_

(if electronic book entry transfer)

Transaction Code Number: \_\_\_\_\_

(if electronic book entry transfer)

**ACKNOWLEDGMENT**

The Company hereby acknowledges this Conversion Notice and hereby directs ComputerShare Trust Company, N.A. to issue the above indicated number of shares of Common Stock in accordance with the Transfer Agent Instructions dated January \_\_, 2018 from the Company and acknowledged and agreed to by ComputerShare Trust Company, N.A.

**GT Biopharma, Inc.**

By:

Name:

Title:

## [FORM OF WARRANT]

NEITHER THE ISSUANCE AND SALE OF THE SECURITIES REPRESENTED BY THIS CERTIFICATE NOR THE SECURITIES INTO WHICH THESE SECURITIES ARE EXERCISABLE HAVE BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR APPLICABLE STATE SECURITIES LAWS. THE SECURITIES MAY NOT BE OFFERED FOR SALE, SOLD, TRANSFERRED OR ASSIGNED (I) IN THE ABSENCE OF (A) AN EFFECTIVE REGISTRATION STATEMENT FOR THE SECURITIES UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR (B) AN OPINION OF COUNSEL SELECTED BY THE HOLDER, IN A GENERALLY ACCEPTABLE FORM, THAT REGISTRATION IS NOT REQUIRED UNDER SAID ACT OR (II) UNLESS SOLD PURSUANT TO RULE 144 OR RULE 144A UNDER SAID ACT. NOTWITHSTANDING THE FOREGOING, THE SECURITIES MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT OR OTHER LOAN OR FINANCING ARRANGEMENT SECURED BY THE SECURITIES.

GT BIOPHARMA, INC.

**Warrant To Purchase Common Stock**

Warrant No.:

Number of Shares of Common Stock: \_\_\_\_\_

Date of Issuance: January [\_\_\_], 2018 ("**Issuance Date**")

GT Biopharma, Inc., a Delaware corporation (the "**Company**"), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, [BUYER], the registered holder hereof or its permitted assigns (the "**Holder**"), is entitled, subject to the terms set forth below, to purchase from the Company, at the Exercise Price (as defined below) then in effect, at any time or times on or after the Issuance Date, but not after 11:59 p.m., New York time, on the Expiration Date, (as defined below), \_\_\_\_\_ (\_\_\_\_\_) fully paid nonassessable shares of Common Stock, subject to adjustment as provided herein (the "**Warrant Shares**"). Except as otherwise defined herein, capitalized terms in this Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, this "**Warrant**"), shall have the meanings set forth in Section 17. This Warrant is one of the Warrants to purchase Common Stock (the "**SPA Warrants**") issued pursuant to Section 1 of that certain Securities Purchase Agreement, dated as of January 22, 2018 (the "**Subscription Date**"), by and among the Company and the investors (the "**Buyers**") referred to therein (the "**Securities Purchase Agreement**"). Capitalized terms used herein and not otherwise defined shall have the definitions ascribed to such terms in the Securities Purchase Agreement.

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<sup>1</sup> Insert 100% of the number of shares of Common Stock issuable to the Holder on the Closing Date upon conversion of the Notes (as defined in the Securities Purchase Agreement) (without regard to any limitation on conversion set forth therein) purchased by the Holder pursuant to the Securities Purchase Agreement.

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## 1. EXERCISE OF WARRANT.

(a) Mechanics of Exercise. Subject to the terms and conditions hereof (including, without limitation, the limitations set forth in Section 1(f)), this Warrant may be exercised by the Holder at any time or times on or after the Issuance Date, in whole or in part, by (i) delivery of a written notice, in the form attached hereto as Exhibit A (the "**Exercise Notice**"), of the Holder's election to exercise this Warrant and (ii) (A) payment to the Company of an amount equal to the applicable Exercise Price multiplied by the number of Warrant Shares as to which this Warrant is being exercised (the "**Aggregate Exercise Price**") in cash by wire transfer of immediately available funds or (B) if the provisions of Section 1(d) are applicable, by notifying the Company that this Warrant is being exercised pursuant to a Cashless Exercise (as defined in Section 1(d)). No ink-original Exercise Notice shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Exercise Notice be required. The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder. Execution and delivery of the Exercise Notice with respect to less than all of the Warrant Shares 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. On or before the first (1<sup>st</sup>) Trading Day following the date on which the Holder has delivered an Exercise Notice, the Company shall transmit by facsimile an acknowledgment of confirmation of receipt of the Exercise Notice to the Holder and the Company's transfer agent (the "**Transfer Agent**"). On or before the earlier of (i) second (2<sup>nd</sup>) Trading Day and (ii) the number of Trading Days comprising the Standard Settlement Period, in each case, following the date on which the Holder has delivered the Exercise Notice, so long as the Holder delivers the Aggregate Exercise Price (or notice of a Cashless Exercise) on or prior to the first (1<sup>st</sup>) Trading Day following the date on which the Holder has delivered the Exercise Notice (a "**Share Delivery Date**") (provided that if the Aggregate Exercise Price has not been delivered by such date, the applicable Share Delivery Date shall be one (1) Trading Day after the Aggregate Exercise Price (or notice of a Cashless Exercise) is delivered), the Company shall (X) provided that the Transfer Agent is participating in The Depository Trust Company ("**DTC**") Fast Automated Securities Transfer Program, credit such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder's or its designee's balance account with DTC through its Deposit / Withdrawal At Custodian system, or (Y) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate, registered in the Company's share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise. The Company shall be responsible for all fees and expenses of the Transfer Agent and all fees and expenses with respect to the issuance of Warrant Shares via DTC, if any, including without limitation for same day processing. Upon delivery of the Exercise Notice, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date such Warrant Shares are credited to the Holder's DTC account or the date of delivery of the certificates evidencing such Warrant Shares, as the case may be. If this Warrant is submitted in connection with any exercise pursuant to this Section 1(a) and the number of Warrant Shares represented by this Warrant submitted for exercise is greater than the number of Warrant Shares being acquired upon an exercise, then the Company shall as soon as practicable and in no event later than five (5) Trading Days after any exercise and at its own expense, issue a new Warrant (in accordance with Section 7(d)) representing the right to purchase the number of Warrant Shares issuable immediately prior to such exercise under this Warrant, less the number of Warrant Shares with respect to which this Warrant is exercised. No fractional Warrant Shares are to be issued upon the exercise of this Warrant, but rather the number of Warrant Shares to be issued shall be rounded up to the nearest whole number. The Company shall pay any and all taxes which may be payable with respect to the issuance and delivery of Warrant Shares upon exercise of this Warrant. The Company's obligations to issue and deliver Warrant Shares in accordance with the terms and subject to the conditions 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.

(b) Exercise Price. For purposes of this Warrant, "**Exercise Price**" means \$4.58, subject to adjustment as provided herein.

(c) Company's Failure to Timely Deliver Securities. If the Company shall fail for any reason or for no reason to issue to the Holder on or prior to the applicable Share Delivery Date either (I) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, a certificate for the number of shares of Common Stock to which the Holder is entitled and register such shares of Common Stock on the Company's share register or if the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program, to credit the Holder's balance account with DTC, for such number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise of this Warrant or (II) if the Registration Statement (as defined in the Registration Rights Agreement) covering the resale of the Warrant Shares that are the subject of the Exercise Notice (the "**Unavailable Warrant Shares**") is not available for the resale of such Unavailable Warrant Shares and the Company fails to promptly, but in no event later than as is required pursuant to the Registration Rights Agreement (x) so notify the Holder and (y) deliver the Warrant Shares electronically without any restrictive legend by crediting such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder's or its designee's balance account with DTC through its Deposit / Withdrawal At Custodian system (the event described in the immediately foregoing clause (II) is hereinafter referred to as a "**Notice Failure**" and together with the event described in clause (I) above, an "**Exercise Failure**"), then, in addition to all other remedies available to the Holder, (X) the Company shall pay in cash to the Holder on each day after the applicable Share Delivery Date and during such Exercise Failure an amount equal to 1.5% of the product of (A) the sum of the number of shares of Common Stock not issued to the Holder on or prior to the Share Delivery Date and to which the Holder is entitled, and (B) any trading price of the Common Stock selected by the Holder in writing as in effect at any time during the period beginning on the applicable Exercise Date and ending on the applicable Share Delivery Date, and (Y) the Holder, upon written notice to the Company, may void its Exercise Notice with respect to, and retain or have returned, as the case may be, any portion of this Warrant that has not been exercised pursuant to such Exercise Notice; provided that the voiding of an Exercise Notice shall not affect the Company's obligations to make any payments which have accrued prior to the date of such notice pursuant to this Section 1(c) or otherwise. In addition to the foregoing, if on or prior to the applicable Share Delivery Date either (I) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, the Company shall fail to issue and deliver a certificate to the Holder and register such shares of Common Stock on the Company's share register or, if the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program, credit the Holder's balance account with DTC for the number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise hereunder or pursuant to the Company's obligation pursuant to clause (ii) below or (II) a Notice Failure occurs, and if on or after such Trading Day the Holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the Holder of shares of Common Stock issuable upon such exercise that the Holder anticipated receiving from the Company (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 and other out-of-pocket expenses, if any) for the shares of Common Stock so purchased (the "**Buy-In Price**"), at which point the Company's obligation to deliver such certificate (and to issue such shares of Common Stock) or credit such Holder's balance account with DTC for such shares of Common Stock shall terminate, or (ii) promptly honor its obligation to deliver to the Holder a certificate or certificates representing such shares of Common Stock or credit such Holder's balance account with DTC, as applicable, 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 shares of Common Stock, times (B) any trading price of the Common Stock selected by the Holder in writing as in effect at any time during the period beginning on the applicable Exercise Date and ending on the applicable Share Delivery Date. Nothing shall limit the Holder's right to pursue any other remedies available to it hereunder, at law or in equity, including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver certificates representing shares of Common Stock (or to electronically deliver such shares of Common Stock) upon the exercise of this Warrant as required pursuant to the terms hereof.

(d) Cashless Exercise. Notwithstanding anything contained herein to the contrary, if the Registration Statement covering the resale of the Unavailable Warrant Shares is not available for the resale of such Unavailable Warrant Shares, the Holder may, in its sole discretion, exercise this Warrant in whole or in part and, in lieu of making the cash payment otherwise contemplated to be made to the Company upon such exercise in payment of the Aggregate Exercise Price, elect instead to receive upon such exercise the "Net Number" of shares of Common Stock determined according to the following formula (a "**Cashless Exercise**"):

$$\text{Net Number} = \frac{(A \times B) - (A \times C)}{B}$$

For purposes of the foregoing formula:

A= the total number of shares with respect to which this Warrant is then being exercised.

B= as applicable: (i) the Weighted Average Price of the Common Stock on the Trading Day immediately preceding the date of the applicable Exercise Notice if such Exercise Notice is (1) both executed and delivered pursuant to Section 1(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 1(a) hereof on a Trading Day prior to the opening of "regular trading hours" (as defined in Rule 600(b)(64) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder, either (x) the Weighted Average Price of the Common Stock on the Trading Day immediately preceding the date of the applicable Exercise Notice, or (y) the Bid Price of the Common Stock on the principal trading market as reported by Bloomberg as of the time of the Holder's execution of the applicable Exercise Notice if such Exercise Notice is executed during "regular trading hours" on a Trading Day and is delivered within two (2) hours thereafter (including until two (2) hours after the close of "regular trading hours" on a Trading Day) thereafter pursuant to Section 1(a) hereof or (iii) the Weighted Average Price of the Common Stock on the date of the applicable Exercise Notice if the date of such Exercise Notice is a Trading Day and such Exercise Notice is both executed and delivered pursuant to Section 1(a) hereof after the close of "regular trading hours" on such Trading Day.

C= the Exercise Price then in effect for the applicable Warrant Shares at the time of such exercise.



For purposes of Rule 144(d) promulgated under the 1933 Act, as in effect on the date hereof, the Company hereby acknowledges and agrees that the Warrant Shares issued in a Cashless Exercise shall be deemed to have been acquired by the Holder, and the holding period for the Warrant Shares shall be deemed to have commenced, on the date this Warrant was originally issued pursuant to the Securities Purchase Agreement.

(e) Disputes. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall promptly issue to the Holder the number of Warrant Shares that are not disputed and resolve such dispute in accordance with Section 12.

(f) Beneficial Ownership. Notwithstanding anything to the contrary contained herein, the Company shall not effect the exercise of any portion of this Warrant, and the Holder shall not have the right to exercise any portion of this Warrant, pursuant to the terms and conditions of this Warrant and any such exercise shall be null and void and treated as if never made, to the extent that after giving effect to such exercise, the Holder together with the other Attribution Parties collectively would beneficially own in excess of 4.99% (the "**Maximum Percentage**") of the number of shares of Common Stock outstanding immediately after giving effect to such exercise. For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by the Holder and the other Attribution Parties shall include the number of shares of Common Stock held by the Holder and all other Attribution Parties plus the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which the determination of such sentence is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (A) exercise of the remaining, unexercised portion of this Warrant beneficially owned by the Holder or any of the other Attribution Parties and (B) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company (including, without limitation, any convertible notes or convertible preferred stock or warrants, including the other SPA Warrants) beneficially owned by the Holder or any other Attribution Party subject to a limitation on conversion or exercise analogous to the limitation contained in this Section 1(f). For purposes of this Section 1(f), beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the "**1934 Act**"). For purposes of determining the number of outstanding shares of Common Stock the Holder may acquire upon the exercise of this Warrant without exceeding the Maximum Percentage, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (x) the Company's most recent Annual Report on Form 10-K, Quarterly Report on Form 10-Q, Current Report on Form 8-K or other public filing with the Securities and Exchange Commission (the "**SEC**"), as the case may be, (y) a more recent public announcement by the Company or (3) any other written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding (the "**Reported Outstanding Share Number**"). If the Company receives an Exercise Notice from the Holder at a time when the actual number of outstanding shares of Common Stock is less than the Reported Outstanding Share Number, the Company shall (i) notify the Holder in writing of the number of shares of Common Stock then outstanding and, to the extent that such Exercise Notice would otherwise cause the Holder's beneficial ownership, as determined pursuant to this Section 1(f), to exceed the Maximum Percentage, the Holder must notify the Company of a reduced number of Warrant Shares to be purchased pursuant to such Exercise Notice (the number of shares by which such purchase is reduced, the "**Reduction Shares**") and (ii) as soon as reasonably practicable, the Company shall return to the Holder any exercise price paid by the Holder for the Reduction Shares. For any reason at any time, upon the written or oral request of the Holder, the Company shall within one (1) Trading Day confirm orally and in writing or by electronic mail to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder and any other Attribution Party since the date as of which the Reported Outstanding Share Number was reported. In the event that the issuance of shares of Common Stock to the Holder upon exercise of this Warrant results in the Holder and the other Attribution Parties being deemed to beneficially own, in the aggregate, more than the Maximum Percentage of the number of outstanding shares of Common Stock (as determined under Section 13(d) of the 1934 Act), the number of shares so issued by which the Holder's and the other Attribution Parties' aggregate beneficial ownership exceeds the Maximum Percentage (the "**Excess Shares**") shall be deemed null and void and shall be cancelled ab initio, and the Holder shall not have the power to vote or to transfer the Excess Shares. As soon as reasonably practicable after the issuance of the Excess Shares has been deemed null and void, the Company shall return to the Holder the exercise price paid by the Holder for the Excess Shares. Upon delivery of a written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to any other percentage not in excess of 9.99% as specified in such notice; provided that (i) any such increase in the Maximum Percentage will not be effective until the sixty-first (61<sup>st</sup>) day after such notice is delivered to the Company and (ii) any such increase or decrease will apply only to the Holder and the other Attribution Parties and not to any other holder of SPA Warrants that is not an Attribution Party of the Holder. For purposes of clarity, the shares of Common Stock issuable pursuant to the terms of this Warrant in excess of the Maximum Percentage shall not be deemed to be beneficially owned by the Holder for any purpose including for purposes of Section 13(d) or Rule 16a-1(a)(1) of the 1934 Act. No prior inability to exercise this Warrant pursuant to this paragraph shall have any effect on the applicability of the provisions of this paragraph with respect to any subsequent determination of exercisability. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 1(f) to the extent necessary to correct this paragraph or any portion of this paragraph which may be defective or inconsistent with the intended beneficial ownership limitation contained in this Section 1(f) or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitation contained in this paragraph may not be waived and shall apply to a successor holder of this Warrant.

(g) Insufficient Authorized Shares. If at any time while this Warrant remains outstanding the Company does not have a sufficient number of authorized and unreserved shares of Common Stock to satisfy its obligation to reserve for issuance upon exercise of this Warrant 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 this Warrant then outstanding (the "**Required Reserve Amount**" and the failure to have such sufficient number of authorized and unreserved shares of Common Stock, an "**Authorized Share Failure**"), then the Company shall immediately take all action necessary to increase the Company's authorized shares of Common Stock to an amount sufficient to allow the Company to reserve the Required Reserve Amount for this Warrant then outstanding. Without limiting the generality of the foregoing sentence, as soon as practicable after the date of the occurrence of an Authorized Share Failure, but in no event later than sixty (60) days after the occurrence of such Authorized Share Failure, the Company shall hold a meeting of its stockholders for the approval of an increase in the number of authorized shares of Common Stock. In connection with such meeting, the Company shall provide each stockholder with a proxy statement and shall use its best efforts to solicit its stockholders' approval of such increase in authorized shares of Common Stock and to cause its board of directors to recommend to the stockholders that they approve such proposal. Notwithstanding the foregoing, if any such time of an Authorized Share Failure, the Company is able to obtain the written consent of a majority of the shares of its issued and outstanding Common Stock to approve the increase in the number of authorized shares of Common Stock, the Company may satisfy this obligation by obtaining such consent and submitting for filing with the SEC an Information Statement on Schedule 14C. In the event that upon any exercise of this Warrant, the Company does not have sufficient authorized shares to deliver in satisfaction of such exercise, then unless the Holder elects to void such attempted exercise, the Holder may require the Company to pay to the Holder within three (3) Trading Days of the applicable exercise, cash in an amount equal to the product of (i) the quotient determined by dividing (x) the number of Warrant Shares that the Company is unable to deliver pursuant to this Section 1(g), by (y) the total number of Warrant Shares issuable upon exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant) and (ii) the Black Scholes Value; provided, that (x) references to "the day immediately following the public announcement of the applicable Change of Control " in the definition of "Black Scholes Value" shall instead refer to "the date the Holder exercises this Warrant and the Company cannot deliver the required number of Warrant Shares because of an Authorized Share Failure" and (y) clause (iii) of the definition of "Black Scholes Value" shall instead refer to "the underlying price per share used in such calculation shall be the highest Weighted Average Price during the period beginning on the date of the applicable date of exercise and the date that the Company makes the applicable cash payment."

2. ADJUSTMENT OF EXERCISE PRICE AND NUMBER OF WARRANT SHARES. The Exercise Price and the number of Warrant Shares shall be adjusted from time to time as follows:

(a) Adjustment Upon Issuance of Shares of Common Stock. If and whenever on or after the Subscription Date through the first (1<sup>st</sup>) day immediately following the date of consummation of a financing that qualifies as a Qualified Financing, the Company issues or sells, or in accordance with this Section 2 is deemed to have issued or sold, any shares of Common Stock (including the issuance or sale of shares of Common Stock owned or held by or for the account of the Company, but excluding shares of Common Stock deemed to have been issued or sold by the Company in connection with any Excluded Securities) for a consideration per share (the "**New Issuance Price**") less than a price (the "**Applicable Price**") equal to the Exercise Price in effect immediately prior to such issue or sale or deemed issuance or sale (the foregoing a "**Dilutive Issuance**"), then immediately after such Dilutive Issuance, the Exercise Price then in effect shall be reduced to an amount equal to the New Issuance Price. For purposes of determining the adjusted Exercise Price under this Section 2(a), the following shall be applicable:

(i) Issuance of Options. If the Company in any manner grants or sells any Options and the lowest price per share for which one share of Common Stock is issuable upon the exercise of any such Option or upon conversion, exercise or exchange of any Convertible Securities issuable upon exercise of any such Option is less than the Applicable Price, then such share of Common Stock shall be deemed to be outstanding and to have been issued and sold by the Company at the time of the granting or sale of such Option for such price per share. For purposes of this Section 2(a)(i), the "lowest price per share for which one share of Common Stock is issuable upon the exercise of any such Options or upon conversion, exercise or exchange of any Convertible Securities issuable upon exercise of any such Option" shall be equal to the sum of the lowest amounts of consideration (if any) received or receivable by the Company with respect to any one share of Common Stock upon the granting or sale of the Option, upon exercise of the Option and upon conversion, exercise or exchange of any Convertible Security issuable upon exercise of such Option less any consideration paid or payable by the Company with respect to such one share of Common Stock upon the granting or sale of such Option, upon exercise of such Option and upon conversion exercise or exchange of any Convertible Security issuable upon exercise of such Option. No further adjustment of the Exercise Price shall be made upon the actual issuance of such shares of Common Stock or of such Convertible Securities upon the exercise of such Options or upon the actual issuance of such shares of Common Stock upon conversion, exercise or exchange of such Convertible Securities.

(ii) Issuance of Convertible Securities. If the Company in any manner issues or sells any Convertible Securities and the lowest price per share for which one share of Common Stock is issuable upon the conversion, exercise or exchange thereof is less than the Applicable Price, then such share of Common Stock shall be deemed to be outstanding and to have been issued and sold by the Company at the time of the issuance or sale of such Convertible Securities for such price per share. For the purposes of this Section 2(a)(ii), the "lowest price per share for which one share of Common Stock is issuable upon the conversion, exercise or exchange thereof" shall be equal to the sum of the lowest amounts of consideration (if any) received or receivable by the Company with respect to any one share of Common Stock upon the issuance or sale of the Convertible Security and upon conversion, exercise or exchange of such Convertible Security less any consideration paid or payable by the Company with respect to such one share of Common Stock upon the issuance or sale of such Convertible Security and upon conversion, exercise or exchange of such Convertible Security. No further adjustment of the Exercise Price shall be made upon the actual issuance of such shares of Common Stock upon conversion, exercise or exchange of such Convertible Securities, and if any such issue or sale of such Convertible Securities is made upon exercise of any Options for which adjustment of this Warrant has been or is to be made pursuant to other provisions of this Section 2(a), no further adjustment of the Exercise Price shall be made by reason of such issue or sale.

(iii) Change in Option Price or Rate of Conversion. If the purchase price provided for in any Options, the additional consideration, if any, payable upon the issue, conversion, exercise or exchange of any Convertible Securities, or the rate at which any Convertible Securities are convertible into or exercisable or exchangeable for shares of Common Stock increases or decreases at any time, the Exercise Price in effect at the time of such increase or decrease shall be adjusted to the Exercise Price, which would have been in effect at such time had such Options or Convertible Securities provided for such increased or decreased purchase price, additional consideration or increased or decreased conversion rate, as the case may be, at the time initially granted, issued or sold. For purposes of this Section 2(a)(iii), if the terms of any Option or Convertible Security that was outstanding as of the Subscription Date are increased or decreased in the manner described in the immediately preceding sentence, then such Option or Convertible Security and the shares of Common Stock deemed issuable upon exercise, conversion or exchange thereof shall be deemed to have been issued as of the date of such increase or decrease. No adjustment pursuant to this Section 2(a) shall be made if such adjustment would result in an increase of the Exercise Price then in effect.

(iv) Calculation of Consideration Received. In case any Option is issued in connection with the issue or sale of other securities of the Company, together comprising one integrated transaction, (x) the Options will be deemed to have been issued for the Option Value of such Options and (y) the other securities issued or sold in such integrated transaction shall be deemed to have been issued or sold for the difference of (I) the aggregate consideration received by the Company less any consideration paid or payable by the Company pursuant to the terms of such other securities of the Company, less (II) the Option Value of such Options. If any shares of Common Stock, Options or Convertible Securities are issued or sold or deemed to have been issued or sold for cash, the consideration other than cash received therefor will be deemed to be the net amount received by the Company therefor. If any shares of Common Stock, Options or Convertible Securities are issued or sold for a consideration other than cash, the amount of such consideration received by the Company will be the fair value of such consideration, except where such consideration consists of publicly traded securities, in which case the amount of consideration received by the Company will be the Closing Sale Price of such publicly traded securities on the date of receipt. If any shares of Common Stock, Options or Convertible Securities are issued to the owners of the non-surviving entity in connection with any merger in which the Company is the surviving entity, the amount of consideration therefor will be deemed to be the fair value of such portion of the net assets and business of the non-surviving entity as is attributable to such shares of Common Stock, Options or Convertible Securities, as the case may be. The fair value of any consideration other than cash or publicly traded securities will be determined jointly by the Company and the Required Holders. If such parties are unable to reach agreement within ten (10) days after the occurrence of an event requiring valuation (the "**Valuation Event**"), the fair value of such consideration will be determined within five (5) Business Days after the tenth (10<sup>th</sup>) day following the Valuation Event by an independent, reputable appraiser jointly selected by the Company and the Required Holders. The determination of such appraiser shall be final and binding upon all parties absent manifest error and the fees and expenses of such appraiser shall be borne by the Company. Notwithstanding anything to the contrary contained herein, if any calculation pursuant to this Section 2(a)(iv) would result in a dollar value that is lower than the par value of the Common Stock, then such dollar value shall be deemed to equal the par value of the Common Stock.

(v) Record Date. If the Company takes a record of the holders of shares of Common Stock for the purpose of entitling them (A) to receive a dividend or other distribution payable in shares of Common Stock, Options or in Convertible Securities or (B) to subscribe for or purchase shares of Common Stock, Options or Convertible Securities, then such record date will be deemed to be the date of the issue or sale of the shares of Common Stock deemed to have been issued or sold upon the declaration of such dividend or the making of such other distribution or the date of the granting of such right of subscription or purchase, as the case may be.

(vi) No Readjustments. For the avoidance of doubt, in the event the Exercise Price has been adjusted pursuant to this Section 2(a) and the Dilutive Issuance that triggered such adjustment does not occur, is not consummated, is unwound or is cancelled after the facts for any reason whatsoever, in no event shall the Exercise Price be readjusted to the Exercise Price that would have been in effect if such Dilutive Issuance had not occurred or been consummated.

(b) Adjustment Upon Subdivision or Combination of Shares of Common Stock. If the Company at any time on or after the Subscription Date subdivides (by any stock split, stock dividend, recapitalization or otherwise) one or more classes of its outstanding shares of Common Stock into a greater number of shares, the Exercise Price in effect immediately prior to such subdivision will be proportionately reduced and the number of Warrant Shares will be proportionately increased. If the Company at any time on or after the Subscription Date combines (by combination, reverse stock split or otherwise) one or more classes of its outstanding shares of Common Stock into a smaller number of shares, the Exercise Price in effect immediately prior to such combination will be proportionately increased and the number of Warrant Shares will be proportionately decreased. Any adjustment under this Section 2(a) shall become effective at the close of business on the date the subdivision or combination becomes effective.

(c) Voluntary Adjustment By Company. The Company may at any time during the term of this Warrant, with the prior written consent of the Required Holders, reduce the then current Exercise Price to any amount and for any period of time deemed appropriate by the Board of Directors of the Company.

(d) Other Events. If any event occurs of the type contemplated by the provisions of this Section 2 but not expressly provided for by such provisions (including, without limitation, the granting of stock appreciation rights, phantom stock rights or other rights with equity features), then the Company's Board of Directors will make an appropriate adjustment in the Exercise Price and the number of Warrant Shares, as mutually determined by the Company's Board of Directors and the Required Holders, so as to protect the rights of the Holder; provided that no such adjustment pursuant to this Section 2(d) will increase the Exercise Price or decrease the number of Warrant Shares as otherwise determined pursuant to this Section 2.

3. RIGHTS UPON DISTRIBUTION OF ASSETS. If the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to any or all holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property, options, evidence of indebtedness or any other assets by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "**Distribution**"), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, that to the extent that the Holder's right to participate in any such Distribution would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Distribution to such extent (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Distribution (and beneficial ownership) to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such Distribution (and any Distributions declared or made on such initial Distribution or on any subsequent Distribution held similarly in abeyance) to the same extent as if there had been no such limitation).

#### 4. PURCHASE RIGHTS; FUNDAMENTAL TRANSACTIONS.

(e) Purchase Rights. In addition to any adjustments pursuant to Section 2 above, if at any time on or after the Subscription Date and on or prior to the Expiration Date the Company grants, issues or sells any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of Common Stock (the "**Purchase Rights**"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of Common Stock are to be determined for the grant, issuance or sale of such Purchase Rights (provided, however, that to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Purchase Right to such extent (and shall not be entitled to beneficial ownership of such Common Stock as a result of such Purchase Right (and beneficial ownership) to such extent) and such Purchase Right to such extent shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such right (and any Purchase Right granted, issued or sold on such initial Purchase Right or on any subsequent Purchase Right to be held similarly in abeyance) to the same extent as if there had been no such limitation).

(f) Fundamental Transaction. The Company shall not enter into or be party to a Fundamental Transaction unless the Successor Entity assumes in writing all of the obligations of the Company under this Warrant in accordance with the provisions of this Section 4(b), including agreements to deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant, including, without limitation, which is exercisable for a corresponding number of shares of capital stock equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the exercise price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such adjustments to the number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction). Upon the consummation of each Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for the Company (so that from and after the date of the applicable Fundamental Transaction, the provisions of this Warrant and the other Transaction Documents referring to the "Company" shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein. Upon consummation of each Fundamental Transaction, the Successor Entity shall deliver to the Holder confirmation that there shall be issued upon exercise of this Warrant at any time after the consummation of the applicable Fundamental Transaction, in lieu of the shares of Common Stock (or other securities, cash, assets or other property (except such items still issuable under Sections 3 and 4(a) above, which shall continue to be receivable thereafter)) issuable upon the exercise of this Warrant prior to the applicable Fundamental Transaction, such shares of common stock (or its equivalent) of the Successor Entity (including its Parent Entity) which the Holder would have been entitled to receive upon the happening of the applicable Fundamental Transaction had this Warrant been exercised immediately prior to the applicable Fundamental Transaction (without regard to any limitations on the exercise of this Warrant), as adjusted in accordance with the provisions of this Warrant. Notwithstanding the foregoing, and without limiting Section 1(f) hereof, the Holder may elect, at its sole option, by delivery of written notice to the Company to waive this Section 4(b) to permit the Fundamental Transaction without the assumption of this Warrant. In addition to and not in substitution for any other rights hereunder, prior to the consummation of each Fundamental Transaction pursuant to which holders of shares of Common Stock are entitled to receive securities or other assets with respect to or in exchange for shares of Common Stock (a "**Corporate Event**"), the Company shall make appropriate provision to insure that the Holder will thereafter have the right to receive upon an exercise of this Warrant at any time after the consummation of the applicable Fundamental Transaction but prior to the Expiration Date, in lieu of the shares of the Common Stock (or other securities, cash, assets or other property (except such items still issuable under Sections 3 and 4(a) above, which shall continue to be receivable thereafter)) issuable upon the exercise of the Warrant prior to such Fundamental Transaction, such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights) (collectively, the "**Corporate Event Consideration**") which the Holder would have been entitled to receive upon the happening of the applicable Fundamental Transaction had this Warrant been exercised immediately prior to the applicable Fundamental Transaction (without regard to any limitations on the exercise of this Warrant). The provision made pursuant to the preceding sentence shall be in a form and substance reasonably satisfactory to the Holder. The provisions of this Section 4(b) shall apply similarly and equally to successive Fundamental Transactions and Corporate Events. Notwithstanding the foregoing, in the event of a Change of Control, at the request of the Holder delivered before the 30th day after such Change of Control, the Company (or the Successor Entity) shall purchase this Warrant from the Holder by paying to the Holder, within five (5) Business Days after such request (or, if later, on the effective date of the Change of Control), an amount equal to the Black Scholes Value of the remaining unexercised portion of this Warrant on the effective date of such Change of Control, payable in cash; provided, however, that, if the Change of Control is not within the Company's control, including not approved by the Company's Board of Directors, Holder shall only be entitled to receive from the Company or any Successor Entity, as of the date of consummation of such Change of Control, the same type or form of consideration (and in the same proportion), at the Black Scholes Value of the unexercised portion of this Warrant, that is being offered and paid to the holders of Common Stock of the Company in connection with the Change of Control, whether that consideration be in the form of cash, stock or any combination thereof, or whether the holders of Common Stock are given the choice to receive from among alternative forms of consideration in connection with the Change of Control.

5. NONCIRCUMVENTION. The Company hereby covenants and agrees that the Company will not, by amendment of its Certificate of Incorporation or Bylaws, or through any reorganization, transfer of assets, consolidation, merger, scheme of arrangement, 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, and will at all times in good faith carry out all of the provisions of this Warrant and take all action as may be required to protect the rights of the Holder. Without limiting the generality of the foregoing, the Company (i) shall not increase the par value of any shares of Common Stock receivable upon the exercise of this Warrant above the Exercise Price then in effect, (ii) shall take all such actions as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant, and (iii) shall, so long as any of the SPA Warrants are outstanding, take all action necessary to reserve and keep available out of its authorized and unissued shares of Common Stock, solely for the purpose of effecting the exercise of the SPA Warrants, the number of shares of Common Stock as shall from time to time be necessary to effect the exercise of the SPA Warrants then outstanding (without regard to any limitations on exercise).

6. WARRANT HOLDER NOT DEEMED A STOCKHOLDER. Except as otherwise specifically provided herein, the Holder, solely in such Person's capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of capital stock of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in such Person's capacity as the Holder of this Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on the Holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company. Notwithstanding this Section 6, the Company shall provide the Holder with copies of the same notices and other information given to the stockholders of the Company generally, contemporaneously with the giving thereof to the stockholders.

7. REISSUANCE OF WARRANTS.

(g) Transfer of Warrant. If this Warrant is to be transferred, the Holder shall surrender this Warrant to the Company, whereupon the Company will forthwith issue and deliver upon the order of the Holder a new Warrant (in accordance with Section 7(d)), registered as the Holder may request, representing the right to purchase the number of Warrant Shares being transferred by the Holder and, if less than the total number of Warrant Shares then underlying this Warrant is being transferred, a new Warrant (in accordance with Section 7(d)) to the Holder representing the right to purchase the number of Warrant Shares not being transferred.

(h) Lost, Stolen or Mutilated Warrant. Upon receipt by the Company of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft or destruction, of any indemnification undertaking by the Holder to the Company in customary form and, in the case of mutilation, upon surrender and cancellation of this Warrant, the Company shall execute and deliver to the Holder a new Warrant (in accordance with Section 7(d)) representing the right to purchase the Warrant Shares then underlying this Warrant.



(i) Exchangeable for Multiple Warrants. This Warrant is exchangeable, upon the surrender hereof by the Holder at the principal office of the Company, for a new Warrant or Warrants (in accordance with Section 7(d)) representing in the aggregate the right to purchase the number of Warrant Shares then underlying this Warrant, and each such new Warrant will represent the right to purchase such portion of such Warrant Shares as is designated by the Holder at the time of such surrender; provided, however, that no SPA Warrants for fractional Warrant Shares shall be given.

(j) Issuance of New Warrants. Whenever the Company is required to issue a new Warrant pursuant to the terms of this Warrant, such new Warrant (i) shall be of like tenor with this Warrant, (ii) shall represent, as indicated on the face of such new Warrant, the right to purchase the Warrant Shares then underlying this Warrant (or in the case of a new Warrant being issued pursuant to Section 7(a) or Section 7(c), the Warrant Shares designated by the Holder which, when added to the number of shares of Common Stock underlying the other new Warrants issued in connection with such issuance, does not exceed the number of Warrant Shares then underlying this Warrant), (iii) shall have an issuance date, as indicated on the face of such new Warrant which is the same as the Issuance Date, and (iv) shall have the same rights and conditions as this Warrant.

8. NOTICES. Whenever notice is required to be given under this Warrant, unless otherwise provided herein, such notice shall be given in accordance with Section 9(f) of the Securities Purchase Agreement. The Company shall provide the Holder with prompt written notice of all actions taken pursuant to this Warrant, including in reasonable detail a description of such action and the reason therefor. Without limiting the generality of the foregoing, the Company will give written notice to the Holder (i) immediately upon any adjustment of the Exercise Price, setting forth in reasonable detail, and certifying, the calculation of such adjustment and (ii) at least fifteen (15) days prior to the date on which the Company closes its books or takes a record (A) with respect to any dividend or distribution upon the shares of Common Stock, (B) with respect to any grants, issuances or sales of any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property to holders of shares of Common Stock or (C) for determining rights to vote with respect to any Fundamental Transaction, Change of Control, dissolution or liquidation; provided in each case that such information shall be made known to the public prior to or in conjunction with such notice being provided to the Holder. It is expressly understood and agreed that the time of exercise specified by the Holder in each Exercise Notice shall be definitive and may not be disputed or challenged by the Company.

9. AMENDMENT AND WAIVER. Any provision of this Warrant may be changed or amended with the prior written consent of the Holder and the Company, and any provision of this Warrant may be waived with the prior written consent of the Holder. In addition, the affirmative vote of the Required Holders at a meeting duly called for such purpose or the written consent without a meeting of the Required Holders shall be required for any change or amendment or waiver of any provision of all SPA Warrants. Any change or amendment by the Company and the Required Holders, and any waiver by the Required Holders, shall be binding on all holders of SPA Warrants (including the Holder of this Warrant). The Company hereby covenants and agrees that if, and whenever on or after the date hereof, the Company amends or modifies any term of any of the SPA Warrants held by any Person (each document amending such terms, an "**Amendment Document**"), then (i) the Company shall provide notice thereof to the Holder immediately following the occurrence thereof and (ii) the terms and conditions of this Warrant shall be, without any further action by the Holder or the Company, automatically amended and modified in an economically and legally equivalent manner such that the Holder shall receive the benefit of such amended or modified terms and/or conditions (as the case may be) set forth in such Amendment Document, provided that upon written notice to the Company at any time the Holder may elect not to accept the benefit of any such amended or modified term or condition, in which event the term or condition contained in this Warrant shall apply to the Holder as it was in effect immediately prior to such amendment or modification as if such amendment or modification never occurred with respect to the Holder. The provisions of the foregoing sentence shall apply similarly and equally to each Amendment Document.

10. GOVERNING LAW; JURISDICTION; JURY TRIAL. This Warrant shall be governed by and construed and enforced in accordance with, and all questions concerning the construction, validity, interpretation and performance of this Warrant shall be governed by, the internal laws of the State of New York, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of New York or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of New York. The Company hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in The City of New York, Borough of Manhattan, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. The Company hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof to such party at the address set forth in Section 9(f) of the Securities Purchase Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. Nothing contained herein shall be deemed or operate to preclude the Holder from bringing suit or taking other legal action against the Company in any other jurisdiction to collect on the Company's obligations to the Holder, to realize on any collateral or any other security for such obligations, or to enforce a judgment or other court ruling in favor of the Holder. **THE COMPANY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION WITH OR ARISING OUT OF THIS WARRANT OR ANY TRANSACTION CONTEMPLATED HEREBY.**

11. CONSTRUCTION; HEADINGS. This Warrant shall be deemed to be jointly drafted by the Company and all of the Buyers and shall not be construed against any Person as the drafter hereof. The headings of this Warrant are for convenience of reference and shall not form part of, or affect the interpretation of, this Warrant.

12. DISPUTE RESOLUTION. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall submit the disputed determinations or arithmetic calculations via facsimile or electronic mail within one (1) Business Day of receipt of the Exercise Notice giving rise to such dispute, as the case may be, to the Holder. If the Holder and the Company are unable to agree upon such determination or calculation of the Exercise Price or the Warrant Shares within one (1) Business Day of such disputed determination or arithmetic calculation being submitted to the Holder, then the Company shall, within one (1) Business Day submit via facsimile or electronic mail (a) the disputed determination of the Exercise Price to an independent, reputable investment bank selected by the Holder and approved by the Company, such approval not to be unreasonably withheld, conditioned or delayed or (b) the disputed arithmetic calculation of the Warrant Shares to an independent, outside accountant, selected by the Holder and approved by the Company, such approval not to be unreasonably withheld, conditioned or delayed. The Company shall cause at its expense the investment bank or the accountant, as the case may be, to perform the determinations or calculations and notify the Company and the Holder of the results no later than five (5) Business Days from the time it receives the disputed determinations or calculations. Such investment bank's or accountant's determination or calculation, as the case may be, shall be binding upon all parties absent demonstrable error.

13. REMEDIES, OTHER OBLIGATIONS, BREACHES AND INJUNCTIVE RELIEF. The remedies provided in this Warrant shall be cumulative and in addition to all other remedies available under this Warrant and the other Transaction Documents, at law or in equity (including a decree of specific performance and/or other injunctive relief), and nothing herein shall limit the right of the Holder to pursue actual damages for any failure by the Company to comply with the terms of this Warrant. The Company acknowledges that a breach by it of its obligations hereunder will cause irreparable harm to the Holder and that the remedy at law for any such breach may be inadequate. The Company therefore agrees that, in the event of any such breach or threatened breach, the holder of this Warrant shall be entitled, in addition to all other available remedies, to an injunction restraining any breach, without the necessity of showing economic loss and without any bond or other security being required.

14. TRANSFER. This Warrant and the Warrant Shares may be offered for sale, sold, transferred, pledged or assigned without the consent of the Company, except as may otherwise be required by Section 2(f) of the Securities Purchase Agreement.

15. SEVERABILITY. If any provision of this Warrant is prohibited by law or otherwise determined to be invalid or unenforceable by a court of competent jurisdiction, the provision that would otherwise be prohibited, invalid or unenforceable shall be deemed amended to apply to the broadest extent that it would be valid and enforceable, and the invalidity or unenforceability of such provision shall not affect the validity of the remaining provisions of this Warrant so long as this Warrant as so modified continues to express, without material change, the original intentions of the parties as to the subject matter hereof and the prohibited nature, invalidity or unenforceability of the provision(s) in question does not substantially impair the respective expectations or reciprocal obligations of the parties or the practical realization of the benefits that would otherwise be conferred upon the parties. The parties will endeavor in good faith negotiations to replace the prohibited, invalid or unenforceable provision(s) with a valid provision(s), the effect of which comes as close as possible to that of the prohibited, invalid or unenforceable provision(s).

16. DISCLOSURE. Upon receipt or delivery by the Company of any notice in accordance with the terms of this Warrant, unless the Company has in good faith determined that the matters relating to such notice do not constitute material, nonpublic information relating to the Company or its Subsidiaries, the Company shall within one (1) Business Day after any such receipt or delivery publicly disclose such material, nonpublic information on a Current Report on Form 8-K or otherwise. In the event that the Company believes that a notice contains material, nonpublic information relating to the Company or its Subsidiaries, the Company so shall indicate to such Holder contemporaneously with delivery of such notice, and in the absence of any such indication, the Holder shall be allowed to presume that all matters relating to such notice do not constitute material, nonpublic information relating to the Company or its Subsidiaries.

17. CERTAIN DEFINITIONS. For purposes of this Warrant, the following terms shall have the following meanings:

(k) "**1933 Act**" means the Securities Act of 1933, as amended.

(l) "**Affiliate**" means, with respect to any Person, any other Person that directly or indirectly controls, is controlled by, or is under common control with, such Person, it being understood for purposes of this definition that "control" of a Person means the power directly or indirectly either to vote 10% or more of the stock having ordinary voting power for the election of directors of such Person or direct or cause the direction of the management and policies of such Person whether by contract or otherwise.

(m) "**Approved Stock Plan**" means any employee benefit plan which has been approved by the Board of Directors of the Company, pursuant to which the Company's securities may be issued to any employee, officer or director for services provided to the Company.

(n) "**Attribution Parties**" means, collectively, the following Persons and entities: (i) any investment vehicle, including, any funds, feeder funds or managed accounts, currently, or from time to time after the Issuance Date, directly or indirectly managed or advised by the Holder's investment manager or any of its Affiliates or principals, (ii) any direct or indirect Affiliates of the Holder or any of the foregoing, (iii) any Person acting or who could be deemed to be acting as a Group together with the Holder or any of the foregoing and (iv) any other Persons whose beneficial ownership of the Company's Common Stock would or could be aggregated with the Holder's and the other Attribution Parties for purposes of Section 13(d) of the 1934 Act. For clarity, the purpose of the foregoing is to subject collectively the Holder and all other Attribution Parties to the Maximum Percentage.

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

(p) "**Black Scholes Value**" means the value of this Warrant based on the Black-Scholes Option Pricing Model obtained from the "OV" function on Bloomberg determined as of the day immediately following the public announcement of the applicable Change of Control, or, if the Change of Control is not publicly announced, the date the Change of Control is consummated, for pricing purposes and reflecting (i) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the remaining term of this Warrant as of such date of request, (ii) an expected volatility equal to the greater of 100% and the 100 day volatility obtained from the HVT function on Bloomberg as of the day immediately following the public announcement of the applicable Change of Control, or, if the Change of Control is not publicly announced, the date the Change of Control is consummated, (iii) the underlying price per share used in such calculation shall be the greater of (x) the highest Weighted Average Price during the five (5) Trading Days prior to the day the applicable Change of Control is publicly announced, or, if the Change of Control is not publicly announced, such five (5) Trading Day period immediately preceding the date the Change of Control is consummated and (y) the sum of the price per share being offered in cash, if any, plus the value of any non-cash consideration, if any, being offered in the Change of Control, (iv) a zero cost of borrow and (v) a 360 day annualization factor.

(q) "**Bloomberg**" means Bloomberg Financial Markets.

(r) "**Business Day**" means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed.

(s) "**Change of Control**" means any Fundamental Transaction other than (i) any reorganization, recapitalization or reclassification of the Common Stock in which holders of the Company's voting power immediately prior to such reorganization, recapitalization or reclassification continue after such reorganization, recapitalization or reclassification to hold publicly traded securities and, directly or indirectly, are, in all material respect, the holders of the voting power of the surviving entity (or entities with the authority or voting power to elect the members of the board of directors (or their equivalent if other than a corporation) of such entity or entities) after such reorganization, recapitalization or reclassification, (ii) pursuant to a migratory merger effected solely for the purpose of changing the jurisdiction of incorporation of the Company or (iii) a merger in connection with a bona fide acquisition by the Company of any Person in which (x) the gross consideration paid, directly or indirectly, by the Company in such acquisition is not greater than 20% of the Company's market capitalization as calculated on the date of the consummation of such merger and (y) such merger does not contemplate a change to the identity of a majority of the board of directors of the Company. Notwithstanding anything herein to the contrary, any transaction or series of transaction that, directly or indirectly, results in the Company or the Successor Entity not having Common Stock or common stock, as applicable, registered under the 1934 Act and listed on an Eligible Market shall be deemed a Change of Control.

(t) "**Closing Bid Price**" and "**Closing Sale Price**" means, for any security as of any date, the last closing bid price and last closing trade price, respectively, for such security on the Principal Market, as reported by Bloomberg, or, if the Principal Market begins to operate on an extended hours basis and does not designate the closing bid price or the closing trade price, as the case may be, then the last bid price or the last trade price, respectively, of such security prior to 4:00:00 p.m., New York time, as reported by Bloomberg, or, if the Principal Market is not the principal securities exchange or trading market for such security, the last closing bid price or last trade price, respectively, of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg, or if the foregoing do not apply, the last closing bid price or last trade price, respectively, of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no closing bid price or last trade price, respectively, is reported for such security by Bloomberg, the average of the bid prices, or the ask prices, respectively, of any market makers for such security as reported in the OTC Link or "pink sheets" by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Closing Bid Price or the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Bid Price or the Closing Sale Price, as the case may be, of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 12. All such determinations to be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

(u) "**Common Stock**" means (i) the Company's shares of Common Stock, par value \$0.001 per share, and (ii) any capital stock into which such Common Stock shall have been changed or any capital stock resulting from a reclassification of such Common Stock.

(v) "**Convertible Securities**" means any stock or securities (other than Options) directly or indirectly convertible into or exercisable or exchangeable for shares of Common Stock.

(w) "**Eligible Market**" means the Principal Market, the NYSE American, the Nasdaq Global Market, the Nasdaq Global Select Market, the Nasdaq Capital Market, the OTC QX or The New York Stock Exchange, Inc.

(x) "**Excluded Securities**" means any Common Stock issued or issuable: (i) in connection with any Approved Stock Plan, (ii) upon exercise of the SPA Warrants or the SPA Securities; provided, that the terms of such SPA Warrants or Other SPA Securities are not amended, modified or changed on or after the Subscription Date or (iii) upon exercise of any Options or Convertible Securities which are outstanding on the day immediately preceding the Subscription Date; provided, that the terms of such Options or Convertible Securities are not amended, modified or changed on or after the Subscription Date.

(y) "**Expiration Date**" means the date sixty (60) months after the Issuance Date or, if such date falls on a day other than a Business Day or on which trading does not take place on the Principal Market (a "**Holiday**"), the next day that is not a Holiday.

(z) "**Fundamental Transaction**" means (A) that the Company shall, directly or indirectly, including through Subsidiaries, Affiliates or otherwise, in one or more related transactions, (i) consolidate or merge with or into (whether or not the Company is the surviving corporation) another Subject Entity, or (ii) sell, assign, transfer, convey or otherwise dispose of all or substantially all of the properties or assets of the Company or any of its "significant subsidiaries" (as defined in Rule 1-02 of Regulation S-X) to one or more Subject Entities, or (iii) make, or allow one or more Subject Entities to make, or allow the Company to be subject to or have its Common Stock be subject to or party to one or more Subject Entities making, a purchase, tender or exchange offer that is accepted by the holders of at least either (x) 50% of the outstanding shares of Common Stock, (y) 50% of the outstanding shares of Common Stock calculated as if any shares of Common Stock held by all Subject Entities making or party to, or Affiliated with any Subject Entities making or party to, such purchase, tender or exchange offer were not outstanding; or (z) such number of shares of Common Stock such that all Subject Entities making or party to, or Affiliated with any Subject Entity making or party to, such purchase, tender or exchange offer, become collectively the beneficial owners (as defined in Rule 13d-3 under the 1934 Act) of at least 50% of the outstanding shares of Common Stock, or (iv) consummate a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with one or more Subject Entities whereby such Subject Entities, individually or in the aggregate, acquire, either (x) at least 50% of the outstanding shares of Common Stock, (y) at least 50% of the outstanding shares of Common Stock calculated as if any shares of Common Stock held by all the Subject Entities making or party to, or Affiliated with any Subject Entity making or party to, such stock purchase agreement or other business combination were not outstanding; or (z) such number of shares of Common Stock such that the Subject Entities become collectively the beneficial owners (as defined in Rule 13d-3 under the 1934 Act) of at least 50% of the outstanding shares of Common Stock, or (v) reorganize, recapitalize or reclassify its Common Stock, (B) that the Company shall, directly or indirectly, including through Subsidiaries, Affiliates or otherwise, in one or more related transactions, allow any Subject Entity individually or the Subject Entities in the aggregate to be or become the "beneficial owner" (as defined in Rule 13d-3 under the 1934 Act), directly or indirectly, whether through acquisition, purchase, assignment, conveyance, tender, tender offer, exchange, reduction in outstanding shares of Common Stock, merger, consolidation, business combination, reorganization, recapitalization, spin-off, scheme of arrangement, reorganization, recapitalization or reclassification or otherwise in any manner whatsoever, of either (x) at least 50% of the aggregate ordinary voting power represented by issued and outstanding Common Stock, (y) at least 50% of the aggregate ordinary voting power represented by issued and outstanding Common Stock not held by all such Subject Entities as of the Subscription Date calculated as if any shares of Common Stock held by all such Subject Entities were not outstanding, or (z) a percentage of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock or other equity securities of the Company sufficient to allow such Subject Entities to effect a statutory short form merger or other transaction requiring other stockholders of the Company to surrender their shares of Common Stock without approval of the stockholders of the Company or (C) directly or indirectly, including through Subsidiaries, Affiliates or otherwise, in one or more related transactions, the issuance of or the entering into any other instrument or transaction structured in a manner to circumvent, or that circumvents, the intent of this definition in which case this definition shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this definition to the extent necessary to correct this definition or any portion of this definition which may be defective or inconsistent with the intended treatment of such instrument or transaction.

(aa) "**Group**" means a "group" as that term is used in Section 13(d) of the 1934 Act and as defined in Rule 13d-5 thereunder.

(bb) "**Option Value**" means the value of an Option based on the Black and Scholes Option Pricing model obtained from the "OV" function on Bloomberg determined as of (A) the Trading Day prior to the public announcement of the issuance of the applicable Option, if the issuance of such Option is publicly announced or (B) the Trading Day immediately following the issuance of the applicable Option if the issuance of such Option is not publicly announced, for pricing purposes and reflecting (i) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the remaining term of the applicable Option as of the applicable date of determination, (ii) an expected volatility equal to the greater of 100% and the 100 day volatility obtained from the HVT function on Bloomberg as of (A) the Trading Day immediately following the public announcement of the applicable Option if the issuance of such Option is publicly announced or (B) the Trading Day immediately following the issuance of the applicable Option if the issuance of such Option is not publicly announced, (iii) the underlying price per share used in such calculation shall be the highest Weighted Average Price of the Common Stock during the period beginning on the Trading Day prior to the execution of definitive documentation relating to the issuance of the applicable Option and ending on (A) the Trading Day immediately following the public announcement of such issuance, if the issuance of such Option is publicly announced or (B) the Trading Day immediately following the issuance of the applicable Option if the issuance of such Option is not publicly announced, (iv) a zero cost of borrow and (v) a 360 day annualization factor.

(cc) "**Options**" means any rights, warrants or options to subscribe for or purchase shares of Common Stock or Convertible Securities.

(dd) "**Parent Entity**" of a Person means an entity that, directly or indirectly, controls the applicable Person, including such entity whose common capital or equivalent equity security is quoted or listed on an Eligible Market (or, if so elected by the Required Holders, any other market, exchange or quotation system), or, if there is more than one such Person or such entity, the Person or such entity designated by the Required Holders or in the absence of such designation, such Person or entity with the largest public market capitalization as of the date of consummation of the Fundamental Transaction or Change of Control, as applicable.



(ee) "**Person**" means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization, any other entity and a government or any department or agency thereof.

(ff) "**Principal Market**" means the OTC QB.

(gg) "**Qualified Financing**" means the Company raises gross proceeds of at least \$20,000,000 in one or more Subsequent Placement(s) occurring after the earlier of (x) the time of the registration of all of the Registrable Securities pursuant to and in accordance with the Registration Rights Agreement, so long as at such time the Company shall have no knowledge of any fact that would cause the Registration Statements required pursuant to the Registration Rights Agreement not to be effective and available for the resale of all remaining Registrable Securities in accordance with the terms of the Registration Rights Agreement and (y) all the Registrable Securities shall be eligible for resale without restriction or limitation pursuant to Rule 144 (assuming for purposes of Warrant Shares that are Registrable Securities, that the applicable Warrants were exercised by way of a Cashless Exercise) and all applicable state securities laws so long as at such time the Company shall have no knowledge of any fact that would cause the Registrable Securities not to be eligible for sale without restriction or limitation pursuant to Rule 144 or any applicable state securities laws;

(hh) "**Required Holders**" means the holders of the SPA Warrants representing at least a majority of the shares of Common Stock underlying the SPA Warrants then outstanding and shall include (i) Empery Asset Management, LP so long as Empery Asset Management, LP or any of its Affiliates holds any SPA Warrants and (ii) Ayrton Capital LLC so long as Ayrton Capital LLC or any of its Affiliates holds any SPA Warrants.

(ii) "**SPA Securities**" means the Note issued pursuant to the Securities Purchase Agreement.

(jj) "**Standard Settlement Period**" means the standard settlement period, expressed in a number of Trading Days, on the Company's primary trading market with respect to the Common Stock as in effect on the date of delivery of the applicable Exercise Notice.

(kk) "**Subject Entity**" means any Person, Persons or Group or any Affiliate or associate of any such Person, Persons or Group.

(ll) "**Subsequent Placement**" means any direct or indirect, offer, sale, grant any option to purchase, or other disposition of any of its or its Subsidiaries' equity or equity equivalent securities, including without limitation any debt, preferred stock or other instrument or security whether or not such security is, at any time during its life and under any circumstances, convertible into or exchangeable or exercisable for Common Stock or Common Stock Equivalents.

(mm) "**Subsidiary**" has the meaning ascribed to such term in the Securities Purchase Agreement.

(nn) "**Successor Entity**" means one or more Person or Persons (or, if so elected by the Required Holders, the Company or Parent Entity) formed by, resulting from or surviving any Fundamental Transaction or Change of Control, as applicable, or one or more Person or Persons (or, if so elected by the Required Holders, the Company or the Parent Entity) with which such Fundamental Transaction or Change of Control shall have been entered into.

(oo) "**Trading Day**" means any day on which the Common Stock is traded on the Principal Market, or, if the Principal Market is not the principal trading market for the Common Stock on such day, then on the principal securities exchange or securities market on which the Common Stock is then traded.

(pp) "**Weighted Average Price**" means, for any security as of any date, the dollar volume-weighted average price for such security on the Principal Market during the period beginning at 9:30:01 a.m., New York time (or such other time as the Principal Market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as the Principal Market publicly announces is the official close of trading), as reported by Bloomberg through its "Volume at Price" function or, if the foregoing does not apply, the dollar volume-weighted average price of such security in the over-the-counter market on the electronic bulletin board for such security during the period beginning at 9:30:01 a.m., New York time (or such other time as such market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as such market publicly announces is the official close of trading), as reported by Bloomberg, or, if no dollar volume-weighted average price is reported for such security by Bloomberg for such hours, the average of the highest Closing Bid Price and the lowest closing ask price of any of the market makers for such security as reported in the OTC Link or "pink sheets" by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Weighted Average Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Weighted Average Price of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 12 with the term "Weighted Average Price" being substituted for the term "Exercise Price." All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

**[Signature Page Follows]**

**IN WITNESS WHEREOF**, the Company has caused this Warrant to Purchase Common Stock to be duly executed as of the Issuance Date set out above.

**GT BIOPHARMA, INC.**

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

Name:

Title:

**EXERCISE NOTICE  
TO BE EXECUTED BY THE REGISTERED HOLDER TO EXERCISE THIS  
WARRANT TO PURCHASE COMMON STOCK**

**GT BIOPHARMA, INC.**

The undersigned holder hereby exercises the right to purchase \_\_\_\_\_ of the shares of Common Stock ("**Warrant Shares**") of GT Biopharma, Inc., a Delaware corporation (the "**Company**"), evidenced by the attached Warrant to Purchase Common Stock (the "**Warrant**"). Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Warrant.

1. Form of Exercise Price. The Holder intends that payment of the Exercise Price shall be made as:

\_\_\_\_\_ a "Cash Exercise" with respect to \_\_\_\_\_ Warrant Shares; and/or

\_\_\_\_\_ a "Cashless Exercise" with respect to \_\_\_\_\_ Warrant Shares.

2. Payment of Exercise Price. In the event that the holder has elected a Cash Exercise with respect to some or all of the Warrant Shares to be issued pursuant hereto, the holder shall pay the Aggregate Exercise Price in the sum of \$ \_\_\_\_\_ to the Company in accordance with the terms of the Warrant.

3. Delivery of Warrant Shares. The Company shall deliver to the holder \_\_\_\_\_ Warrant Shares in accordance with the terms of the Warrant.

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

Name of Registered Holder

By:

Name:

Title:

**ACKNOWLEDGMENT**

The Company hereby acknowledges this Exercise Notice and hereby directs ComputerShare Trust Company, N.A. to issue the above indicated number of shares of Common Stock in accordance with the Transfer Agent Instructions dated January \_\_, 2018 from the Company and acknowledged and agreed to by ComputerShare Trust Company, N.A.

**GT BIOPHARMA, INC.**

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

**GT Biopharma Announces \$7.1 Million Convertible Debt Financing**

LOS ANGELES, CA, January 23, 2018 - GT Biopharma Inc. (OTCQB: GTBP and Euronext Paris "GTBP.PA") today announced that it has entered into definitive agreements for a private placement of convertible notes and warrants for gross proceeds of \$7,055,000. The company intends to use the proceeds from the financing to advance its immuno-oncology programs, which are based on the company's proprietary Tri and Tetra-specific Natural Killer Cell Engagers (TriKEs™ and TetraKEs) and bispecific antibody-drug conjugate (ADC) platforms, neurology (CNS) pipeline progress, and for general corporate purposes.

Oppenheimer & Co. Inc. acted as the sole placement agent for the offering.

The convertible notes are unsecured, have a face amount of \$7,760,508, a 0% coupon, an initial conversion price of \$4.58, subject to adjustment, and are due July 2018. Investors also received warrants to purchase approximately 1,694,440 shares of GT Biopharma common stock at an initial exercise price of \$4.58 per share, subject to adjustment.

Roth Capital Partners also acted as a financial advisor to GT Biopharma for this transaction.

**About GT Biopharma, Inc.**

GT Biopharma, Inc. is an immuno-oncology biotechnology company focused on innovative treatments based on the company's proprietary Tri and Tetra-specific Natural Killer Cell Engagers (TriKEs™ and TetraKEs) and bispecific antibody-drug conjugate (ADC) platforms. GT's most advanced oncology drug candidate, OXS-1550 (DT2219) is a novel bispecific scFv recombinant fusion protein-drug conjugate composed of the variable regions of the heavy and light chains of anti-CD19 and anti-CD22 antibodies and a modified form of diphtheria toxin as its cytotoxic drug payload. OXS-1550 has demonstrated success in early human clinical trials in patients with relapsed/refractory B-cell lymphoma or leukemia. In addition, GT's TriKE platform will address a number of cancer types. GT's nervous system platform is focused on acquiring or discovering and patenting late-stage, de-risked, and close-to-market improved treatments for nervous system diseases (Neurology and Pain) and shepherding them through the approval process to the NDA. GT Biopharma's neurology products currently include PainBrake, as well as treatments for the symptoms of myasthenia gravis, and motion sickness.

Except for historical information contained herein, the statements in this release are forward-looking and made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are inherently unreliable and actual results may differ materially. Examples of forward-looking statements in this news release include statements regarding the effectiveness of the Company's products, the potential outcome of clinical studies, the future success of development activities and the future growth and operating and financial performance of the Company. Factors which could cause actual results to differ materially from these forward-looking statements include such factors as the Company's ability to accomplish its business initiatives, obtain regulatory approval and protect its intellectual property; significant fluctuations in marketing expenses and ability to achieve or grow revenue, or recognize net income, from the sale of its products and services, as well as the introduction of competing products, or management's ability to attract and maintain qualified personnel necessary for the development and commercialization of its planned products, and other information that may be detailed from time to time in the Company's filings with the United States Securities and Exchange Commission. The Company undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

**Contact:**

Westwicke Partners

John Woolford

(443) 213-0506

john.woolford@westwicke.com

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