

U. S. SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-Q

☒ Quarterly report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

For the quarterly period ended March 31, 2020.

☐ For the transition period from to .

Commission File Number 0-8092

GT BIOPHARMA, INC.
(Exact name of small business issuer as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

94-1620407
(I.R.S. employer
identification number)

9350 Wilshire Blvd.
Suite 203
Beverly Hills, CA 90212
(Address of principal executive offices and zip code)
(800) 304-9888
(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

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

Large accelerated filer ☐
Non-accelerated filer ☐
Emerging growth company ☐

Accelerated filer ☐
Smaller reporting 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. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

At May 12, 2020, the issuer had outstanding the indicated number of shares of common stock: 70,699,433.

GT Biopharma, Inc. and Subsidiaries
FORM 10-Q
For the Quarter Ended March 31, 2020
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GT Biopharma, Inc. and Subsidiaries
as of March 31, 2020 and December 31, 2019
Consolidated Balance Sheets
(in Thousands, Except Par Value and Share Data)

| | March 31, 2020 | December 31, 2019 |
|--|---------------------------|------------------------------|
| | (unaudited) | |
| ASSETS | | |
| Current Assets: | | |
| Cash and cash equivalents | \$ 5 | \$ 28 |
| Prepaid expenses | 183 | 246 |
| Total Current Assets | 188 | 274 |
| Deposits | 12 | 12 |
| Operating lease right-to-use asset | 95 | 110 |
| Total Other Assets | 107 | 122 |
| TOTAL ASSETS | \$ 295 | \$ 396 |
| LIABILITIES AND STOCKHOLDERS' DEFICIT | | |
| Current Liabilities: | | |
| Accounts payable | \$ 2,370 | \$ 1,940 |
| Accrued expenses | 2,736 | 2,379 |
| Accrued interest | 2,651 | 2,029 |
| Operating lease liability | 105 | 120 |
| Line of credit | 31 | 31 |
| Convertible debentures | 13,257 | 13,207 |
| Total Current Liabilities | 21,150 | 19,706 |
| Total liabilities | 21,150 | 19,706 |
| Commitments and Contingencies | | |
| Stockholders' Deficit: | | |
| Convertible preferred stock - \$0.001 par value; 15,000,000 shares authorized: | | |
| Series C - 96,230 and 96,230 shares issued and outstanding at March 31, 2020 and December 31, 2019, respectively | 1 | 1 |
| Series J - 2,353,548 and 2,353,548 shares issued and outstanding at March 31, 2020 and December 31, 2019, respectively | 2 | 2 |
| Common stock - \$0.001 par value; 750,000,000 shares authorized; and 70,599,433 and 69,784,699 shares issued and outstanding at March 31, 2020 and December 31, 2019, respectively | 71 | 70 |
| Additional paid-in capital | 548,280 | 548,118 |
| Accumulated deficit | (569,040) | (567,332) |
| Noncontrolling interest | (169) | (169) |
| Total Stockholders' Deficit | (20,855) | (19,310) |
| TOTAL LIABILITIES AND STOCKHOLDERS' DEFICIT | \$ 295 | \$ 396 |

The accompanying notes are an integral part of these consolidated financial statements.

GT Biopharma, Inc. and Subsidiaries
March 31, 2020 and 2019
Statements of Operations
(in Thousands, Except Par Value and Share Data)

| | March 31, | |
|--|-------------|-------------|
| | 2020 | 2019 |
| | (unaudited) | (unaudited) |
| Revenue: | | |
| License revenues | \$ - | \$ - |
| TOTAL REVENUE | - | - |
| Cost of License Revenue | - | - |
| Gross profit | - | - |
| Operating Expenses: | | |
| Research and development | 324 | 834 |
| Selling, general and administrative | 746 | 3,222 |
| Total operating expenses | 1,070 | 4,056 |
| Loss from Operations | (1,070) | (4,056) |
| Other income (expense) | | |
| Interest expense/income | (638) | (454) |
| Total Other Income (Expense) | (638) | (454) |
| Loss before minority interest and provision for income taxes | (1,708) | (4,510) |
| Less: Loss attributable to the noncontrolling interests | - | - |
| Loss before provision for income taxes | (1,708) | (4,510) |
| Provision for income taxes | - | - |
| Net loss | (1,708) | (4,510) |
| Loss per share | | |
| Basic | \$ (0.02) | \$ (0.09) |
| Diluted | \$ (0.02) | \$ (0.09) |
| Weighted Average Shares Outstanding – | | |
| Basic | 70,077,026 | 51,092,886 |
| Diluted | 70,077,026 | 51,092,886 |

The accompanying notes are an integral part of these consolidated financial statements.

GT Biopharma, Inc. and Subsidiaries
Consolidated Statements of Cash Flows
For the Three Months Ended March 31, 2020 and 2019
(in Thousands)

| | <u>2020</u> (unaudited) | <u>2019</u> (unaudited) |
|---|----------------------------|----------------------------|
| CASH FLOWS FROM OPERATING ACTIVITIES: | | |
| Net loss | \$ (1,708) | \$ (4,510) |
| Adjustments to reconcile net loss to net cash used in operating activities: | | |
| Depreciation | - | 1 |
| Stock compensation expense for options and warrants issued to employees and non-employees | - | 2,565 |
| Amortization of debt discounts | - | 163 |
| Changes in operating assets and liabilities: | | |
| Other assets | 63 | 3 |
| Accounts payable and accrued liabilities | 1,422 | 817 |
| Net cash used in operating activities | <u>(223)</u> | <u>(961)</u> |
| CASH FLOWS FROM FINANCING ACTIVITIES: | | |
| Proceeds from notes payable | 200 | 1,052 |
| Loan costs | - | - |
| Repayment of note payable | - | (100) |
| Net cash provided by financing activities | <u>200</u> | <u>952</u> |
| Minority interest | - | - |
| NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS | (23) | (9) |
| CASH AND CASH EQUIVALENTS - Beginning of period | 28 | 60 |
| CASH AND CASH EQUIVALENTS - End of period | <u>\$ 5</u> | <u>\$ 51</u> |
| Supplemental disclosures: | | |
| Interest paid | \$ - | \$ - |
| Income taxes paid | \$ - | \$ - |
| Supplemental disclosures: | | |
| Issuance of common stock upon conversion of convertible notes | \$ 150 | \$ 430 |
| Issuance of common stock upon conversion of accrued interest | \$ 12 | \$ 4 |

The accompanying condensed notes are an integral part of these consolidated financial statements.

GT BIOPHARMA, INC. AND SUBSIDIARIES
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
MARCH 31, 2020

(UNAUDITED)

1. The Company and Summary of Significant Accounting Policies

Business

In 1965, the corporate predecessor of GT Biopharma, Diagnostic Data, Inc. was incorporated in the State of California. Diagnostic Data changed its incorporation to the State of Delaware in 1972, and changed its name to DDI Pharmaceuticals, Inc. in 1985. In 1994, DDI Pharmaceuticals merged with International BioClinical, Inc. and Bioxytech S.A. and changed its name to OXIS International, Inc. In July 2017, the Company changed its name to GT Biopharma, Inc.

We are a clinical stage biopharmaceutical company focused on the development and commercialization of novel immuno-oncology products based off our proprietary Tri-specific Killer Engager (TriKE™), Tetra-specific Killer Engager (TetraKE™) and bi-specific ligand-directed single-chain fusion protein technology platforms. Our TriKE and TetraKE platforms generate proprietary therapeutics designed to harness and enhance the cancer killing abilities of a patient's own natural killer cells, or NK cells. Once bound to an NK cell, our moieties are designed to enhance the NK cell, and precisely direct it to one or more specifically-targeted proteins expressed on a specific type of cancer cell or virus infected cell, ultimately resulting in the targeted cell's death. TriKEs and TetraKEs are made up of recombinant fusion proteins, can be designed to target any number of tumor antigens on hematologic malignancies, sarcomas or solid tumors and do not require patient-specific customization.

Going Concern

The Company's current operations have focused on business planning, raising capital, establishing an intellectual property portfolio, hiring, and conducting preclinical studies and clinical trials. The Company does not have any product candidates approved for sale and has not generated any revenue from product sales. The Company has sustained operating losses since inception and expects such losses to continue over the foreseeable future.

The financial statements of the Company have been prepared on a goingconcern basis, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. Accordingly, the financial statements do not include any adjustments that might be necessary should the Company be unable to continue in existence.

The Company has incurred substantial losses and negative cash flows from operations since its inception and has an accumulated deficit of \$569 million and cash of \$5 thousand as of March 31, 2020. The Company anticipates incurring additional losses until such time, if ever, that it can generate significant sales of its products currently in development. Substantial additional financing will be needed by the Company to fund its operations and to commercially develop its product candidates. These factors raise substantial doubt about the Company's ability to continue as a going concern.

Management is currently evaluating different strategies to obtain the required funding for future operations. These strategies may include but are not limited to: public offerings of equity and/or debt securities, payments from potential strategic research and development, and licensing and/or marketing arrangements with pharmaceutical companies. If the Company is unable to secure adequate additional funding, its business, operating results, financial condition and cash flows may be materially and adversely affected.

Use of Estimates

The financial statements and notes are representations of the Company's management, which is responsible for their integrity and objectivity. These accounting policies conform to accounting principles generally accepted in the United States of America, and have been consistently applied in the preparation of the financial statements. The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities revenues and expenses and disclosures of contingent assets and liabilities at the date of the financial statements. Actual results could differ from those estimates.

GT BIOPHARMA, INC. AND SUBSIDIARIES
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
MARCH 31, 2020
(UNAUDITED)

Basis of Consolidation and Comprehensive Income

The accompanying consolidated financial statements include the accounts of GT Biopharma, Inc. and its subsidiaries. All intercompany balances and transactions have been eliminated. The Company's financial statements are prepared using the accrual method of accounting.

Basis of Presentation

The accompanying unaudited interim condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the U.S. ("U.S. GAAP") and the rules and regulations of the U.S. Securities and Exchange Commission ("SEC"). Certain information and disclosures required by U.S. GAAP for complete consolidated financial statements have been condensed or omitted herein. The interim condensed consolidated financial statements should be read in conjunction with the audited consolidated financial statements and notes thereto included in the Company's Form 10-K for the year ended December 31, 2019 filed with the SEC on March 27, 2020. The unaudited interim condensed consolidated financial information presented herein reflects all normal adjustments that are, in the opinion of management, necessary for a fair statement of the financial position, results of operations and cash flows for the periods presented. The Company is responsible for the unaudited interim consolidated financial statements included in this report. The results of operations of any interim period are not necessarily indicative of the results for the full year.

Cash and Cash Equivalents

The Company considers all highly liquid investments with original maturities of three months or less to be cash equivalents.

Concentrations of Credit Risk

The Company's cash and cash equivalents, marketable securities and accounts receivable are monitored for exposure to concentrations of credit risk. The Company maintains substantially all of its cash balances in a limited number of financial institutions. The balances are each insured by the Federal Deposit Insurance Corporation up to \$250,000. The Company had no balances in excess of this limit at March 31, 2020.

Stock Based Compensation to Employees

The Company accounts for its stock-based compensation for employees in accordance with Accounting Standards Codification ("ASC") 718. The Company recognizes in the statement of operations the grant-date fair value of stock options and other equity-based compensation issued to employees and non-employees over the related vesting period.

The Company granted no stock options during the quarters ended March 31, 2020 and 2019, respectively

Long-Lived Assets

Our long-lived assets include property, plant and equipment, capitalized costs of filing patent applications and other indefinite lived intangible assets. We evaluate our long-lived assets for impairment, other than indefinite lived intangible assets, in accordance with ASC 360, whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. Estimates of future cash flows and timing of events for evaluating long-lived assets for impairment are based upon management's judgment. If any of our intangible or long-lived assets are considered to be impaired, the amount of impairment to be recognized is the excess of the carrying amount of the assets over its fair value.

Applicable long-lived assets are amortized or depreciated over the shorter of their estimated useful lives, the estimated period that the assets will generate revenue, or the statutory or contractual term in the case of patents. Estimates of useful lives and periods of expected revenue generation are reviewed periodically for appropriateness and are based upon management's judgment.

GT BIOPHARMA, INC. AND SUBSIDIARIES
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
MARCH 31, 2020

(UNAUDITED)

Impairment of Long-Lived Assets

The Company evaluates indefinite lived intangible assets for impairment at least annually and whenever impairment indicators are present in accordance with ASC 350. When necessary, the Company records an impairment loss for the amount by which the fair value is less than the carrying value of these assets. The fair value of intangible assets other than goodwill is typically determined using the “relief from royalty method”, specifically the discounted cash flow method utilizing Level 3 fair value inputs. Some of the more significant estimates and assumptions inherent in this approach include: the amount and timing of the projected net cash flows, which includes the expected impact of competitive, legal and/or regulatory forces on the projections and the impact of technological risk associated with IPR&D assets, as well as the selection of a long-term growth rate; the discount rate, which seeks to reflect the various risks inherent in the projected cash flows; and the tax rate, which seeks to incorporate the geographic diversity of the projected cash flows.

The Company performs impairment testing for all other long-lived assets whenever impairment indicators are present. When necessary, the Company calculates the undiscounted value of the projected cash flows associated with the asset, or asset group, and compares this estimated amount to the carrying amount. If the carrying amount is found to be greater, we record an impairment loss for the excess of book value over fair value.

Income Taxes

The Company accounts for income taxes using the asset and liability approach, whereby deferred income tax assets and liabilities are recognized for the estimated future tax effects, based on current enacted tax laws, of temporary differences between financial and tax reporting for current and prior periods. Deferred tax assets are reduced, if necessary, by a valuation allowance if the corresponding future tax benefits may not be realized.

Net Income (Loss) per Share

Basic net income (loss) per share is computed by dividing the net loss for the period by the weighted average number of common shares outstanding during the period. Diluted net income (loss) per share is computed by dividing the net loss for the period by the weighted average number of common shares outstanding during the period, plus the potential dilutive effect of common shares issuable upon exercise or conversion of outstanding stock options and warrants during the period. The weighted average number of potentially dilutive common shares excluded from the calculation of net income (loss) per share totaled in 87,120,470 and 22,731,781 as of March 31, 2020 and 2019, respectively.

Patents

Acquired patents are capitalized at their acquisition cost or fair value. The legal costs, patent registration fees and models and drawings required for filing patent applications are capitalized if they relate to commercially viable technologies. Commercially viable technologies are those technologies that are projected to generate future positive cash flows in the near term. Legal costs associated with patent applications that are not determined to be commercially viable are expensed as incurred. All research and development costs incurred in developing the patentable idea are expensed as incurred. Legal fees from the costs incurred in successful defense to the extent of an evident increase in the value of the patents are capitalized.

Capitalized cost for pending patents are amortized on a straight-line basis over the remaining twenty year legal life of each patent after the costs have been incurred. Once each patent is issued, capitalized costs are amortized on a straight-line basis over the shorter of the patent's remaining statutory life, estimated economic life or ten years.

GT BIOPHARMA, INC. AND SUBSIDIARIES
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
MARCH 31, 2020

(UNAUDITED)

Fixed Assets

Fixed assets is stated at cost. Depreciation is computed on a straight-line basis over the estimated useful lives of the assets, which are 3 to 10 years for machinery and equipment and the shorter of the lease term or estimated economic life for leasehold improvements.

Fair Value

The carrying amounts reported in the balance sheets for receivables and current liabilities each qualify as financial instruments and are a reasonable estimate of fair value because of the short period of time between the origination of such instruments and their expected realization and their current market rate of interest. The three levels are defined as follows:

- Level 1 inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities in active markets. The Company's Level 1 assets include cash equivalents, primarily institutional money market funds, whose carrying value represents fair value because of their short-term maturities of the investments held by these funds.
- Level 2 inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, and inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the financial instrument. The Company's Level 2 liabilities consist of liabilities arising from the issuance of convertible securities and in accordance with ASC 815-40: a warrant liability for detachable warrants, as well as an accrued derivative liability for the beneficial conversion feature. These liabilities are remeasured each reporting period. Fair value is determined using the Black-Scholes valuation model based on observable market inputs, such as share price data and a discount rate consistent with that of a government-issued security of a similar maturity. There were not such liabilities at March 31, 2020.
- Level 3 inputs to the valuation methodology are unobservable and significant to the fair value measurement. There were no such assets or liabilities as of March 31, 2020.

Research and Development

Research and development costs are expensed as incurred and reported as research and development expense. Research and development costs totaling \$.3 million and \$.8 million for the three months ended March 31, 2020 and 2019, respectively.

Revenue Recognition

License Revenue

License arrangements may consist of non-refundable upfront license fees, exclusive licensed rights to patented or patent pending technology, and various performance or sales milestones and future product royalty payments. Some of these arrangements are multiple element arrangements.

Non-refundable, up-front fees that are not contingent on any future performance by us, and require no consequential continuing involvement on our part, are recognized as revenue when the license term commences and the licensed data, technology and/or compound is delivered. We defer recognition of non-refundable upfront fees if we have continuing performance obligations without which the technology, right, product or service conveyed in conjunction with the non-refundable fee has no utility to the licensee that is separate and independent of our performance under the other elements of the arrangement. In addition, if we have continuing involvement through research and development services that are required because our know-how and expertise related to the technology is proprietary to us, or can only be performed by us, then such up-front fees are deferred and recognized over the period of continuing involvement.

GT BIOPHARMA, INC. AND SUBSIDIARIES
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
MARCH 31, 2020

(UNAUDITED)

Payments related to substantive, performance-based milestones in a research and development arrangement are recognized as revenue upon the achievement of the milestones as specified in the underlying agreements when they represent the culmination of the earnings process. As of March 31, 2020, the Company has not generated any licensing revenue.

2. Debt

Convertible Notes

On January 22, 2018, the Company entered into a Securities Purchase Agreement (“SPA”) with fourteen accredited investors (individually, a “Buyer” and collectively, the “Buyers”) pursuant to which the Company 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”) at a price of \$4.58 per share, 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”).

Pursuant to the terms of SPA the Notes were subject to an original issue discount of 10% resulting in proceeds to the Company of \$7,055,000 from the transaction.

Upon the purchase of the Notes, the Buyers received Warrants to purchase 1,694,440 shares of Common Stock. Such Warrants are exercisable for (5) years from the date the shares underlying the Warrants are freely saleable. The initial Exercise Price is \$4.58. According to the terms of the warrant agreement, the Warrants are subject to certain adjustments depending upon the price and structure of a subsequent financing, including a qualified financing with gross proceeds of at least \$20 million, as defined in the agreements.

The issuance of the Notes and Warrants were 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 under the 1933 Act and the rules and regulations promulgated thereunder, and applicable state securities laws.

Senior Convertible Debentures

On August 2, 2018, GT Biopharma, Inc. (the “Company”) entered into a Securities Purchase Agreement with the purchasers identified on the signature pages thereto (individually, a “Purchaser,” and collectively, the “Purchasers”) pursuant to which the Company issued to the Purchasers one year 10% Senior Convertible Debentures in an aggregate principal amount of \$5,140,000 (the “Debentures”), which Debentures shall be convertible into the Company’s common stock, par value \$0.001 per share (the “Common Stock”), at a price of \$2 per share. The Company used a portion of these proceeds to repay \$4.4 million of the notes issued on January 22, 2018. Additionally, the remaining \$3.3 million of the notes issued on January 22, 2018 were converted into the Debentures at the same terms discussed above.

On September 7, 2018, GT Biopharma, Inc. (the “Company”) entered into a Securities Purchase Agreement with the purchasers identified on the signature pages thereto (individually, a “Purchaser,” and collectively, the “Purchasers”) pursuant to which the Company has issued to the Purchasers one year 10% Senior Convertible Debentures in an aggregate principal amount of \$2,050,000 (the “Debentures”), which Debentures shall be convertible into the Company’s common stock, par value \$0.001 per share (the “Common Stock”), at an initial price of \$2 per share.

GT BIOPHARMA, INC. AND SUBSIDIARIES
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
MARCH 31, 2020

(UNAUDITED)

On September 24, 2018, GT Biopharma, Inc. (the “Company”) entered into a Securities Purchase Agreement with the purchasers identified on the signature pages thereto (individually, a “Purchaser,” and collectively, the “Purchasers”) pursuant to which the Company has issued to the Purchasers one year 10% Senior Convertible Debentures in an aggregate principal amount of \$800,000 (the “Debentures”), which Debentures shall be convertible into the Company’s common stock, par value \$0.001 per share (the “Common Stock”), at an initial price of \$2 per share.

On February 4, 2019, GT Biopharma, Inc. (the “Company”) entered into a Securities Purchase Agreement (the “Purchase Agreement”) with the purchasers identified on the signature pages thereto (individually, a “Purchaser,” and collectively, the “Purchasers”), pursuant to which the Company issued to the Purchasers, on February 4, 2019, Secured Convertible Notes in an aggregate principal amount of \$1,352,224 (the “Notes”), consisting of gross proceeds of \$1,052,224 and settlement of existing debt of \$300,000, which Notes shall be convertible at any time after issuance into shares (the “Conversion Shares”) of the Company’s common stock, par value \$0.001 per share (the “Common Stock”), at an initial conversion price of \$0.60 per share (the “Conversion Price”).

The Notes accrue interest at the rate of 10% per annum and mature on August 2, 2019. Interest on the Notes is payable in cash or, at a Purchaser’s option, in shares of Common Stock at the Conversion Price. Upon the occurrence of an event of default, interest accrues at 18% per annum. The Notes contain customary default provisions, including provisions for potential acceleration, and covenants, including negative covenants regarding additional indebtedness and dividends. The Conversion Price is subject to adjustment due to certain events, including stock dividends and stock splits, and is subject to reduction in certain circumstances if the Company issues Common Stock or Common Stock equivalents at an effective price per share that is lower than the Conversion Price then in effect. The Company may only prepay the Notes with the prior written consent of the respective Purchasers thereof.

Contemporaneously with the execution and delivery of the Purchase Agreement, on February 4, 2019, the Company and certain of its wholly-owned subsidiaries entered into a Security Agreement (the “Security Agreement”) with Alpha Capital Anstalt, as collateral agent on behalf of the Purchasers, and with the Purchasers, pursuant to which the Purchasers have been granted a first-priority security interest in substantially all of the assets of the Company and such subsidiaries securing (i) an aggregate principal amount of \$1,352,224 of Notes and (ii) an aggregate principal amount of \$9,058,962 of the Company’s 10% Senior Convertible Debentures issued on August 2, 2018, September 7, 2018 and September 24, 2018 held by such Purchasers.

The Purchase Agreement contains customary representations, warranties and covenants, including covenants, subject to certain exceptions, that the Company, until the date on which less than 10% of the Notes are outstanding, shall not effect any Variable Rate Transaction (as defined in the Purchase Agreement) and that, for as long as a Purchaser holds any Notes or Conversion Shares, the Company shall amend the terms and conditions of the Purchase Agreement and the transactions contemplated thereby with respect to such Purchaser to give such Purchaser the benefit of any terms or conditions under which the Company agrees to issue or sell any Common Stock or Common Stock equivalents that are more favorable to an investor than the terms and conditions granted to such Purchaser under the Purchase Agreement and the transactions contemplated thereby.

In addition, the Company entered into a registration rights agreement (the “Registration Rights Agreement”) with the Purchasers, pursuant to which the Company has agreed to file, within 14 days after February 4, 2019, one or more registration statements on Form S-3 (or, if Form S-3 is not then available to the Company, such form of registration that is then available to effect a registration for resale of the subject securities) covering the resale of all Conversion Shares, subject to certain penalties set forth in the Registration Rights Agreement. The Form S-3 was filed by the Company on February 14, 2019.

GT BIOPHARMA, INC. AND SUBSIDIARIES
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
MARCH 31, 2020

(UNAUDITED)

On May 22, 2019, GT Biopharma, Inc. (the “Company”) entered into a Securities Purchase Agreement (the “Purchase Agreement”) with the ten purchasers (individually, a “Purchaser,” and collectively, the “Purchasers”), pursuant to which the Company issued to the Purchasers, on May 22, 2019, Secured Convertible Notes in an aggregate principal amount of \$1,300,000 (the “Notes”), which Notes shall be convertible at any time after issuance into shares (the “Conversion Shares”) of the Company’s common stock, par value \$0.001 per share (the “Common Stock”), at an initial conversion price of \$0.35 per share (the “Conversion Price”).

The Notes accrue interest at the rate of 10% per annum and mature on November 22, 2019. Interest on the Notes is payable in cash or, at a Purchaser’s option, in shares of Common Stock at the Conversion Price. Upon the occurrence of an event of default, interest accrues at 18% per annum. The Notes contain customary default provisions, including provisions for potential acceleration, and covenants, including negative covenants regarding additional indebtedness and dividends. The Conversion Price is subject to adjustment due to certain events, including stock dividends and stock splits, and is subject to reduction in certain circumstances if the Company issues Common Stock or Common Stock equivalents at an effective price per share that is lower than the Conversion Price then in effect. The Company may only prepay the Notes with the prior written consent of the respective Purchasers thereof.

The Purchase Agreement contains customary representations, warranties and covenants, including covenants, subject to certain exceptions, that the Company, until the date on which less than 10% of the Notes are outstanding, shall not effect any Variable Rate Transaction (as defined in the Purchase Agreement) and that, for as long as a Purchaser holds any Notes or Conversion Shares, the Company shall amend the terms and conditions of the Purchase Agreement and the transactions contemplated thereby with respect to such Purchaser to give such Purchaser the benefit of any terms or conditions under which the Company agrees to issue or sell any Common Stock or Common Stock equivalents that are more favorable to an investor than the terms and conditions granted to such Purchaser under the Purchase Agreement and the transactions contemplated thereby.

In addition, the Company entered into a registration rights agreement (the “Registration Rights Agreement”) with the Purchasers, pursuant to which the Company has agreed to file, within 30 days after May 22, 2019, one or more registration statements on Form S-3 (or, if Form S-3 is not then available to the Company, such form of registration that is then available to effect a registration for resale of the subject securities) covering the resale of all Conversion Shares, subject to certain penalties set forth in the Registration Rights Agreement. The Form S-1 was filed by the Company on June 21, 2019 and became effective on July 12, 2019.

Between July 31 and August 28, 2019, GT Biopharma, Inc. (the “Company”) entered into a Securities Purchase Agreement (the “Purchase Agreement”) with the eleven purchasers (individually, a “Purchaser,” and collectively, the “Purchasers”), pursuant to which the Company issued to the Purchasers, Secured Convertible Notes in an aggregate principal amount of \$975,000 (the “Notes”), which Notes shall be convertible at any time after issuance into shares (the “Conversion Shares”) of the Company’s common stock, par value \$0.001 per share (the “Common Stock”), at an initial conversion price of \$0.20 per share (the “Conversion Price”).

The Notes accrue interest at the rate of 10% per annum and mature between January 31 and February 28, 2020. Interest on the Notes is payable in cash or, at a Purchaser’s option, in shares of Common Stock at the Conversion Price. Upon the occurrence of an event of default, interest accrues at 18% per annum. The Notes contain customary default provisions, including provisions for potential acceleration, and covenants, including negative covenants regarding additional indebtedness and dividends. The Conversion Price is subject to adjustment due to certain events, including stock dividends and stock splits, and is subject to reduction in certain circumstances if the Company issues Common Stock or Common Stock equivalents at an effective price per share that is lower than the Conversion Price then in effect. The Company may only prepay the Notes with the prior written consent of the respective Purchasers thereof.

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CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
MARCH 31, 2020

(UNAUDITED)

In addition, the Company entered into a registration rights agreement (the “Registration Rights Agreement”) with the Purchasers, pursuant to which the Company has agreed to file, within 30 days, one or more registration statements on Form S-3 (or, if Form S-3 is not then available to the Company, such form of registration that is then available to effect a registration for resale of the subject securities) covering the resale of all Conversion Shares, subject to certain penalties set forth in the Registration Rights Agreement. The Form S-1 was filed by the Company on September 13, 2019 and became effective in October 2, 2019.

On December 19, 2019, GT Biopharma, Inc. (the “Company”) entered into a Securities Purchase Agreement (the “Purchase Agreement”) with the one purchaser (individually, a “Purchaser,” and collectively, the “Purchasers”), pursuant to which the Company issued to the Purchasers, on December 19, 2019, Secured Convertible Notes in an aggregate principal amount of \$200,000 (the “Notes”), which Notes shall be convertible at any time after issuance into shares (the “Conversion Shares”) of the Company’s common stock, par value \$0.001 per share (the “Common Stock”), at an initial conversion price of \$0.20 per share (the “Conversion Price”).

The Notes accrue interest at the rate of 10% per annum and mature on August 19, 2020. Interest on the Notes is payable in cash or, at a Purchaser’s option, in shares of Common Stock at the Conversion Price. Upon the occurrence of an event of default, interest accrues at 18% per annum. The Notes contain customary default provisions, including provisions for potential acceleration, and covenants, including negative covenants regarding additional indebtedness and dividends. The Conversion Price is subject to adjustment due to certain events, including stock dividends and stock splits, and is subject to reduction in certain circumstances if the Company issues Common Stock or Common Stock equivalents at an effective price per share that is lower than the Conversion Price then in effect. The Company may only prepay the Notes with the prior written consent of the respective Purchasers thereof.

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Financing Agreement

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. The outstanding principal of all Advances under the Line of Credit will bear interest at the rate of interest of prime plus 2 percent per annum. There is \$31,000 due on this credit line at March 31, 2020.

3. Stockholders' Equity

Common Stock

In the first quarter of 2020, the Company issued 814,734 shares of common stock upon conversion of \$162,943 in principal and interest on senior convertible notes.

Preferred Stock

The 96,230 shares of Series C preferred stock are convertible into 111 shares of the Company's common stock at the option of the holders at any time. The conversion ratio is based on the average closing bid price of the common stock for the fifteen consecutive trading days ending on the date immediately preceding the date notice of conversion is given, but cannot be less than .20 or more than .2889 common shares for each Series C preferred share. The conversion ratio may be adjusted under certain circumstances such as stock splits or stock dividends. The Company has the right to automatically convert the Series C preferred stock into common stock if the Company lists its shares of common stock on the Nasdaq National Market and the average closing bid price of the Company's common stock on the Nasdaq National Market for 15 consecutive trading days exceeds \$3,000.00. Each share of Series C preferred stock is entitled to the number of votes equal to .26 divided by the average closing bid price of the Company's common stock during the fifteen consecutive trading days immediately prior to the date such shares of Series C preferred stock were purchased. In the event of liquidation, the holders of the Series C preferred stock shall participate on an equal basis with the holders of the common stock (as if the Series C preferred stock had converted into common stock) in any distribution of any of the assets or surplus funds of the Company. The holders of Series C preferred stock are entitled to noncumulative dividends if and when declared by the Company's board of directors. No dividends to Series C preferred stockholders were issued or unpaid through March 31, 2020.

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On September 1, 2017, the Company designated 2,000,000 shares of Series J Preferred Stock. Shares of Series J Preferred Stock will have the same voting rights as shares of common stock with each share of Series J Preferred Stock entitled to one vote at a meeting of the shareholders of the Corporation. Shares of Series J Preferred Stock will not be entitled to receive any dividends, unless and until specifically declared by our board of directors. The holders of the Series J Preferred Stock will participate, on an as-if-converted-to-common stock basis, in any dividends to the holders of common stock. Each share of the Series J Preferred Stock is convertible into one share of our common stock at any time at the option of the holder.

On the same day, the Board issued 1,513, 548 of those shares in exchange for the cancellation of debt. In the first quarter of 2019, it was discovered that a certificate of designation with respect to the Series J Preferred Stock had never been filed with the Office of the Secretary of State for the State of Delaware. Legal research determined that despite the fact the Company had issued shares of Series J Preferred Stock, those shares had, in fact, never existed.

To remedy the situation, on April 4, 2019, the Company filed a certificate of designation with the Office of the Secretary State for the State of Delaware designating a series of preferred stock as Series J-1 Preferred Stock. On April 19, 2019, the Company issued 2,353,548 of those shares. The issuance was in lieu of the preferred stock that should have been issued on September 1, 2017, and in settlement for not receiving preferred stock until 20 months after the debt for which the stock was issued was cancelled. The Company reflected an expense in general and administrative costs in the year ended December 31, 2019 totaling \$1,140,000.

The Shares are convertible into shares of common stock of the Registrant at the rate of \$0.20 per share. The issuance was exempt from the registration requirements of Section 5 of the Securities Act of 1933 pursuant to Section 4(2) of the same Act since the issuance of the Shares did not involve any public offering.

4. Stock Options and Warrants

Stock Options

The following table summarizes stock option transactions for the quarter ended March 31, 2020:

| | Number of Options | Weighted Average Exercise Price |
|--------------------------------|------------------------------|--|
| Outstanding, December 31, 2019 | 40 | \$ 877.50 |
| Granted | - | - |
| Exercised | - | - |
| Expired | - | - |
| Outstanding, March 31, 2020 | 40 | \$ 877.50 |
| Exercisable, March 31, 2020 | 40 | \$ 877.50 |

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Common Stock Warrants

Warrant transactions for the quarter ended March 31, 2020 are as follows:

| | Number of Warrants | Weighted Average Exercise Price |
|-----------------------------------|-----------------------|---------------------------------------|
| Outstanding at December 31, 2019: | 1,813,053 | \$ 0.20 |
| Granted | - | - |
| Forfeited | - | - |
| Exercised | - | - |
| Outstanding at March 31, 2020 | 1,813,053 | \$ 0.20 |
| Exercisable at March 31, 2020 | 1,813,053 | \$ 0.20 |

5. Commitments and Contingencies

Leases

On October 1, 2018, the Company entered into a three-year lease agreement for its office in Westlake Village, CA. In addition to minimum rent, certain leases require payment of real estate taxes, insurance, common area maintenance charges and other executory costs. The Company recognizes rent expense under such arrangements on a straight-line basis over the effective term of each lease.

The following table summarizes the Company's future minimum lease commitments as of March 31, 2020:

| | |
|------------------------------|-------------------|
| Year ending December 31: | |
| 2020 | 53,000 |
| 2021 | 61,000 |
| Total minimum lease payments | <u>\$ 114,000</u> |

Rent expense for the quarters ended March 31, 2020 and 2019 was \$17,200 and \$17,000, respectively.

6. Subsequent Events

Convertible Notes

Between April 20 and May 7, 2020, GT Biopharma, Inc. (the "Company") entered into a Securities Purchase Agreement (the "Purchase Agreement") with eight purchasers (individually, a "Purchaser," and collectively, the "Purchasers"), pursuant to which the Company issued to the Purchasers, on January 30, 2020, Secured Convertible Notes in an aggregate principal amount of \$2,067,000 (the "Notes"), which Notes shall be convertible at any time after issuance into shares (the "Conversion Shares") of the Company's common stock, par value \$0.001 per share (the "Common Stock"), at an initial conversion price of \$0.20 per share (the "Conversion Price").

GT BIOPHARMA, INC. AND SUBSIDIARIES
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
MARCH 31, 2020

(UNAUDITED)

The Notes accrue interest at the rate of 10% per annum and mature between October 20 and November 7, 2020. Interest on the Notes is payable in cash or, at a Purchaser's option, in shares of Common Stock at the Conversion Price. Upon the occurrence of an event of default, interest accrues at 18% per annum. The Notes contain customary default provisions, including provisions for potential acceleration, and covenants, including negative covenants regarding additional indebtedness and dividends. The Conversion Price is subject to adjustment due to certain events, including stock dividends and stock splits, and is subject to reduction in certain circumstances if the Company issues Common Stock or Common Stock equivalents at an effective price per share that is lower than the Conversion Price then in effect. The Company may only prepay the Notes with the prior written consent of the respective Purchasers thereof.

The Purchase Agreement contains customary representations, warranties and covenants, including covenants, subject to certain exceptions, that the Company, until the date on which less than 10% of the Notes are outstanding, shall not effect any Variable Rate Transaction (as defined in the Purchase Agreement) and that, for as long as a Purchaser holds any Notes or Conversion Shares, the Company shall amend the terms and conditions of the Purchase Agreement and the transactions contemplated thereby with respect to such Purchaser to give such Purchaser the benefit of any terms or conditions under which the Company agrees to issue or sell any Common Stock or Common Stock equivalents that are more favorable to an investor than the terms and conditions granted to such Purchaser under the Purchase Agreement and the transactions contemplated thereby.

In addition, the Company entered into a registration rights agreement (the "Registration Rights Agreement") with the Purchasers, pursuant to which the Company has agreed to file, within 30 days after April 20, 2020, one or more registration statements on Form S-3 (or, if Form S-3 is not then available to the Company, such form of registration that is then available to effect a registration for resale of the subject securities) covering the resale of all Conversion Shares, subject to certain penalties set forth in the Registration Rights Agreement.

Common Stock

In April 2020, the Company issued 250,000 shares of common stock upon conversion of \$50,000 in principal on convertible notes.

On May 1, 2020, the Company issued 1,086,429 shares of restricted common stock for consulting services.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations.

CAUTIONARY NOTICE REGARDING FORWARD-LOOKING STATEMENTS

Some of the statements in the Form 10-Q are forward-looking statements about what may happen in the future. Forward-looking statements include statements regarding our current beliefs, goals, and expectations about matters such as our expected financial position and operating results, our business strategy, and our financing plans. The forward-looking statements in the Form 10-Q are not based on historical facts, but rather reflect the current expectations of our management concerning future results and events. The forward-looking statements generally can be identified by the use of terms such as "believe," "expect," "anticipate," "intend," "plan," "foresee," "likely" or other similar words or phrases. Similarly, statements that describe our objectives, plans or goals are or may be forward-looking statements. Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be different from any future results, performance and achievements expressed or implied by these statements. We cannot guarantee that our forward-looking statements will turn out to be correct or that our beliefs and goals will not change. Our actual results could be very different from and worse than our expectations for various reasons. You should review carefully all information, including the discussion of risk factors under "Item 1A: Risk Factors" and "Item 7: Management's Discussion and Analysis of Financial Condition and Results of Operations" of the Form 10-K for the year ended December 31, 2019. Any forward-looking statements in the Form 10-Q are made only as of the date hereof and, except as may be required by law, we do not have any obligation to publicly update any forward-looking statements contained in this Form 10-Q to reflect subsequent events or circumstances.

Throughout this Quarterly Report on Form 10-Q, the terms "GTBP," "we," "us," "our," "the company" and "our company" refer to GT Biopharma, Inc., a Delaware corporation formerly known as Oxis International, Inc., DDI Pharmaceuticals, Inc. and Diagnostic Data, Inc. together with our subsidiaries.

Overview

We are a clinical stage biopharmaceutical company focused on the development and commercialization of novel immuno-oncology products based off our proprietary Tri-specific Killer Engager (TriKE™), Tetra-specific Killer Engager (TetraKE™) and bi-specific ligand-directed single-chain fusion protein technology platforms. Our TriKE and TetraKE platforms generate proprietary therapeutics designed to harness and enhance the cancer killing abilities of a patient's own natural killer cells, or NK cells. Once bound to an NK cell, our moieties are designed to enhance the NK cell, and precisely direct it to one or more specifically-targeted proteins expressed on a specific type of cancer cell or virus infected cell, ultimately resulting in the targeted cell's death. TriKEs and TetraKEs are made up of recombinant fusion proteins, can be designed to target any number of tumor antigens on hematologic malignancies, sarcomas or solid tumors and do not require patient-specific customization.

We are using our TriKE and TetraKE platforms with the intent to bring to market immuno-oncology products that can treat a range of hematologic malignancies, sarcoma and solid tumors. The platforms are scalable, and we are putting processes in place to be able to produce IND-ready moieties in a timely manner after a specific TriKE or TetraKE conceptual design. After conducting market and competitive research, specific moieties can then be advanced into the clinic on our own or through potential collaborations with larger companies. We are also evaluating, in conjunction with our Scientific Advisory Board, additional moieties designed to target different tumor antigens. We believe our TriKEs and TetraKEs may have the ability, if approved for marketing, to be used on a stand-alone basis, augment the current monoclonal antibody therapeutics, be used in conjunction with more traditional cancer therapy and potentially overcome certain limitations of current chimeric antigen receptor, or CAR-T, therapy.

We are also using our TriKE and TetraKE platforms to develop therapeutics useful for the treatment of infectious disease such as for the treatment of patients infected by the human immunodeficiency virus (HIV). While the use of anti-retroviral drugs has substantially improved the health and increased the longevity of individuals infected with HIV, these drugs are designed to suppress virus replication to help modulate progression to AIDS and to limit further transmission of the virus. Despite the use of anti-retroviral drugs, infected individuals retain reservoirs of latent HIV-infected cells that, upon cessation of anti-retroviral drug therapy, can reactivate and re-establish an active HIV infection. For a curative therapy, destruction of these latent HIV infected cells must take place. The HIV-TriKE contains the antigen binding fragment (Fab) from a broadly-neutralizing antibody targeting the HIV-Env protein. The HIV-TriKE is designed to target HIV while redirecting NK cell killing specifically to actively replicating HIV infected cells. The HIV-TriKE induced NK cell proliferation, and demonstrated the ability in vitro to reactivate and kill HIV-infected T-cells. These findings indicate a potential role for the HIV-TriKE in the reactivation and elimination of the latently infected HIV reservoir cells by harnessing the NK cell's ability to mediate the antibody-directed cellular cytotoxicity (ADCC).

We also believe our bi-specific, ligand-directed single-chain fusion proteins are examples of the next generation of antibody-drug conjugates (ADCs). We believe GTB-1550 has certain properties that could result in competitive advantages over recently FDA-approved ADC products targeting leukemias and lymphomas and/or have utility in other niche populations. In a Phase 1 trial, of nine patients that achieved adequate blood levels, in two heavily pretreated patients a continuous partial remission (PR) and complete remission (CR) were observed. One of these patients, who had failed multiple previous treatment regimens, has been in remission since early 2015.

Our initial work has been conducted in collaboration with the Masonic Cancer Center at the University of Minnesota under a program led by Dr. Jeffrey Miller, the Deputy Director. Dr. Miller is a recognized leader in the field of NK cell and IL-15 biology and their therapeutic potential. We have exclusive rights to the TriKE and TetraKE platforms and are generating additional intellectual property around specific moieties.

Recent Developments

Collaboration Agreement

On March 10, 2020 we entered into a collaboration agreement with CytoVance® Biologics, a USA-based contract development and manufacturing organization (CDMO) and a subsidiary of the Shenzhen Hepalink Pharmaceutical Group Co., Ltd. (“Hepalink”), to provide development services for a TriKE™ therapeutic for the treatment of coronavirus infection. Under the terms of the collaboration agreement, the companies will focus on preparing sufficient quantities of our coronavirus TriKE drug product for preclinical evaluation using CytoVance’s *E. coli*-based *Keystone Expression System*™ and subsequently, will scale-up production using CytoVance’s GMP microbial manufacturing platform for evaluation of TriKE in humans to treat coronavirus infection.

Financing

On January 30, 2020 GT Biopharma, Inc. (the “Company”) entered into a Securities Purchase Agreement (the “Purchase Agreement”) with the one purchaser (individually, a “Purchaser,” and collectively, the “Purchasers”), pursuant to which the Company issued to the Purchasers, on January 30, 2020, Secured Convertible Notes in an aggregate principal amount of \$200,000 (the “Notes”), which Notes shall be convertible at any time after issuance into shares (the “Conversion Shares”) of the Company’s common stock, par value \$0.001 per share (the “Common Stock”), at an initial conversion price of \$0.20 per share (the “Conversion Price”).

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Results of Operations

Comparison of the Three Months Ended March 31, 2020 and 2019

Research and Development Expenses

During the three months ended March 31, 2020 and 2019, we incurred \$324,000 and \$834,000 research and development expenses. Research and development costs decreased due primarily to the reductions employees, consultants and preclinical expenses. We anticipate our direct clinical costs to increase in second half of 2020 upon the continuation of a phase one clinical trial of our most advanced TriKe product candidate, OXS-3550.

Selling, general and administrative expenses

During the three months ended March 31, 2020 and 2019, we incurred \$746,000 and \$3,222,000 of selling, general and administrative expenses. The decrease in selling, general and administrative expenses is primarily attributable the reduction of salaries.

Interest Expense

Interest expense was \$638,000 and \$454,000 for the three months ended March 31, 2020 and 2019 respectively. The increase is primarily due to the accrual of interest on outstanding convertible notes.

Liquidity and Capital Resources

The Company’s current operations have focused on business planning, raising capital, establishing an intellectual property portfolio, hiring, and conducting preclinical studies and clinical trials. The Company does not have any product candidates approved for sale and has not generated any revenue from product sales. The Company has sustained operating losses since inception and expects such losses to continue over the foreseeable future. During the three months ended March 31, 2020, the Company raised \$200,000 through an issuance of a convertible debenture in January 2020. We anticipate that cash utilized for selling, general, and administrative expenses will range between \$1 and \$2 million in the coming quarters, while research and development expenses will vary depending on clinical activities. The Company is pursuing several alternatives to address this situation, including the raising of additional funding through equity or debt financings. In order to finance existing operations and pay current liabilities over the next twelve months, the Company will need to raise an additional \$15 million of capital in 2020.

The financial statements of the Company have been prepared on a going-concern basis, which contemplates the realization of assets and the satisfaction of liabilities in the normal course of business. Accordingly, the financial statements do not include any adjustments that might be necessary should the Company be unable to continue in existence.

The Company has incurred substantial losses and negative cash flows from operations since its inception and has an accumulated deficit of \$569 million and cash of \$5 thousand as of March 31, 2020. The Company anticipates incurring additional losses until such time, if ever, that it can generate significant sales or revenue from out-licensing of its products currently in development. Substantial additional financing will be needed by the Company to fund its operations and to commercially develop its product candidates. These factors raise substantial doubt about the Company’s ability to continue as a going concern.

Management is currently evaluating different strategies to obtain the required funding for future operations. These strategies may include but are not limited to: public offerings of equity and/or debt securities, payments from potential strategic research and development, licensing and/or marketing arrangements with pharmaceutical companies. Management has also implemented cost saving efforts, including reduction in executive salaries and reduced travel. Management believes that these ongoing and planned financing endeavors, if successful, will provide adequate financial resources to continue as a going concern for at least the next six months from the date the financial statements are issued; however, there can be no assurance in this regard. If the Company is unable to secure adequate additional funding, its business, operating results, financial condition and cash flows may be materially and adversely affected.

Critical Accounting Policies

We consider the following accounting policies to be critical given they involve estimates and judgments made by management and are important for our investors' understanding of our operating results and financial condition.

Long-Lived Assets

Our long-lived assets include property, plant and equipment, capitalized costs of filing patent applications and goodwill and other assets. We evaluate our long-lived assets for impairment in accordance with ASC 360, whenever events or changes in circumstances indicate that the carrying amount of such assets may not be recoverable. Estimates of future cash flows and timing of events for evaluating long-lived assets for impairment are based upon management's judgment. If any of our intangible or long-lived assets are considered to be impaired, the amount of impairment to be recognized is the excess of the carrying amount of the assets over its fair value.

Applicable long-lived assets are amortized or depreciated over the shorter of their estimated useful lives, the estimated period that the assets will generate revenue, or the statutory or contractual term in the case of patents. Estimates of useful lives and periods of expected revenue generation are reviewed periodically for appropriateness and are based upon management's judgment. Goodwill and other assets are not amortized.

Certain Expenses and Liabilities

On an ongoing basis, management evaluates its estimates related to certain expenses and accrued liabilities. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of liabilities that are not readily apparent from other sources. Actual results may differ materially from these estimates under different assumptions or conditions.

Inflation

We believe that inflation has not had a material adverse impact on our business or operating results during the periods presented.

Off-balance Sheet Arrangements

We have no off-balance sheet arrangements as of March 31, 2020.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

This company qualifies as a smaller reporting company, as defined in 17 C.F.R. §229.10(f) (1) and is not required to provide information by this Item.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

Our principal executive officer and principal financial officer evaluated the effectiveness of our “disclosure controls and procedures” (as such term is defined in Rules 13a-15(e) and 15d-15(e) of the United States Securities Exchange Act of 1934, as amended), as of March 31, 2019. Based on that evaluation we have concluded that our disclosure controls and procedures were not effective as of March 31, 2020.

Management’s Report on Internal Control over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rule 13a-15(f) or 15d-15(f) promulgated under the Securities Exchange Act of 1934, as amended, as a process designed by, or under the supervision of, a company’s principal executive and principal financial officers and effected by a company’s board of directors, management and other personnel, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles and includes those policies and procedures that:

- Pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the company;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the company’s assets that could have a material effect on the financial statements.

All internal control systems, no matter how well designed, have inherent limitations and can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints, and the benefits of controls must be considered relative to their costs. Because of the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within our company have been detected. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

As of March 31, 2020, 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.

A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

Management determined that fundamental elements of an effective control environment were missing or inadequate as of March 31, 2020. The most significant issues identified were: 1) lack of segregation of duties due to very small staff and significant reliance on outside consultants, 2) risks of executive override also due to lack of established policies, and small employee staff and 3) insufficient written policies and procedures for accounting and financial reporting for the requirements and application of GAAP and SEC Guidelines. Based on the material weaknesses identified above, management has concluded that internal control over financial reporting was not effective as of March 31, 2020. As the company’s operations increase, the company intends to take measures to mitigate the issues identified and implement a functional system of internal controls over financial reporting. Such measures will include, but not be limited to hiring of additional employees in its finance and accounting department; preparation of risk-control matrices to identify key risks and develop and document policies to mitigate those risks; and identification and documentation of standard operating procedures for key financial activities.

Changes in Internal Control over Financial Reporting

Other than as described above, no changes in our internal control over financial reporting were made during our most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

On December 24, 2018, Empery Asset Master, Empery Tax Efficient, LP, and Empery Tax Efficient II, LP (collectively, “Plaintiffs”) filed in the N.Y. Supreme Court, Index No. 656408/2018, alleging causes of action against the Company for Breach of Contract, Liquidated Damages, Damages, and Indemnification. The claims arose out of a securities purchase agreement entered into between Plaintiffs and the Company pursuant to which the Company issued convertible notes and warrants to Plaintiffs in or around January 2018. Plaintiffs allege, inter alia, that the Company failed to pay Plaintiffs’ outstanding principal on or before the July 23, 2018 maturity date of said notes, failed to convert a portion of said notes in response to Plaintiffs’ conversion notice, and failed to timely adjust the exercise price of said warrants. At issue are notes issued to Plaintiffs in the aggregate principal amount of approximately \$2.2 million and warrants representing the right of Plaintiffs to acquire an aggregate of 480,352 shares of common stock in the Company. The Company and Plaintiffs are in the process of negotiating a settlement that would fully resolve Plaintiffs’ asserted claims, but no formal agreement has been finalized.

On August 28, 2019, a complaint was filed in the Superior Court of California, County of Los Angeles, West Judicial District, Santa Monica Courthouse, Unlimited Civil Division by Jeffrey Lion, an individual (“Lion”), and by Daniel Vallera, an individual (“Vallera”). Lion and Vallera are referred to jointly as the “Plaintiffs”. The complaint was filed against GT Biopharma, Inc. and its subsidiary Oxis Biotech, Inc. (either of them or jointly, the “Company”). The Plaintiffs allege breach of a license agreement between the Plaintiffs and the Company entered into on or about September 3, 2015. Lion alleges breach of a consulting agreement between Lion and the Company entered into on or about September 1, 2015. Vallera alleges breach of a consulting agreement between Vallera and the Company entered into in or around October, 2018. The Complaint seeks actual damages of \$1,670,000, for the fair market value of the number of shares of GT Biopharma, Inc. that at the time of judgment represent 15,000,000 shares of such stock as of September 1, 2015, and that GT Biopharma, Inc. issue Lion the number of common shares of GT Biopharma, Inc. that at the time of judgment represent 15,000,000 such shares as of September 1, 2015.

Item 1A. Risk Factors

Information regarding risk factors appears under “Risk Factors” included in Item 1A, Risk Factors, of our Annual Report on Form 10-K for the year ended December 31, 2019. There have been no material changes from the risk factors previously disclosed in the above-mentioned periodic report.

Item 2. Unregistered Sales of Securities and Use of Proceeds

On December 19, 2019, GT Biopharma, Inc. (the “Company”) entered into a Securities Purchase Agreement (the “Purchase Agreement”) with the one purchaser (individually, a “Purchaser,” and collectively, the “Purchasers”), pursuant to which the Company issued to the Purchasers, on December 19, 2019, Secured Convertible Notes in an aggregate principal amount of \$200,000 (the “Notes”), which Notes shall be convertible at any time after issuance into shares (the “Conversion Shares”) of the Company’s common stock, par value \$0.001 per share (the “Common Stock”), at an initial conversion price of \$0.20 per share (the “Conversion Price”).

The Notes accrue interest at the rate of 10% per annum and mature on August 19, 2020. Interest on the Notes is payable in cash or, at a Purchaser's option, in shares of Common Stock at the Conversion Price. Upon the occurrence of an event of default, interest accrues at 18% per annum. The Notes contain customary default provisions, including provisions for potential acceleration, and covenants, including negative covenants regarding additional indebtedness and dividends. The Conversion Price is subject to adjustment due to certain events, including stock dividends and stock splits, and is subject to reduction in certain circumstances if the Company issues Common Stock or Common Stock equivalents at an effective price per share that is lower than the Conversion Price then in effect. The Company may only prepay the Notes with the prior written consent of the respective Purchasers thereof.

The Purchase Agreement contains customary representations, warranties and covenants, including covenants, subject to certain exceptions, that the Company, until the date on which less than 10% of the Notes are outstanding, shall not effect any Variable Rate Transaction (as defined in the Purchase Agreement) and that, for as long as a Purchaser holds any Notes or Conversion Shares, the Company shall amend the terms and conditions of the Purchase Agreement and the transactions contemplated thereby with respect to such Purchaser to give such Purchaser the benefit of any terms or conditions under which the Company agrees to issue or sell any Common Stock or Common Stock equivalents that are more favorable to an investor than the terms and conditions granted to such Purchaser under the Purchase Agreement and the transactions contemplated thereby.

In addition, the Company entered into a registration rights agreement (the "Registration Rights Agreement") with the Purchasers, pursuant to which the Company has agreed to file, within 30 days after December 19, 2019, one or more registration statements on Form S-3 (or, if Form S-3 is not then available to the Company, such form of registration that is then available to effect a registration for resale of the subject securities) covering the resale of all Conversion Shares, subject to certain penalties set forth in the Registration Rights Agreement.

On January 30, 2020 GT Biopharma, Inc. (the "Company") entered into a Securities Purchase Agreement (the "Purchase Agreement") with the one purchaser (individually, a "Purchaser," and collectively, the "Purchasers"), pursuant to which the Company issued to the Purchasers, on January 30, 2020, Secured Convertible Notes in an aggregate principal amount of \$200,000 (the "Notes"), which Notes shall be convertible at any time after issuance into shares (the "Conversion Shares") of the Company's common stock, par value \$0.001 per share (the "Common Stock"), at an initial conversion price of \$0.20 per share (the "Conversion Price").

The Notes accrue interest at the rate of 10% per annum and mature on September 30, 2020. Interest on the Notes is payable in cash or, at a Purchaser's option, in shares of Common Stock at the Conversion Price. Upon the occurrence of an event of default, interest accrues at 18% per annum. The Notes contain customary default provisions, including provisions for potential acceleration, and covenants, including negative covenants regarding additional indebtedness and dividends. The Conversion Price is subject to adjustment due to certain events, including stock dividends and stock splits, and is subject to reduction in certain circumstances if the Company issues Common Stock or Common Stock equivalents at an effective price per share that is lower than the Conversion Price then in effect. The Company may only prepay the Notes with the prior written consent of the respective Purchasers thereof.

The Purchase Agreement contains customary representations, warranties and covenants, including covenants, subject to certain exceptions, that the Company, until the date on which less than 10% of the Notes are outstanding, shall not effect any Variable Rate Transaction (as defined in the Purchase Agreement) and that, for as long as a Purchaser holds any Notes or Conversion Shares, the Company shall amend the terms and conditions of the Purchase Agreement and the transactions contemplated thereby with respect to such Purchaser to give such Purchaser the benefit of any terms or conditions under which the Company agrees to issue or sell any Common Stock or Common Stock equivalents that are more favorable to an investor than the terms and conditions granted to such Purchaser under the Purchase Agreement and the transactions contemplated thereby.

In addition, the Company entered into a registration rights agreement (the "Registration Rights Agreement") with the Purchasers, pursuant to which the Company has agreed to file, within 30 days after January 30, 2020, one or more registration statements on Form S-3 (or, if Form S-3 is not then available to the Company, such form of registration that is then available to effect a registration for resale of the subject securities) covering the resale of all Conversion Shares, subject to certain penalties set forth in the Registration Rights Agreement.

Between April 20 and May 7, 2020, GT Biopharma, Inc. (the “Company”) entered into a Securities Purchase Agreement (the “Purchase Agreement”) with eight purchasers (individually, a “Purchaser,” and collectively, the “Purchasers”), pursuant to which the Company issued to the Purchasers, on January 30, 2020, Secured Convertible Notes in an aggregate principal amount of \$2,067,000 (the “Notes”), which Notes shall be convertible at any time after issuance into shares (the “Conversion Shares”) of the Company’s common stock, par value \$0.001 per share (the “Common Stock”), at an initial conversion price of \$0.20 per share (the “Conversion Price”).

The Notes accrue interest at the rate of 10% per annum and mature between October 20 and November 7, 2020. Interest on the Notes is payable in cash or, at a Purchaser’s option, in shares of Common Stock at the Conversion Price. Upon the occurrence of an event of default, interest accrues at 18% per annum. The Notes contain customary default provisions, including provisions for potential acceleration, and covenants, including negative covenants regarding additional indebtedness and dividends. The Conversion Price is subject to adjustment due to certain events, including stock dividends and stock splits, and is subject to reduction in certain circumstances if the Company issues Common Stock or Common Stock equivalents at an effective price per share that is lower than the Conversion Price then in effect. The Company may only prepay the Notes with the prior written consent of the respective Purchasers thereof.

The Purchase Agreement contains customary representations, warranties and covenants, including covenants, subject to certain exceptions, that the Company, until the date on which less than 10% of the Notes are outstanding, shall not effect any Variable Rate Transaction (as defined in the Purchase Agreement) and that, for as long as a Purchaser holds any Notes or Conversion Shares, the Company shall amend the terms and conditions of the Purchase Agreement and the transactions contemplated thereby with respect to such Purchaser to give such Purchaser the benefit of any terms or conditions under which the Company agrees to issue or sell any Common Stock or Common Stock equivalents that are more favorable to an investor than the terms and conditions granted to such Purchaser under the Purchase Agreement and the transactions contemplated thereby.

In addition, the Company entered into a registration rights agreement (the “Registration Rights Agreement”) with the Purchasers, pursuant to which the Company has agreed to file, within 30 days after April 20, 2020, one or more registration statements on Form S-3 (or, if Form S-3 is not then available to the Company, such form of registration that is then available to effect a registration for resale of the subject securities) covering the resale of all Conversion Shares, subject to certain penalties set forth in the Registration Rights Agreement.

Item 3. Defaults Upon Senior Securities.

As of March 31, 2020, convertible notes totaling approximately \$13,257,000 are in default.

Item 4. Mine Safety Disclosures

None.

Item 5. Other Information.

None.

Item 6. Exhibits

| Exhibit | Description | Herewith | Form | SEC File No. | Filing Date |
|------------------------|---|----------|------|--------------|-------------|
| 3.1 | Certificate of Amendment to the Certificate of Incorporation of the Registrant, effective as of July 19, 2017. | | 8-K | 000-08092 | 03/15/18 |
| 10.1 | Securities Purchase Agreement by and among the Company and the Buyers, dated January 30, 2020. | X | | | |
| 10.2 | Form of Registration Rights Agreement by and among the Company and the Buyers, dated January 30, 2020. | X | | | |
| 10.3 | Form of Note, dated January 30, 2020. | X | | | |
| 10.4 | Securities Purchase Agreement by and among the Company and the Buyers, dated April/May, 2020. | X | | | |
| 10.5 | Form of Registration Rights Agreement by and among the Company and the Buyers, dated April/May, 2020. | X | | | |
| 10.6 | Form of Note, dated April/May, 2020. | X | | | |
| 10.7 | Clinical Trial Agreement with University of Minnesota | X | | | |
| 31.1 | Certification of Principal Executive Officer pursuant to Rule 13a-14 and Rule 15d-14(a), promulgated under the Securities and Exchange Act of 1934, as amended. | X | | | |
| 31.2 | Certification of Principal Financial Officer pursuant to Rule 13a-14 and Rule 15d-14(a), promulgated under the Securities and Exchange Act of 1934, as amended. | X | | | |
| 32.1 * | Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Chief Executive Officer). | X | | | |
| 32.2 * | Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (Chief Financial Officer). | X | | | |

| Exhibit No. | Description |
|-------------|---|
| 101.INS | XBRL Instance Document. |
| 101.SCH | XBRL Taxonomy Extension Schema Document. |
| 101.CAL | XBRL Taxonomy Extension Calculation Linkbase Document. |
| 101.DEF | XBRL Taxonomy Extension Definition Linkbase Document. |
| 101.LAB | XBRL Taxonomy Extension Label Linkbase Document. |
| 101.PRE | XBRL Taxonomy Extension Presentation Linkbase Document. |

* This certification shall not be deemed “filed” for purposes of Section 18 of the Securities Act of 1934, or otherwise subject to the liability of that Section, nor shall it be deemed to be incorporated by reference into any filing under the Securities Act of 1933 or the Securities Exchange Act of 1934.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

GT Biopharma, Inc.

Dated: May 15, 2020

By: /s/ Anthony Cataldo
Anthony Cataldo
Chief Executive Officer and Chairman of the Board

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

| <u>Name</u> | <u>Position</u> | <u>Date</u> |
|---|---|--------------|
| <u>/s/ Anthony Cataldo</u> Anthony Cataldo | Chief Executive Officer and Chairman of the Board | May 15, 2020 |
| <u>/s/ Steven Weldon</u> Steven Weldon | Chief Financial Officer (Principal Financial Officer), and Director | May 15, 2020 |

SECURITIES PURCHASE AGREEMENT

This Securities Purchase Agreement (this “Agreement”) is dated as of _____, between GT Biopharma, Inc., a Delaware corporation and includes any successor Company thereto (the “Company”), and each purchaser identified on the signature pages hereto (each, including its successors and permitted assigns, a “Purchaser” and collectively, the “Purchasers”).

WHEREAS, subject to the terms and conditions set forth in this Agreement and pursuant to Section 4(a)(2) of the Securities Act of 1933, as amended (the “Securities Act”), and Rule 506 promulgated thereunder, the Company desires to issue and sell to each Purchaser, and each Purchaser, severally and not jointly, desires to purchase in not more than two closings from the Company, securities of the Company as more fully described in this Agreement (the “Offering”).

NOW, THEREFORE, IN CONSIDERATION of the mutual covenants contained in this Agreement, and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Company and each Purchaser agree as follows:

ARTICLE I. DEFINITIONS

1.1 Definitions. In addition to the terms defined elsewhere in this Agreement: (a) capitalized terms that are not otherwise defined herein have the meanings given to such terms in the Notes (as defined herein), and (b) the following terms have the meanings set forth in this Section 1.1:

“Accredited Investor” shall have the meaning ascribed to such term in Section 3.2(c).

“Acquiring Person” shall have the meaning ascribed to such term in Section 4.7.

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

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

“Applicable Law” shall mean any law, rule or regulation of any governmental authority or jurisdiction applicable to any party to this Agreement, as the case may be.

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

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

“Buy-In” shall have the meaning ascribed to such term in Section 4.1(h).

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

“Closing Date” means, with respect to any Closing, the date of such Closing.

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

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

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

“Conversion Price” shall have the meaning ascribed to such term in the Notes.

“Debentures” means those certain 10% Senior Convertible Debentures of the Company issued on August 2, 2018, September 7, 2018, September 24, 2018, May 22, 2019 and the Senior Convertible Notes issued on February 4, 2019.

“DGCL” means the Delaware General Corporation Law.

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

“Disqualification Event” shall have the meaning ascribed to such term in Section 3.1(o).

“Effective Date” means the earliest of the date that (a) a Registration Statement has been declared effective by the Commission with respect to all of the Underlying Shares (as defined herein) and has been continuously effective for not less than sixty (60) Business Days, or (b) (i) all of the Underlying Shares have been sold pursuant to Rule 144, or (ii) may be sold by the holders thereof (other than Affiliates of the Company) pursuant to Rule 144 without the requirement for the Company to be in compliance with the current public information required under Rule 144 and without volume or manner-of-sale restrictions, and (c) Company counsel has delivered to the Transfer Agent and Purchasers a standing written unqualified opinion that resales may then be made by such holders of the Underlying Shares (other than Affiliates of the Company) pursuant to an effective Registration Statement or the exemption described in (b)(ii) above, which opinion shall be in form and substance reasonably acceptable to such Purchasers.

“End Date” means the first date that (i) less than 10% of the aggregate amount of Note principal is outstanding, and (ii) no Event of Default (as defined in the Note) nor an event which with the passage of time or the giving of notice could become an Event of Default is pending.

“Equity Line of Credit” shall have the meaning ascribed to such term in Section 4.13.

“Event of Default” shall have the meaning ascribed to such term in the Note.

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

“Exempt Issuance” means the issuance of (a) shares of Common Stock or options to employees, officers or directors of the Company pursuant to any stock or option plan duly adopted for such purpose, by a majority of the non-employee members of the Board of Directors or a majority of the members of a committee of non-employee directors established for such purpose and only as disclosed on Schedule 3.1(g), (b) securities exercisable or exchangeable for or convertible into shares of Common Stock issued and outstanding on the date of this Agreement, provided that such securities and any term thereof have not been amended since the date of this Agreement to increase the number of such securities or to decrease the issue price, exercise price, exchange price or conversion price of such securities and which securities and the principal terms thereof are set forth on Schedule 3.1(g), and described in the SEC Reports, (c) securities issued pursuant to acquisitions or strategic transactions approved by a majority of the disinterested directors of the Company, provided that any such issuance shall only be to a Person (or to the equity holders of a Person) which is, itself or through its subsidiaries, an operating company or an owner of an asset in a business synergistic with the business of the Company and shall be intended to provide to the Company substantial additional benefits in addition to the investment of funds, but shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities, (d) as set forth on Schedule 3.1(g), and (e) securities issued or issuable to the Purchasers and their assigns pursuant to this Agreement, the Notes and other Transaction Documents including without limitation, Section 4.16 and Section 4.22 herein, or upon exercise, conversion or exchange of any such securities.

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

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

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

“G&M” shall mean Grushko & Mittman, P.C., with offices located at 515 Rockaway Avenue, Valley Stream, New York 11581, Fax: 212-697-3575.

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

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

“Investor Questionnaire” means the form of Accredited Investor Questionnaire annexed hereto as Exhibit B.

“Issuer Covered Person” means the Company, any of its predecessors, any affiliated issuer, any director, executive officer, other officer of the Company participating in the Offering, any beneficial owner of 20% or more of the Company’s outstanding voting equity securities, calculated on the basis of voting power, and any promoter (as that term is defined in Rule 405 under the Securities Act) connected with the Company in any capacity at the time of sale.

“Legend Removal Date” shall have the meaning ascribed to such term in Section 4.1(d).

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

“Listing Default” shall have the meaning ascribed to such term in Section 4.11(b).

“Majority in Interest” shall have the meaning ascribed to such term in Section 5.5.

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

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

“Maximum Rate” shall have the meaning ascribed to such term in Section 5.17.

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

“Notes” means the convertible notes issuable pursuant to this Agreement, in the form of Exhibit A hereto.

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

“Participation Maximum” shall have the meaning ascribed to such term in Section 4.16(a).

“Permitted Indebtedness” means (a) the Indebtedness evidenced by the Notes and the Debentures all as set forth on Schedule 3.1(aa), (b) any liabilities for borrowed money or amounts owed not in excess of \$10,000 in the aggregate (other than trade accounts payable incurred in the ordinary course of business), (c) all guaranties, endorsements and other contingent obligations in respect of indebtedness of others, whether or not the same are or should be reflected in the Company’s consolidated balance sheet (or the notes thereto) not affecting more than \$10,000 in the aggregate, except guaranties by endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business; (d) the present value of any lease payments not in excess of \$100,000 due under leases required to be capitalized in accordance with GAAP; and (e) any liabilities for borrowed money that are junior to the Debentures pursuant to an intercreditor agreement acceptable to Purchasers, and the holders of which are not granted any security interest.

“Permitted Lien” means the individual and collective reference to the following: (a) Liens for taxes, assessments and other governmental charges or levies not yet due or Liens for taxes, assessments and other governmental charges or levies being contested in good faith and by appropriate proceedings for which adequate reserves (in the good faith judgment of the management of the Company) have been established in accordance with GAAP, (b) Liens imposed by law which were incurred in the ordinary course of the Company’s business, such as carriers’, warehousemen’s and mechanics’ Liens, statutory landlords’ Liens, and other similar Liens arising in the ordinary course of the Company’s business, and which (x) do not individually or in the aggregate materially detract from the value of such property or assets or materially impair the use thereof in the operation of the business of the Company and its consolidated Subsidiaries or (y) are being contested in good faith by appropriate proceedings, which proceedings have the effect of preventing for the foreseeable future the forfeiture or sale of the property or asset subject to such Liens, and (c) Liens in connection with Permitted Indebtedness under clauses (a), (b) and (c) thereunder.

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

“Pre-Notice” shall have the meaning ascribed to such term in Section 4.16(b).

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

“Pro-Rata Portion” shall have the meaning ascribed to such term in Section 4.16(e).

“Public Information Failure” shall have the meaning ascribed to such term in Section 4.3(b).

“Public Information Failure Payments” shall have the meaning ascribed to such term in Section 4.3(b).

“Purchaser Party” shall have the meaning ascribed to such term in Section 4.10.

“Registration Rights Agreement” means the Registration Rights Agreement, dated the date hereof, among the Company and the Purchasers, in the form of Exhibit D attached hereto.

“Registration Statement” means a registration statement declared effective by the Commission allowing the public resale of not less than all of the Underlying Shares by the Purchaser, at the time such registration statement is effective and the prospectus contained therein is current.

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

“Required Minimum” means, as of any date, 150% of the maximum aggregate number of shares of Common Stock then issued or potentially issuable in the future pursuant to the Transaction Documents, including any Underlying Shares issuable upon conversion in full of all Notes, ignoring any conversion or exercise limits set forth therein.

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

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

“Securities” means the Notes and the Underlying Shares.

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

“Short Sales” means “short sales” as defined in Rule 200 of Regulation SHO under the Exchange Act and all types of direct and indirect stock pledges, forward sale contracts, options, puts, calls, swaps and similar arrangements (including on a total return basis) whether such transactions are made through U.S. or non-U.S. broker dealers or foreign regulated brokers.

“Stock Option Plans” means the Stock Option Plan of the Company in effect as the date of this Agreement, the principal terms of which have been disclosed in the SEC Reports.

“Subscription Amount” means, as to each Purchaser, the aggregate amount to be paid for the Notes purchased hereunder at the Closing as specified below such Purchaser’s name on the signature page of this Agreement and next to the heading “Subscription Amount,” in United States dollars and in immediately available funds.

“Subsequent Financing” shall have the meaning ascribed to such term in Section 4.16(a).

“Subsequent Financing Notice” shall have the meaning ascribed to such term in Section 4.16(b).

“Subsidiary” means with respect to any entity at any date, any direct or indirect Person, limited or general partnership, limited liability company, trust, estate, association, joint venture or other business entity of which (A) more than 50% of (i) the outstanding capital stock having (in the absence of contingencies) ordinary voting power to elect a majority of the board of directors or other managing body of such entity, (ii) in the case of a partnership or limited liability company, the interest in the capital or profits of such partnership or limited liability company or (iii) in the case of a trust, estate, association, joint venture or other entity, the beneficial interest in such trust, estate, association or other entity business is, at the time of determination, owned or controlled directly or indirectly through one or more intermediaries, by such entity, or (B) is under the actual control of the Company.

“Termination Date” means August 31, 2019.

“Trading Day” means a day on which the principal Trading Market is open for trading for three or more hours, or if there is no applicable Trading Market, Trading Day shall mean Business Day.

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

“Transaction Documents” means this Agreement, the Notes, the Registration Rights Agreement, all exhibits and schedules thereto and hereto and any other documents or agreements executed by any party hereto in connection with the transactions contemplated hereunder.

“Transfer Agent” means Computershare, the current transfer agent of the Company, with a mailing address of 350 Indiana Street, Suite 800 Golden, Colorado 80401, and a facsimile number of (303) 262-0610, and any successor transfer agent of the Company.

“Underlying Shares” means the shares of Common Stock issued and issuable upon conversion of the Notes and issued and issuable in lieu of the cash payment of interest on the Notes in accordance with the terms of the Notes and any other shares of Common Stock issued or issuable to a Purchaser in connection with or pursuant to the Securities or Transaction Documents.

“Unlegended Shares” shall have the meaning ascribed to such term in Section 4.1(d).

“Variable Priced Equity Linked Instruments” shall have the meaning ascribed to such term in Section 4.13.

“Variable Rate Transaction” shall have the meaning ascribed to such term in Section 4.13.

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg 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 a Trading Market but is then reported on the OTC Pink Marketplace maintained by the OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the volume weighted average price of the Common Stock on the first such facility (or a similar organization or agency succeeding to its functions of reporting prices), or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by a Majority in Interest and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

**ARTICLE II.
PURCHASE AND SALE**

2.1 Purchase and Sale of Notes.

(a) Subject to the terms and conditions of this Agreement, each Purchaser agrees to purchase and the Company agrees to sell and issue to each Purchaser at the Closing (as defined below) the principal amount of Notes of the Company as is set forth opposite such Purchaser's name on such Purchaser's signature page hereto. The Notes issued to the Purchasers pursuant to this Agreement (including any notes issued at the Initial Closing and any Additional Notes, as defined below) shall be referred to in this Agreement as the "Notes." Each Note shall be in the form attached hereto as Exhibit A hereto.

(b) The initial purchase and sale of the Notes shall take place remotely via the electronic exchange of documents and signatures on the Business Day on which all of the Transaction Documents have been executed and delivered by the applicable parties thereto, and all conditions precedent to (i) the Purchasers' obligation to pay the Subscription Amount at such Closing, and (ii) the Company's obligations to deliver the Securities to be issued and sold at such Closing, in each case, have been satisfied or waived, but in no event later than the tenth Business Day following the date hereof (such initial closing is referred to herein as the "Initial Closing").

(c) After the Initial Closing, the Company may sell, in one or more closings and on the terms and conditions contained in this Agreement, Notes in the aggregate principal amount of up to \$2,000,000 (collectively, the "Additional Notes"), to one or more purchasers (the "Additional Purchasers") reasonably acceptable to the Company, provided that (A) such subsequent sale is consummated prior to August 31, 2019 (the "Termination Date"), or such date as the Company and a Majority in Interest may mutually agree upon; and (B) each Additional Purchaser shall become a party to the Transaction Documents by executing and delivering a counterpart signature page to each of the Transaction Documents. Signature pages shall be added to this Agreement to reflect the amount of Additional Notes purchased at each such closing (an "Additional Closing") and together with the Initial Closing, each, a "Closing") and the parties purchasing such Additional Notes.

(d) At each Closing, the payment by a Purchaser of such Purchaser's Subscription Amount may be made via wire transfer or a certified check in immediately available funds to the Company.

NO MINIMUM AMOUNT OF NOTES MUST BE SOLD IN ORDER FOR THE COMPANY TO ACCEPT ANY SUBSCRIPTIONS, AND ALL NET PROCEEDS OF THE OFFERING WILL BE IMMEDIATELY AVAILABLE FOR COMPANY PURPOSES UPON CLOSING.

2.2 Deliveries.

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

(i) this Agreement duly executed by the Company;

(ii) a Note with a principal amount as set forth on the signature page hereto equal to each Purchaser's Subscription Amount, registered in the name of such Purchaser;

(iii) the Registration Rights Agreement duly executed by the Company;

(iv) a certificate executed on behalf of the Company by its Principal Executive Officer or Chief Executive Officer (each as defined in the Exchange Act) of the Company, dated as of the Closing Date, in which such officer shall certify that the conditions set forth in Section 2.3(b) have been fulfilled; and

(v) a certificate executed on behalf of the Company by its Secretary's certificate containing (i) copies of the text of the resolutions by which the corporate action on the part of the Company necessary to approve this Agreement and the other Transaction Documents and the transactions and actions contemplated hereby and thereby, which shall be accompanied by a certificate of the corporate secretary or assistant corporate secretary of Company dated as of the Closing Date certifying to the Purchasers that such resolutions were duly adopted and have not been amended or rescinded, (ii) an incumbency certificate dated as of the Closing Date executed on behalf of Company by its corporate secretary or one of its assistant corporate secretaries certifying the office of each officer of Company executing this Agreement, or any other agreement, certificate or other instrument executed pursuant hereto, and (iii) copies of (A) the Company's Certificate of Incorporation and bylaws in effect on the Closing Date, and (B) the certificate evidencing the good standing of Company as of a day within five (5) Business Days prior to the Closing Date.

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

- (i) this Agreement duly executed by such Purchaser;
- (ii) such Purchaser's Subscription Amount;
- (iii) Accredited Investor Questionnaire duly executed by each Purchaser; and
- (iv) the Registration Rights Agreement duly executed by each Purchaser.

2.3 Closing Conditions

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

(i) the accuracy in all material respects (determined without regard to any materiality, Material Adverse Effect or other similar qualifiers therein) on the date of this Agreement and the Closing Date of the representations and warranties of the Purchasers contained herein (unless as of a specific date therein in which case they shall be accurate as of such date);

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

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

(b) The respective obligations of a Purchaser hereunder to effect the Closing, unless waived by such Purchaser, are subject to the following conditions being met:

(i) the accuracy in all material respects (determined without regard to any materiality, Material Adverse Effect or other similar qualifiers therein) on the date of this Agreement and Closing Date of the representations and warranties of the Company contained herein (unless as of a specific date therein in which case they shall be accurate as of such date);

- (ii) all Required Approvals, obligations, covenants and agreements of the Company under the Transaction Documents required to be performed or obtained at or prior to the Closing Date shall have been performed or obtained;
- (iii) the delivery by the Company of the items set forth in Section 2.2(a) of this Agreement;
- (iv) there shall have been no Material Adverse Effect with respect to the Company since the date hereof; and
- (v) from the date hereof to the Closing Date, and, at any time prior to the Closing Date, trading in securities generally as reported by Bloomberg L.P. shall not have been suspended or limited, or minimum prices shall not have been established on securities whose trades are reported by such service, or on any Trading Market, nor shall a banking moratorium have been declared either by the United States or New York State authorities nor shall there have occurred any material outbreak or escalation of hostilities or other national or international calamity of such magnitude in its effect on, or any material adverse change in, any financial market which, in each case, in the reasonable judgment of such Purchaser, makes it impracticable or inadvisable to purchase the Securities at the Closing.

ARTICLE III. REPRESENTATIONS AND WARRANTIES

3.1 Representations and Warranties of the Company. Except as set forth in the SEC Reports or the Disclosure Schedules, which Disclosure Schedules shall be deemed a part hereof and shall qualify any representation made herein only to the extent of the disclosure contained in the corresponding or cross-referenced section of the Disclosure Schedules, the Company hereby makes the following representations and warranties to each Purchaser:

(a) Subsidiaries. All of the direct and indirect Subsidiaries of the Company and the Company's ownership interests therein are set forth on Schedule 3.1(a). The Company owns, directly or indirectly, the capital stock or other equity interests of each Subsidiary set forth on Schedule 3.1(a), free and clear of any Liens, and all of the issued and outstanding shares of capital stock of each Subsidiary are validly issued and are fully paid, non-assessable and free of pre-emptive and similar rights to subscribe for or purchase securities.

(b) Organization and Qualification. The Company and each Subsidiary is an entity duly incorporated or otherwise organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation or organization, with the requisite power and authority to own and use its properties and assets and to carry on its business as currently conducted. Neither the Company nor any Subsidiary is in violation nor default of any of the provisions of its respective certificate or articles of incorporation, bylaws or other organizational or charter documents. Each of the Company and each Subsidiary is duly qualified to conduct business and is in good standing as a foreign Person or other entity in each jurisdiction in which the nature of the business conducted or property owned by it makes such qualification necessary, except where the failure to be so qualified or in good standing, as the case may be, would not reasonably be expected to result in: (i) a material adverse effect on the legality, validity or enforceability of any Transaction Document, (ii) a material adverse effect on the results of operations, assets, business, or condition (financial or otherwise) of the Company and each Subsidiary, taken as a whole, or (iii) a material adverse effect on the Company's ability to perform in any material respect on a timely basis its obligations under any Transaction Document (any of (i), (ii) or (iii), a "Material Adverse Effect") and, no Proceeding has been instituted in any such jurisdiction revoking, limiting or curtailing or seeking to revoke, limit or curtail such power and authority or qualification.

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

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

(e) Filings, Consents and Approvals. The Company is not required to obtain any consent, waiver, authorization or order of, give any notice to, or make any filing or registration with, any court or other federal, state, local or other governmental authority or other Person in connection with the execution, delivery and performance by the Company of the Transaction Documents, other than: (i) the filings required pursuant to Section 4.6 of this Agreement, (ii) the notice and/or application(s) to each applicable Trading Market for the issuance and sale of the Securities and the listing of the Underlying Shares for trading thereon in the time and manner required thereby and (iii) the filing of Form D with the Commission and such filings as are required to be made under applicable state securities laws (collectively, the "Required Approvals").

(f) Issuance of the Securities. The Securities are duly authorized and, when issued and paid for in accordance with the applicable Transaction Documents, will be duly and validly issued, fully paid and nonassessable, free and clear of all Liens imposed by the Company other than restrictions on transfer provided for in the Transaction Documents. The Underlying Shares, when issued in accordance with the terms of the Transaction Documents, will be validly issued, fully paid and nonassessable, free and clear of all Liens imposed by the Company other than restrictions on transfer provided for in the Transaction Documents.

(g) Capitalization. Except as set forth on Schedule 3.1(g), the Company has not issued any capital stock since its most recently filed annual report on Form 10-K. Except as set forth on Schedule 3.1(g), no Person has any right of first refusal, preemptive right, right of participation, or any similar right to participate in the transactions contemplated by the Transaction Documents. Except as disclosed on Schedule 3.1(g), there are no outstanding options, employee or incentive stock option plans, warrants, scrip rights to subscribe to, calls or commitments of any character whatsoever relating to, or securities, rights or obligations convertible into or exercisable or exchangeable for, or giving any Person any right to subscribe for or acquire any shares of Common Stock, or contracts, commitments, understandings or arrangements by which the Company or any Subsidiary is or may become bound to issue additional shares of Common Stock or Common Stock Equivalents. Except as set forth on Schedule 3.1(g), the issuance and sale of the Securities will not obligate the Company to issue shares of Common Stock or other securities to any Person (other than the Purchasers) and will not result in a right of any holder of Company securities to adjust the exercise, conversion, exchange or reset price under any of such securities. All of the outstanding shares of capital stock of the Company are duly authorized, validly issued, fully paid and nonassessable, have been issued in material compliance with all federal and state securities laws, and none of such outstanding shares was issued in violation of any preemptive rights or similar rights to subscribe for or purchase securities. Except as contemplated by Section 3.1(e), no further approval or authorization of any stockholder, the Board of Directors or other Person is required for the issuance and sale of the Securities and the Company's compliance with the terms of the Transaction Documents. There are no stockholders agreements, voting agreements or other similar agreements with respect to the Company's capital stock to which the Company is a party or, to the knowledge of the Company, between or among any of the Company's stockholders. Except as disclosed on Schedule 3.1(g), the Company is not a party to any Variable Rate Transaction and as of Closing, there will not be outstanding any Equity Line of Credit nor Variable Priced Equity Linked Instruments as of the Closing.

(h) SEC Reports; Financial Statements. Except as set forth on Schedule 3.1(h), the Company has filed all reports, schedules, forms, statements and other documents required to be filed by the Company under the Securities Act and the Exchange Act, including pursuant to Section 13(a) or 15(d) thereof, for the three years preceding the date hereof (or such shorter period as the Company was required by law or regulation to file such material) (the foregoing materials, including the exhibits thereto and documents incorporated by reference therein, being collectively referred to herein as the "SEC Reports") on a timely basis or has received a valid extension of such time of filing and has filed any such SEC Reports prior to the expiration of any such extension. As of their respective dates, the SEC Reports complied in all material respects with the requirements of the Securities Act and the Exchange Act, as applicable, and none of the SEC Reports, when filed, contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The Company has never been an issuer subject to Rule 144(i) under the Securities Act. The financial statements of the Company included in the SEC Reports comply in all material respects with applicable accounting requirements and the rules and regulations of the Commission with respect thereto as in effect at the time of filing. Such financial statements have been prepared in accordance with United States generally accepted accounting principles applied on a consistent basis during the periods involved ("GAAP"), except as may be otherwise specified in such financial statements or the notes thereto and except that unaudited financial statements may not contain all footnotes required by GAAP, and fairly present in all material respects the financial position of the Company and its consolidated Subsidiaries as of and for the dates thereof and the results of operations and cash flows for the periods then ended, subject, in the case of unaudited statements, to normal, immaterial, year-end audit adjustments.

(i) Material Changes: Undisclosed Events, Liabilities or Developments. Since the date of the latest audited financial statements included within the SEC Reports, except as set forth on Schedule 3.1(i) or as specifically disclosed in a subsequent SEC Report filed prior to the date hereof: (i) there has been no event, occurrence or development that has had or that could reasonably be expected to result in a Material Adverse Effect, (ii) the Company has not incurred any liabilities (contingent or otherwise) other than (A) trade payables and accrued expenses incurred in the ordinary course of business consistent with past practice and (B) liabilities not required to be reflected in the Company's financial statements pursuant to GAAP or disclosed in filings made with the Commission, (iii) the Company has not altered its method of accounting, (iv) the Company has not declared or made any dividend or distribution of cash or other property to its stockholders or purchased, redeemed or made any agreements to purchase or redeem any shares of its capital stock and (v) the Company has not issued any equity securities to any officer, director or Affiliate, except pursuant to existing Company stock option plans. The Company does not have pending before the Commission any request for confidential treatment of information. Except for the issuance of the Securities contemplated by this Agreement or as set forth on Schedule 3.1(i), no event, liability, fact, circumstance, occurrence or development has occurred or exists or is reasonably expected to occur or exist with respect to the Company or its Subsidiaries or their respective businesses, properties, operations, assets or financial condition, that would be required to be disclosed by the Company under applicable securities laws at the time this representation is made or deemed made that has not been publicly disclosed at least one (1) Trading Day prior to the date that this representation is made.

(j) Litigation. Except as set forth in Schedule 3.1(j), there is no action, suit, inquiry, notice of violation, proceeding or investigation pending or, to the knowledge of the Company, threatened against or affecting the Company, any Subsidiary or any of their respective properties before or by any court, arbitrator, governmental or administrative agency or regulatory authority (federal, state, county, local or foreign) (collectively, an "Action") which (i) adversely affects or challenges the legality, validity or enforceability of any of the Transaction Documents or the Securities or (ii) could, if there were an unfavorable decision, have or reasonably be expected to result in a Material Adverse Effect. Neither the Company nor any Subsidiary, nor any director or officer thereof, is or has been the subject of any Action involving a claim of violation of or liability under federal or state securities laws or a claim of breach of fiduciary duty. There has not been, and to the knowledge of the Company, there is not pending or contemplated, any investigation by the Commission involving the Company or any current or former director or officer of the Company. The Commission has not issued any stop order or other order suspending the effectiveness of any registration statement filed by the Company or any Subsidiary under the Exchange Act or the Securities Act.

(k) Labor Relations. No labor dispute exists or, to the knowledge of the Company, is imminent with respect to any of the employees of the Company, which could reasonably be expected to result in a Material Adverse Effect. None of the Company's or its Subsidiaries' employees is a member of a union that relates to such employee's relationship with the Company or such Subsidiary, and neither the Company nor any of its Subsidiaries is a party to a collective bargaining agreement, and the Company and its Subsidiaries believe that their relationships with their employees are good. To the knowledge of the Company, no executive officer of the Company or any Subsidiary, is, or is now expected to be, in violation of any material term of any employment contract, confidentiality, disclosure or proprietary information agreement or non-competition agreement, or any other contract or agreement or any restrictive covenant in favor of any third party, and the continued employment of each such executive officer does not subject the Company or any of its Subsidiaries to any liability with respect to any of the foregoing matters. Except as set forth on Schedule 3.1(k), the Company and its Subsidiaries are in compliance with all U.S. federal, state, local and foreign laws and regulations relating to employment and employment practices, terms and conditions of employment and wages and hours, except where the failure to be in compliance could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(l) Compliance. Except as set forth on Schedule 3.1(l), neither the Company nor any Subsidiary: (i) is in default under or in violation of (and no event has occurred that has not been waived that, with notice or lapse of time or both, would result in a default by the Company or any Subsidiary under), nor has the Company or any Subsidiary received notice of a claim that it is in default under or that it is in violation of, any indenture, loan or credit agreement or any other agreement or instrument to which it is a party or by which it or any of its properties is bound (whether or not such default or violation has been waived), (ii) is in violation of any judgment, decree or order of any court, arbitrator or other governmental authority or (iii) is or has been in violation of any statute, rule, ordinance or regulation of any governmental authority, including without limitation all foreign, federal, state and local laws relating to taxes, environmental protection, occupational health and safety, product quality and safety and employment and labor matters, except in each case as could not have or reasonably be expected to result in a Material Adverse Effect.

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

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

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

(p) Insurance. The Company and each Subsidiary maintain insurance coverage for Product/Human Clinical Trial Liability, Professional Liability, General Liability, Property and Directors and Officers.

(q) Transactions With Affiliates and Employees. Except as set forth in the SEC Reports and on Schedule 3.1(q), none of the officers or directors of the Company or any Subsidiary and, to the knowledge of the Company, none of the employees of the Company or any Subsidiary is presently a party to any transaction with the Company or any Subsidiary (other than for services as employees, officers and directors), including any contract, agreement or other arrangement providing for the furnishing of services to or by, providing for rental of real or personal property to or from providing for the borrowing of money from or lending of money to, or otherwise requiring payments to or from any officer, director or such employee or, to the knowledge of the Company, any entity in which any officer, director, or any such employee has a substantial interest or is an officer, director, trustee, stockholder, member or partner, in each case in excess of \$60,000 other than for: (i) payment of salary or consulting fees for services rendered, (ii) reimbursement for expenses incurred on behalf of the Company and (iii) other employee benefits, including stock option agreements under any stock option plan of the Company.

(r) Sarbanes-Oxley: Internal Accounting Controls. The Company and the Subsidiaries are not in compliance with any and all applicable requirements of the Sarbanes-Oxley Act of 2002 that are effective as of the date hereof, and any and all applicable rules and regulations promulgated by the Commission thereunder that are effective as of the date hereof and as of the Closing Date. The Company and the Subsidiaries currently do not maintain a system of internal accounting controls sufficient to provide reasonable assurance that: (i) transactions are executed in accordance with management's general or specific authorizations, (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain asset accountability, (iii) access to assets is permitted only in accordance with management's general or specific authorization, and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences.

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

(t) Private Placement. Assuming the accuracy of the Purchasers' representations and warranties set forth in Section 3.2, no registration under the Securities Act is required for the offer and sale of the Securities by the Company to the Purchasers as contemplated hereby. The issuance and sale of the Securities hereunder does not contravene the rules and regulations of the Trading Market.

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

(v) Registration Rights. No Person has any right to cause the Company to effect the registration under the Securities Act of any securities of the Company or any Subsidiaries other than as set forth on Schedule 3.1(v).

(w) Listing and Maintenance Requirements. The Common Stock is registered pursuant to Section 12(b) or 12(g) of the Exchange Act, and the Company has taken no action designed to, or which to its knowledge is likely to have the effect of, terminating the registration of the Common Stock under the Exchange Act nor has the Company received any notification that the Commission is contemplating terminating such registration. The Company has not, in the 12 months preceding the date hereof, received notice from any Trading Market on which the Common Stock is or has been listed or quoted to the effect that the Company is not in compliance with the listing or maintenance requirements of such Trading Market. The Company is, and has no reason to believe that it will not in the foreseeable future continue to be, in compliance with all such listing and maintenance requirements. The Common Stock is currently eligible for electronic transfer through the Depository Trust Company or another established clearing corporation and the Company is current in payment of the fees to the Depository Trust Company (or such other established clearing corporation) in connection with such electronic transfer.

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

(y) Disclosure. Except with respect to the material terms and conditions of the transactions contemplated by the Transaction Documents, the Company confirms that neither it nor any other Person acting on its behalf has provided any of the Purchasers or their agents or counsel with any information that it believes constitutes or might constitute material, non-public information. The Company understands and confirms that the Purchasers will rely on the foregoing representation in effecting transactions in securities of the Company. All of the disclosure furnished by or on behalf of the Company to the Purchasers regarding the Company and its Subsidiaries, their respective businesses and the transactions contemplated hereby, including the Disclosure Schedules to this Agreement, 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 light of the circumstances under which they were made, not misleading. The Company acknowledges and agrees that no Purchaser makes or has made any representations or warranties with respect to the transactions contemplated hereby other than those specifically set forth in Section 3.2 hereof.

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

(aa) Indebtedness. Schedule 3.1(aa) sets forth as of the date hereof all outstanding secured and unsecured Indebtedness of the Company or any Subsidiary, or for which the Company or any Subsidiary has commitments. For the purposes of this Agreement, "Indebtedness" means (x) any liabilities for borrowed money or amounts owed in excess of \$10,000 (other than trade accounts payable incurred in the ordinary course of business), (y) all guaranties, endorsements and other contingent obligations in respect of indebtedness of others, whether or not the same are or should be reflected in the Company's consolidated balance sheet (or the notes thereto), except guaranties by endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business; and (z) the present value of any lease payments in excess of \$10,000 due under leases required to be capitalized in accordance with GAAP.

(bb) Solvency. Based on the consolidated financial condition of the Company and Subsidiaries as of the Closing Date, and the Company's good faith estimate of the fair market value of its assets, after giving effect to the receipt by the Company of the proceeds from the sale of the Securities hereunder: (i) the fair saleable value of the Company's assets exceeds the amount that will be required to be paid on or in respect of the Company's existing debts and other liabilities (including known contingent liabilities) as they mature, (ii) the Company's assets do not constitute unreasonably small capital to carry on its business as now conducted and as proposed to be conducted including its capital needs taking into account the particular capital requirements of the business conducted by the Company, consolidated and projected capital requirements and capital availability thereof, and (iii) the current cash flow of the Company, together with the proceeds the Company would receive, were it to liquidate all of its assets, after taking into account all anticipated uses of the cash, would be sufficient to pay all amounts on or in respect of its liabilities when such amounts are required to be paid. The Company does not intend to incur debts beyond its ability to pay such debts as they mature (taking into account the timing and amounts of cash to be payable on or in respect of its debt). The Company has no knowledge of any facts or circumstances which lead it to believe that it will file for reorganization or liquidation under the bankruptcy or reorganization laws of any jurisdiction within one year from the Closing Date. Schedule 3.1(bb) sets forth as of the date hereof all outstanding secured and unsecured Indebtedness of the Company or any Subsidiary, or for which the Company or any Subsidiary has commitments. For the purposes of this Agreement, "Indebtedness" means (x) any liabilities for borrowed money or amounts owed in excess of \$50,000 in the aggregate (including trade accounts payable and other liabilities incurred in the ordinary course of business), (y) all guaranties, endorsements and other contingent obligations in respect of indebtedness of others, whether or not the same are or should be reflected in the Company's consolidated balance sheet (or the notes thereto), except guaranties by endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business; and (z) the present value of any lease payments in excess of \$50,000 due under leases required to be capitalized in accordance with GAAP. Neither the Company nor any Subsidiary is in default with respect to any Indebtedness.

(cc) Tax Status. Except as set forth on Schedule 3.1(cc) and for matters that would not, individually or in the aggregate, have or reasonably be expected to result in a Material Adverse Effect, the Company and its Subsidiaries each (i) has made or filed all United States federal, state and local income and all foreign income and franchise tax returns, reports and declarations required by any jurisdiction to which it is subject, (ii) has paid all taxes and other governmental assessments and charges that are material in amount, shown or determined to be due on such returns, reports and declarations and (iii) has set aside on its books provision reasonably adequate for the payment of all material taxes for periods subsequent to the periods to which such returns, reports or declarations apply. There are no unpaid taxes in any material amount claimed to be due by the taxing authority of any jurisdiction, and the officers of the Company or of any Subsidiary know of no basis for any such claim.

(dd) No General Solicitation. Neither the Company nor any person acting on behalf of the Company has offered or sold any of the Securities by any form of general solicitation or general advertising. The Company has offered the Securities for sale only to the Purchasers and certain other "accredited investors" within the meaning of Rule 501 under the Securities Act.

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

(ff) Accountants. The Company's accounting firm is set forth on Schedule 3.1(ff) of the Disclosure Schedules. To the knowledge and belief of the Company, such accounting firm: (i) is a registered public accounting firm as required by the Exchange Act and (ii) shall express its opinion with respect to the financial statements to be included in the Company's Annual Report for the fiscal year ending December 31, 2018.

(gg) Seniority. As of the Closing Date, except as set forth on Schedule 3.1(gg), no Indebtedness or other claim against the Company is senior to the Debentures and Notes in right of payment, whether with respect to interest or upon liquidation or dissolution, or otherwise, other than indebtedness secured by purchase money security interests (which is senior only as to underlying assets covered thereby) and capital lease obligations (which is senior only as to the property covered thereby).

(hh) No Disagreements with Accountants and Lawyers. There are no 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.

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

(jj) Acknowledgment Regarding Purchaser's Trading Activity. Anything in this Agreement or elsewhere herein to the contrary notwithstanding (except for Sections 3.2(f) and 4.15 hereof), it is understood and acknowledged by the Company that: (i) none of the Purchasers has been asked by the Company to agree, nor has any Purchaser agreed, to desist from purchasing or selling, long and/or short, securities of the Company, or "derivative" securities based on securities issued by the Company or to hold the Securities for any specified term, (ii) past or future open market or other transactions by any Purchaser, specifically including, without limitation, Short Sales or "derivative" transactions, before or after the closing of this or future private placement transactions, may negatively impact the market price of the Company's publicly-traded securities, (iii) any Purchaser, and counter-parties in "derivative" transactions to which any such Purchaser is a party, directly or indirectly, may presently have a "short" position in the Common Stock and (iv) each Purchaser shall not be deemed to have any affiliation with or control over any arm's length counter-party in any "derivative" transaction. The Company further understands and acknowledges that (y) one or more Purchasers may engage in hedging activities at various times during the period that the Securities are outstanding, including, without limitation, during the periods that the value of the Underlying Shares deliverable with respect to Securities are being determined, and (z) such hedging activities (if any) could reduce the value of the existing stockholders' equity interests in the Company at and after the time that the hedging activities are being conducted. The Company acknowledges that such aforementioned hedging activities do not constitute a breach of any of the Transaction Documents.

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

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

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

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

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

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

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

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

(ss) Notice of Disqualification Events. The Company will notify the Purchasers 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.

(tt) Survival. The foregoing representations and warranties shall survive the Closing.

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

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

(b) Understandings or Arrangements. Such Purchaser understands that the Securities are “restricted securities” and have not been registered under the Securities Act or any applicable state securities law and is acquiring the Securities as principal for its own account and not with a view to or for distributing or reselling such Securities or any part thereof in violation of the Securities Act or any applicable state securities law, has no present intention of distributing any of such Securities in violation of the Securities Act or any applicable state securities law and has no direct or indirect arrangement or understandings with any other persons to distribute or regarding the distribution of such Securities in violation of the Securities Act or any applicable state securities law (this representation and warranty not limiting such Purchaser’s right to sell the Securities pursuant to any registration statement or otherwise in compliance with applicable federal and state securities laws). Such Purchaser is acquiring the Securities hereunder in the ordinary course of its business.

(c) Purchaser Status. At the time such Purchaser was offered the Securities, it was, and as of the date hereof it is, and on each date on which it converts any Notes it will be either: (i) an accredited investor (“Accredited Investor”) as defined in Rule 501(a)(1), (a)(2), (a)(3), (a)(7) or (a)(8) under the Securities Act or (ii) a “qualified institutional buyer” as defined in Rule 144A(a) under the Securities Act. Such Purchaser is not required to be registered as a broker-dealer under Section 15 of the Exchange Act. Such Purchaser has the authority and is duly and legally qualified to purchase and own the Securities. Such Purchaser is able to bear the risk of such investment for an indefinite period and to afford a complete loss thereof. Such Purchaser has provided the information in the Accredited Investor Questionnaire attached hereto as Exhibit B (the “Investor Questionnaire”). The information set forth on the signature pages hereto and the Investor Questionnaire regarding such Purchaser is true and complete in all respects. Except as disclosed in the Investor Questionnaire, such Purchaser has had no position, office or other material relationship within the past three years with the Company or Persons (as defined below) known to such Purchaser to be affiliates of the Company, and is not a member of the Financial Industry Regulatory Authority or an “associated person” (as such term is defined under the FINRA Membership and Registration Rules Section 1011).

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

(e) Information on Company. Such Purchaser has been furnished with or has had access to the SEC Reports and Disclosure Schedules. Purchasers are not deemed to have any knowledge of any information not included in the SEC Reports and Disclosure Schedules unless such information is delivered in the manner described in the next sentence. In addition, such Purchaser may have received in writing from the Company such other information concerning its operations, financial condition and other matters as such Purchaser has requested, identified thereon as OTHER WRITTEN INFORMATION (such other information is collectively, the “*Other Written Information*”), and considered all factors such Purchaser deems material in deciding on the advisability of investing in the Securities. Such Purchaser was afforded (i) the opportunity to ask such questions as such Purchaser deemed necessary of, and to receive answers from, representatives of the Company concerning the merits and risks of acquiring the Securities; (ii) the right of access to information about the Company and its financial condition, results of operations, business, properties, management and prospects sufficient to enable such Purchaser to evaluate the Securities; and (iii) the opportunity to obtain such additional information that the Company possesses or can acquire without unreasonable effort or expense that is necessary to make an informed investment decision with respect to acquiring the Securities.

(f) Compliance with Securities Act; Reliance on Exemptions. Such Purchaser understands and agrees that the Securities have not been registered under the Securities Act or any applicable state securities laws, by reason of their issuance in a transaction that does not require registration under the Securities Act, and that such Securities must be held indefinitely unless a subsequent disposition is registered under the Securities Act or any applicable state securities laws or is exempt from such registration. Such Purchaser understands and agrees that the Securities are being offered and sold to such Purchaser in reliance on specific exemptions from the registration requirements of United States federal and state securities laws and regulations and that the Company is relying in part upon the truth and accuracy of, and such Purchaser's compliance with, the representations, warranties, agreements, acknowledgments and understandings of such Purchaser set forth herein in order to determine the availability of such exemptions and the eligibility of such Purchaser to acquire the Securities.

(g) Communication of Offer. Such Purchaser is not purchasing the Securities as a result of any "general solicitation" or "general advertising," as such terms are defined in Regulation D, which includes, but is not limited to, any advertisement, article, notice or other communication regarding the Securities published in any newspaper, magazine or similar media or on the internet or broadcast over television, radio or the internet or presented at any seminar or any other general solicitation or general advertisement.

(h) No Governmental Review. Such Purchaser understands that no United States federal or state agency or any other governmental or state agency has passed on or made recommendations or endorsement of the Securities or the suitability of the investment in the Securities nor have such authorities passed upon or endorsed the merits of the Offering.

(i) No Conflicts. The execution, delivery and performance of this Agreement and performance under the other Transaction Documents and the consummation by such Purchaser of the transactions contemplated hereby and thereby or relating hereto or thereto do not and will not (i) result in a violation of such Purchaser's charter documents, bylaws or other organizational documents, if applicable, (ii) conflict with nor constitute a default (or an event which with notice or lapse of time or both would become a default) under any agreement to which such Purchaser is a party, nor (iii) result in a violation of any law, rule, or regulation, or any order, judgment or decree of any court or governmental agency applicable to such Purchaser or its properties (except for such conflicts, defaults and violations as would not, individually or in the aggregate, have a material adverse effect on such Purchaser). Such Purchaser is not required to obtain any consent, authorization or order of, or make any filing or registration with, any court or governmental agency in order for it to execute, deliver or perform any of its obligations under this Agreement or perform under the other Transaction Documents nor to purchase the Securities in accordance with the terms hereof, provided that for purposes of the representation made in this sentence, such Purchaser is assuming and relying upon the accuracy of the relevant representations and agreements of the Company herein.

(j) Certain Transactions and Confidentiality. Other than consummating the transactions contemplated hereunder, such Purchaser has not directly or indirectly, nor has any Person acting on behalf of or pursuant to any understanding with such Purchaser, executed any purchases or sales, including Short Sales, of the securities of the Company during the period commencing as of the time that such Purchaser first received a written term sheet from the Company or any other Person representing the Company setting forth the material terms of the transactions contemplated hereby and ending immediately prior to the execution hereof.

(k) Survival. The foregoing representations and warranties shall survive the Closing.

The Company acknowledges and agrees that the representations contained in Section 3.2 shall not modify, amend or affect such Purchaser's right to rely on the Company's representations and warranties contained in this Agreement or any representations and warranties contained in any other Transaction Document or any other document or instrument executed and/or delivered in connection with this Agreement or the consummation of the transaction contemplated hereby.

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

4.1 (a) Transfer Restrictions. The Securities may only be disposed of in compliance with state and federal securities laws. In connection with any transfer of Securities other than pursuant to an effective registration statement or Rule 144, to the Company or to an Affiliate of a Purchaser or in connection with a pledge as contemplated in Section 4.1(c), the Company may require the transferor thereof to provide to the Company, at the Company's expense, an opinion of counsel selected by the transferor and reasonably acceptable to the Company, the form and substance of which opinion shall be reasonably satisfactory to the Company, to the effect that such transfer does not require registration of such transferred Securities under the Securities Act. As a condition of such transfer, any such transferee shall agree in writing to be bound by the terms of this Agreement and shall have the rights and obligations of a Purchaser under this Agreement and the other Transaction Documents.

(b) Legend. The Purchasers agree to the imprinting, so long as is required by this Section 4.1, of a legend on any of the Securities in the following form:

[NEITHER] THIS SECURITY [NOR THE SECURITIES INTO WHICH THIS SECURITY IS [EXERCISABLE] [CONVERTIBLE]] HAS [NOT] BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN AVAILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS AS EVIDENCED BY A LEGAL OPINION OF COUNSEL TO THE TRANSFEROR TO SUCH EFFECT, THE SUBSTANCE OF WHICH SHALL BE REASONABLY ACCEPTABLE TO THE COMPANY. THIS SECURITY [AND THE SECURITIES ISSUABLE UPON [EXERCISE] [CONVERSION] OF THIS SECURITY] MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT WITH A REGISTERED BROKER-DEALER OR OTHER LOAN WITH A FINANCIAL INSTITUTION THAT IS AN ACCREDITED INVESTOR AS DEFINED IN RULE 501(a) UNDER THE SECURITIES ACT OR OTHER LOAN SECURED BY SUCH SECURITIES.

(c) Pledge. The Company acknowledges and agrees that a Purchaser may from time to time pledge pursuant to a bona fide margin agreement with a registered broker-dealer or grant a security interest in some or all of the Securities to a financial institution that is an Accredited Investor and who agrees to be bound by the provisions of this Agreement and, if required under the terms of such arrangement, such Purchaser may transfer pledge or secure Securities to the pledgees or secured parties. Such a pledge or transfer would not be subject to approval of the Company and no legal opinion of legal counsel of the pledgee, secured party or pledgor shall be required in connection therewith. Further, no notice shall be required of such pledge. At the appropriate Purchaser's expense, the Company will execute and deliver such reasonable documentation as a pledgee or secured party of Securities may reasonably request in connection with a pledge or transfer of the Securities, including, if the Securities are subject to registration pursuant to Section 4.26 hereof, the preparation and filing of any required prospectus supplement under Rule 424(b)(3) under the Securities Act or other applicable provision of the Securities Act to appropriately amend the list of selling stockholders thereunder.

(d) Legend Removal. Certificates evidencing the Underlying Shares shall not contain any legend (“Unlegended Shares”) (including the legend set forth in Section 4.1(b) hereof): (i) while a registration statement covering the resale of such security is effective under the Securities Act, (ii) following any sale of such Underlying Shares pursuant to Rule 144, (iii) if such Underlying Shares are eligible for sale under Rule 144 (in the case of a non-Affiliate of the Company), without the requirement for the Company to be in compliance with the current public information required under Rule 144 as to such Underlying Shares and without volume or manner-of-sale restrictions or (iv) if such legend is not required under applicable requirements of the Securities Act (including judicial interpretations and pronouncements issued by the staff of the Commission). The Company shall cause its counsel, at the expense of the Company, to issue a legal opinion to the Transfer Agent promptly after the Effective Date if required by the Transfer Agent to effect the removal of the legend hereunder. If all or any Notes are converted at a time when there is an effective registration statement to cover the resale of the Underlying Shares, or if such Underlying Shares may be sold under Rule 144 or if such legend is not otherwise required under applicable requirements of the Securities Act (including judicial interpretations and pronouncements issued by the staff of the Commission) then such Underlying Shares shall be issued free of all legends. The Company agrees that following such time as such legend is no longer required under this Section 4.1(c), it will, no later than two (2) Trading Days following the delivery by a Purchaser to the Company or the Transfer Agent of a certificate representing Underlying Shares, as applicable, issued with a restrictive legend (such second (2nd) Trading Day, the “Legend Removal Date”), deliver or cause to be delivered to such Purchaser a certificate representing such shares that is free from all restrictive and other legends. The Company may not make any notation on its records or give instructions to the Transfer Agent that enlarge the restrictions on transfer set forth in this Section 4. Certificates for Underlying Shares subject to legend removal hereunder shall be transmitted by the Transfer Agent to the Purchaser by crediting the account of the Purchaser’s prime broker with the Depository Trust Company System as directed by such Purchaser.

(e) Legend Removal Default. In addition to such Purchaser’s other available remedies, provided the conditions for legend removal set forth in Section 4.1(d) exist, the Company shall pay to a Purchaser, in cash, as partial liquidated damages and not as a penalty, for each \$1,000 of Underlying Shares (based on the higher of the actual purchase price or VWAP of the Common Stock on the date such Securities are submitted to the Transfer Agent) delivered for removal of the restrictive legend and subject to Section 4.1(d), \$10 per Trading Day for each Trading Day after the Legend Removal Date (increasing to \$20 per Trading Day after the fifth Trading Day) until such certificate is delivered without a legend. Nothing herein shall limit such Purchaser’s right to pursue actual damages for the Company’s failure to deliver certificates representing any Securities as required by the Transaction Documents, and such Purchaser shall have the right to pursue all remedies available to it at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief.

(f) DWAC. In lieu of delivering physical certificates representing the Unlegended Shares, upon request of a Purchaser, so long as the certificates therefor do not bear a legend and the Purchaser is not obligated to return such certificate for the placement of a legend thereon, the Company shall cause its transfer agent to electronically transmit the Unlegended Shares by crediting the account of Purchaser’s prime broker with the Depository Trust Company through its Deposit Withdrawal At Custodian system, provided that the Company’s Common Stock is DTC eligible and the Company’s transfer agent participates in the Deposit Withdrawal at Custodian system. Such delivery must be made on or before the Legend Removal Date.

(g) Injunction. In the event a Purchaser shall request delivery of Unlegended Shares as described in this Section 4.1 and the Company is required to deliver such Unlegended Shares, the Company may not refuse to deliver Unlegended Shares based on any claim that such Purchaser or anyone associated or affiliated with such Purchaser has not complied with Purchaser's obligations under the Transaction Documents, or for any other reason, unless, an injunction or temporary restraining order from a court, on notice, restraining and or enjoining delivery of such Unlegended Shares shall have been sought and obtained by the Company and the Company has posted a surety bond for the benefit of such Purchaser in the amount of the greater of (i) 120% of the amount of the aggregate purchase price of the Underlying Shares to be subject to the injunction or temporary restraining order, or (ii) the VWAP of the Common Stock on the Trading Day before the issue date of the injunction multiplied by the number of Unlegended Shares to be subject to the injunction, which bond shall remain in effect until the completion of arbitration/litigation of the dispute and the proceeds of which shall be payable to such Purchaser to the extent Purchaser obtains judgment in Purchaser's favor.

(h) Buy-In. In addition to any other rights available to Purchaser, if the Company fails to deliver to a Purchaser Unlegended Shares as required pursuant to this Agreement and after the Legend Removal Date the Purchaser, or a broker on the Purchaser's behalf, purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by such Purchaser of the shares of Common Stock which the Purchaser was entitled to receive in unlegended form from the Company (a "Buy-In"), then the Company shall promptly pay in cash to the Purchaser (in addition to any remedies available to or elected by the Purchaser) the amount, if any, by which (A) the Purchaser's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (B) the aggregate purchase price of the shares of Common Stock delivered to the Company for reissuance as Unlegended Shares together with interest thereon at a rate of 15% per annum accruing until such amount and any accrued interest thereon is paid in full (which amount shall be paid as liquidated damages and not as a penalty). For example, if a Purchaser purchases shares of Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to \$10,000 of purchase price of Underlying Shares delivered to the Company for reissuance as Unlegended Shares, the Company shall be required to pay the Purchaser \$1,000, plus interest, if any. The Purchaser shall provide the Company written notice indicating the amounts payable to the Purchaser in respect of the Buy-In.

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

4.3 Furnishing of Information: Public Information.

(a) Until no Purchaser owns Securities, the Company covenants to file all periodic reports with the Commission pursuant to the Exchange Act and maintain the registration of the Common Stock under Section 12(b) or 12(g) of the Exchange Act after such time as the Company initially becomes subject to such requirements and to timely file (or obtain extensions in respect thereof and file within the applicable grace period) all reports required to be filed by the Company after the date hereof pursuant to the Exchange Act and timely file all reports that would be required to be filed by an issuer subject to Section 12(b) or 12(g) of the Exchange Act even if the Company is not then subject to the reporting requirements of the Exchange Act.

(b) At any time commencing on the Closing Date, and ending at such time that all of the Securities may be sold by non-Affiliates of the Company without the requirement for the Company to be in compliance with Rule 144(c)(1) and otherwise without restriction or limitation pursuant to Rule 144, if the Company shall fail for any reason to satisfy the current public information requirement under Rule 144(c) (a "Public Information Failure") then, in addition to such Purchaser's other available remedies, the Company shall pay to a Purchaser, in cash, as partial liquidated damages and not as a penalty, by reason of any such delay in or impairment of its ability to sell the Securities, an amount in cash equal to 2.0% of the aggregate principal amount of Notes outstanding and accrued interest thereon, and aggregate Conversion Price of Underlying Shares (with respect to the Notes) held by such Purchaser on the day of a Public Information Failure and on every thirtieth (30th) day (pro-rated for periods totaling less than thirty days) thereafter until the earlier of (a) the date such Public Information Failure is cured and (b) such time that such public information is no longer required for the Purchasers to transfer the Underlying Shares pursuant to Rule 144. The payments to which a Purchaser shall be entitled pursuant to this Section 4.3(b) 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 (3rd) 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. Nothing herein shall limit such Purchaser's right to pursue actual damages for the Public Information Failure, and such Purchaser shall have the right to pursue all remedies available to it at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief.

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

4.5 Conversion Procedures. The form of Notice of Conversion included in the Notes set forth the totality of the procedures required of the Purchasers in order to convert the Notes. No additional legal opinion, other information or instructions shall be required of the Purchasers to convert their Notes. The Company shall honor conversions of the Notes and shall deliver Underlying Shares in accordance with the terms, conditions and time periods set forth in the Transaction Documents.

4.6 Securities Laws Disclosure; Publicity. The Company shall, by 9:30 a.m. (New York City time) on the first Trading Day following each Closing Date, file a Current Report on Form 8-K including the Transaction Documents as exhibits thereto with the Commission within the time required by the Exchange Act ("Form 8-K"). A form of the Form 8-K is annexed hereto as Exhibit C. Such Exhibit C will be identical to the Form 8-K which will be filed with the Commission except for the omission of signatures thereto by the Company and auditors providing the financial statements. From and after the filing of the Form 8-K, the Company represents to the Purchaser that it shall have publicly disclosed all material, non-public information delivered to the Purchaser by the Company or any of its Subsidiaries, or any of their respective officers, directors, employees or agents in connection with the transactions contemplated by the Transaction Documents. The Company and Purchaser shall consult with each other in issuing any press releases with respect to the transactions contemplated hereby, and neither the Company nor Purchaser shall issue any press release nor otherwise make any such public statement without the prior consent of the Company, with respect to any press release of Purchaser, or without the prior consent of Purchaser, with respect to any press release of the Company, which consent shall not unreasonably be withheld or delayed, except if such disclosure is required by law, in which case the disclosing party shall promptly provide the other party with prior notice of such public statement or communication. Notwithstanding the foregoing, the Company shall not publicly disclose the name of Purchaser, or include the name of Purchaser in any filing with the Commission or any regulatory agency or Trading Market unless the name of Purchaser is already included in the body of the Transaction Documents, without the prior written consent of Purchaser, except: (a) as required by federal securities law in connection with the filing of final Transaction Documents with the Commission and (b) to the extent such disclosure is required by law or Trading Market regulations, in which case the Company shall provide the Purchaser with prior notice of such disclosure permitted under this clause (b). The Company may file a Form 10-Q in lieu of the Form 8-K provided such filing contains the content required to be included in the Form 8-K and the Form 10-Q is filed not later than the Trading Day after the Closing Date.

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

4.8 Non-Public Information. Except with respect to the material terms and conditions of the transactions contemplated by the Transaction Documents and as required hereunder, the Company covenants and agrees that neither it, nor any other Person acting on its behalf, will provide any Purchaser or its agents or counsel with any information that the Company believes constitutes material non-public information, unless prior thereto such Purchaser shall have entered into a written agreement with the Company regarding the confidentiality and use of such information. The Company understands and confirms that each Purchaser shall be relying on the foregoing covenant in effecting transactions in securities of the Company.

4.9 Use of Proceeds. The Company shall use the net proceeds from the sale of the Securities hereunder substantially for the purposes set forth on Schedule 4.9 hereto and shall not use such proceeds: (a) for the satisfaction of any portion of the Company's debt except as disclosed on Schedule 4.9 (other than payment of trade payables in the ordinary course of the Company's business and consistent with prior practices), (b) for the redemption of any Common Stock or Common Stock Equivalents, (c) for the settlement of any outstanding litigation or (d) in violation of FCPA or OFAC regulations.

4.10 Indemnification of Purchasers. Subject to the provisions of this Section 4.10, the Company will indemnify and hold each Purchaser and its directors, officers, shareholders, members, partners, employees and agents (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title), each Person who controls such Purchaser (within the meaning of Section 15 of the Securities Act and Section 20 of the Exchange Act), and the directors, officers, shareholders, agents, members, partners or employees (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title) of such controlling persons (each, a “Purchaser Party”) harmless from any and all losses, liabilities, obligations, claims, contingencies, damages, costs and expenses, including all judgments, amounts paid in settlements, court costs and reasonable attorneys’ fees and costs of investigation that any such Purchaser Party may suffer or incur as a result of or relating to (a) any breach of any of the representations, warranties, covenants or agreements made by the Company in this Agreement or in the other Transaction Documents or (b) any action instituted against Purchaser Parties in any capacity, or any of them or their respective Affiliates, by any stockholder of the Company who is not an Affiliate of such Purchaser Party, with respect to any of the transactions contemplated by the Transaction Documents (unless such action is based upon a breach of such Purchaser Party’s representations, warranties or covenants under the Transaction Documents or any agreements or understandings such Purchaser Party may have with any such stockholder or any violations by such Purchaser Party of state or federal securities laws or any conduct by such Purchaser Party which constitutes fraud, gross negligence, willful misconduct or malfeasance). If any action shall be brought against any Purchaser Party in respect of which indemnity may be sought pursuant to this Agreement, such Purchaser Party shall promptly notify the Company in writing, and the Company shall have the right to assume the defense thereof with counsel of its own choosing reasonably acceptable to the Purchaser Party. Any Purchaser Party shall have the right to employ separate counsel in any such action and participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Purchaser Party except to the extent that (i) the employment thereof has been specifically authorized by the Company in writing, (ii) the Company has failed after a reasonable period of time to assume such defense and to employ counsel or (iii) in such action there is, in the reasonable opinion of counsel, a material conflict on any material issue between the position of the Company and the position of such Purchaser Party, in which case the Company shall be responsible for the reasonable fees and expenses of no more than one such separate counsel. The Company will not be liable to any Purchaser Party under this Agreement (y) for any settlement by a Purchaser Party effected without the Company’s prior written consent, which shall not be unreasonably withheld or delayed; or (z) to the extent, but only to the extent that a loss, claim, damage or liability is attributable to any Purchaser Party’s breach of its material representations, warranties or covenants under the Transaction Documents. The indemnification required by this Section 4.10 shall be made by periodic payments of the amount thereof during the course of the investigation or defense, as and when bills are received or are incurred. The indemnity agreements contained herein shall be in addition to any cause of action or similar right of any Purchaser Party against the Company or others and any liabilities the Company may be subject to pursuant to law.

4.11 Reservation and Listing of Securities.

(a) As of the date hereof, the Company, ignoring any conversion or exercise limitations, has reserved for each Purchaser and the Company shall continue to reserve and keep available at all times, the “Required Minimum”, free of pre-emptive rights. If, on any date, the number of authorized but unissued (and otherwise unreserved) shares of Common Stock is less than the Required Minimum on such date (an “Authorized Share Failure”), then the Board of Directors shall use commercially reasonable efforts to amend the Company’s articles of incorporation to increase the number of authorized but unissued shares of Common Stock to at least the Required Minimum plus such other amount as may be required for the Company’s other purposes, and reserve the Required Minimum on behalf of the Purchaser, as soon as possible and in any event not later than the 60th day after such date. Notwithstanding the foregoing, the occurrence of an Authorized Share Failure is an Event of Default.

(b) The Company shall, if applicable: (i) in the time and manner required by the principal Trading Market, prepare and file with such Trading Market an additional shares listing application covering a number of shares of Common Stock at least equal to the Required Minimum on the date of such application, (ii) take all steps necessary to cause such shares of Common Stock to be approved for listing or quotation on such Trading Market as soon as possible thereafter, (iii) provide to the Purchasers evidence of such listing or quotation and (iv) maintain the listing or quotation of such Common Stock on any date at least equal to the Required Minimum on such date on such Trading Market or another Trading Market. The Company will then take all action necessary to continue the listing or quotation and trading of its Common Stock on a Trading Market until the later of (i) at least six (6) years after the Closing Date, and (ii) for so long as the Notes are outstanding, and will comply in all respects with the Company's reporting, filing and other obligations under the bylaws or rules of the Trading Market. In the event the aforescribed listing is not continuously maintained for six (6) years after the Closing Date and for so long as Notes are outstanding (a "Listing Default"), then in addition to any other rights the Purchasers may have hereunder or under applicable law, on the first day of a Listing Default and on each monthly anniversary of each such Listing Default date (if the applicable Listing Default shall not have been cured by such date) until the applicable Listing Default is cured, the Company shall pay to each Purchaser an amount in cash, as partial liquidated damages and not as a penalty, equal to 2% of the aggregate Subscription Amount of Notes, and Conversion Price of the Conversion Shares held by such Purchaser on the day of a Listing Default and on every thirtieth day (pro-rated for periods less than thirty days) thereafter until the date such Listing Default is cured. If the Company fails to pay any liquidated damages pursuant to this Section in a timely manner, the Company will pay interest thereon at a rate of 1.5% per month (pro-rated for partial months) to the Purchaser.

4.12 Form D: Blue Sky Filings. The Company agrees to timely file a Form D with respect to the Securities as required under Regulation D and to provide a copy thereof, promptly upon request of any Purchaser. The Company shall take such action as the Company shall reasonably determine is necessary in order to obtain an exemption for, or to qualify the Securities for, sale to the Purchasers at a Closing under Applicable Law, including "Blue Sky" laws of the states of the United States, and shall provide evidence of such actions promptly upon request of any Purchaser.

4.13 Subsequent Equity Sales. From the date hereof until the End Date, the Company and each Subsidiary will not, without the consent of a Majority in Interest, enter into any Equity Line of Credit or similar agreement, issue or agree to issue floating or Variable Priced Equity Linked Instruments nor issue or agree to issue any of the foregoing or equity with price reset rights (subject to adjustment for stock splits, distributions, dividends, recapitalizations and the like) (collectively, a "Variable Rate Transaction"). For purposes hereof, "Equity Line of Credit" shall include any transaction involving a written agreement between the Company and an investor or underwriter whereby the Company has the right to "put" its securities to the investor or underwriter over an agreed period of time and at an agreed price or price formula, and "Variable Priced Equity Linked Instruments" shall include: (A) any debt or equity securities which are convertible into, exercisable or exchangeable for, or carry the right to receive additional shares of Common Stock or Common Stock Equivalents or any of the foregoing at a price that can be reduced either (1) at any conversion, exercise or exchange rate or other price that is based upon and/or varies with the trading prices of or quotations for Common Stock at any time after the initial issuance of such debt or equity security, or (2) with a fixed conversion, exercise or exchange price that is subject to being reset at some future date at any time after the initial issuance of such debt or equity security due to a change in the market price of the Company's Common Stock since date of initial issuance, or upon the issuance of any debt, equity or Common Stock Equivalent, and (B) any amortizing convertible security which amortizes prior to its maturity date, where the Company is required or has the option to (or any investor in such transaction has the option to require the Company to) make such amortization payments in shares of Common Stock which are valued at a price that is based upon and/or varies with the trading prices of or quotations for Common Stock at any time after the initial issuance of such debt or equity security (whether or not such payments in stock are subject to certain equity conditions). For purposes of determining the total consideration for a convertible instrument (including a right to purchase equity of the Company) issued, subject to an original issue or similar discount or which principal amount is directly or indirectly increased after issuance, the consideration will be deemed to be the actual net cash amount received by the Company in consideration of the original issuance of such convertible instrument. Until the End Date, the Company will not, without the consent of a Majority in Interest, issue any Common Stock or Common Stock Equivalents nor issue or amend the terms of any securities or Common Stock Equivalents or of any agreement outstanding or in effect as of the date of this Agreement pursuant to which same were or may be acquired without the consent of a Majority in Interest, if the result of such issuance or amendment would be at an effective price per share of Common Stock less than the Conversion Price in effect at the time of such issuance or amendment; all subject to adjustment as described in Section 5.23 hereof. The restrictions and limitations in this Section 4.13 are in addition to and shall apply whether or not a Purchaser exercises its rights pursuant to Section 4.16 and Section 4.22.

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

4.15 Capital Changes. Until the one (1) year anniversary of the Closing Date, the Company shall not undertake a reverse or forward stock split or reclassification of the Common Stock without five (5) days prior written notice to the Purchasers. In no event will the Company increase the par value of the Common Stock to an amount greater than the Conversion Price, then in effect.

4.16 Participation in Future Financing

(a) Until the End Date, upon any proposed issuance by the Company or any of its Subsidiaries of Common Stock, Common Stock Equivalents, Indebtedness or a combination thereof, other than (i) a rights offering to all holders of Common Stock which does not include extending such rights offering to holders of Notes, or (ii) an Exempt Issuance (each a "Subsequent Financing"), the Purchasers shall have the right to participate in up to an amount of the Subsequent Financing equal to 100% of the Subsequent Financing (the "Participation Maximum") pro rata to each other in proportion to their Subscription Amounts on the same terms, conditions and price provided for in the Subsequent Financing, unless the Subsequent Financing is an underwritten public offering, in which case the Company shall notify each Purchaser of such public offering when it is lawful for the Company to do so, but no Purchaser shall be entitled to purchase any particular amount of such public offering without the approval of the lead underwriter of such underwritten public offering.

(b) At least ten (10) Trading Days prior to the closing of the Subsequent Financing, the Company shall deliver to each Purchaser a written notice of its intention to effect a Subsequent Financing ("Pre-Notice"), which Pre-Notice shall ask such Purchaser if it wants to review the details of such financing (such additional notice, a "Subsequent Financing Notice"). Upon the request of a Purchaser, and only upon a request by such Purchaser, for a Subsequent Financing Notice, the Company shall promptly, but no later than one (1) Trading Day after such request, deliver a Subsequent Financing Notice to such Purchaser. The requesting Purchaser shall be deemed to have acknowledged that the Subsequent Financing Notice may contain material non-public information. The Subsequent Financing Notice shall describe in reasonable detail the proposed terms of such Subsequent Financing, the amount of proceeds intended to be raised thereunder and the Person or Persons through or with whom such Subsequent Financing is proposed to be effected and shall include a term sheet or similar document relating thereto as an attachment.

(c) Any Purchaser desiring to participate in such Subsequent Financing must provide written notice to the Company by not later than 5:30 p.m. (New York City time) on the tenth (10th) Trading Day after all of the Purchasers have received the Pre-Notice that the Purchaser is willing to participate in the Subsequent Financing, the amount of such Purchaser's participation, and representing and warranting that such Purchaser has such funds ready, willing, and available for investment on the terms set forth in the Subsequent Financing Notice. If the Company receives no such notice from a Purchaser as of such tenth (10th) Trading Day, such Purchaser shall be deemed to have notified the Company that it does not elect to participate.

(d) If by 5:30 p.m. (New York City time) on the fifteenth (15th) Trading Day after all of the Purchasers have received the Pre-Notice, notifications by the Purchasers of their willingness to participate in the Subsequent Financing (or to cause their designees to participate) is, in the aggregate, less than the total amount of the Participation Maximum of the Subsequent Financing, then the Company may affect the remaining portion of such Subsequent Financing on the terms and with the Persons set forth in the Subsequent Financing Notice and the Purchasers shall simultaneously affect their portion of such Subsequent Financing as set forth in their notifications to the Company consistent with the terms set forth in the Subsequent Financing Notice.

(e) If by 5:30 p.m. (New York City time) on the fifth (5th) Trading Day after all of the Purchasers have received the Pre-Notice, the Company receives responses to a Subsequent Financing Notice from Purchasers seeking to purchase more than the aggregate amount of the Participation Maximum, each such Purchaser shall have the right to purchase its Pro Rata Portion (as defined below) of the Participation Maximum. "Pro Rata Portion" means the ratio of (x) the principal amount of Notes purchased hereunder by a Purchaser participating under this Section 4.16 and (y) the sum of the aggregate principal amounts of Notes purchased hereunder by all Purchasers participating under this Section 4.16.

(f) The Company must provide the Purchasers with a second Subsequent Financing Notice, and the Purchasers will again have the right of participation set forth above in this Section 4.16, if the Subsequent Financing subject to the initial Subsequent Financing Notice is not consummated for any reason on the terms set forth in such Subsequent Financing Notice within sixty (60) Trading Days after the date of the initial Subsequent Financing Notice.

(g) The Company and each Purchaser agree that if any Purchaser elects to participate in the Subsequent Financing, the transaction documents related to the Subsequent Financing shall not include any term or provision whereby such Purchaser shall be required to agree to any restrictions on trading as to any of the Securities purchased hereunder (for avoidance of doubt, the securities purchased in the Subsequent Financing shall not be considered securities purchased hereunder) or be required to consent to any amendment to or termination of, or grant any waiver, release or the like under or in connection with, this Agreement, without the prior written consent of such Purchaser.

(h) Notwithstanding anything to the contrary in this Section 4.16 and unless otherwise agreed to by such Purchaser, the Company shall either confirm in writing to such Purchaser that the transaction with respect to the Subsequent Financing has been abandoned or shall publicly disclose its intention to issue the securities in the Subsequent Financing, in either case in such a manner such that such Purchaser will not be in possession of any material, non-public information, by the seventeenth (17th) Trading Day following delivery of the Subsequent Financing Notice. If by such seventeenth (17th) Trading Day, no public disclosure regarding a transaction with respect to the Subsequent Financing has been made, and no notice regarding the abandonment of such transaction has been received by such Purchaser, such transaction shall be deemed to have been abandoned and such Purchaser shall not be deemed to be in possession of any material, non-public information with respect to the Company or any of its Subsidiaries.

4.17 Purchaser's Exercise Limitations. The Company shall not effect exercise of the rights granted in Sections 4.16 and 4.22 of this Agreement, and a Purchaser shall not have the right to exercise any portion of such rights granted in Sections 4.16 and 4.22 only to the extent that after giving effect to such exercise, the Purchaser, would beneficially own in excess of the Beneficial Ownership Limitation (as defined in the Note), applied in the manner set forth in the Note. In such event the right by Purchaser to benefit from such rights or receive shares in excess of the Beneficial Ownership Limitation shall be held in abeyance until such times as such excess shares shall not exceed the Beneficial Ownership Limitation, provided the Purchaser complies with the Purchaser's other obligations in connection with the exercise by Purchaser of its rights pursuant to Sections 4.16 and 4.22, and with respect to Section 4.16, provided that the Company receives the purchase price for any purchased securities in compliance with the terms of such Subsequent Financing.

4.18 Maintenance of Property/Insurance. The Company shall and shall cause each Subsidiary to keep all of its property, which is necessary or useful to the conduct of its business, in good working order and condition, ordinary wear and tear excepted and insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as are prudent and customary for the businesses of the Company and Subsidiary.

4.19 Preservation of Corporate Existence. The Company shall preserve and maintain its corporate existence, rights, privileges and franchises in the jurisdiction of its incorporation, and qualify and remain qualified, as a foreign entity in each jurisdiction in which such qualification is necessary in view of its business or operations and where the failure to qualify or remain qualified might reasonably have a Material Adverse Effect upon the financial condition, business or operations of the Company taken as a whole.

4.20 DTC Program. At all times that Notes are outstanding after the listing required by Section 4.11(b) is completed, the Company shall employ as the transfer agent for its Common Stock and Underlying Shares a participant in the Depository Trust Company Automated Securities Transfer Program and cause the Common Stock and Underlying Shares to be transferable pursuant to such program.

4.21 Reimbursement. If any Purchaser becomes involved in any capacity in any Proceeding by or against any Person who is a stockholder of the Company (except as a result of sales, pledges, margin sales and similar transactions by such Purchaser to or with any current stockholder), solely as a result of such Purchaser's acquisition of the Securities under this Agreement, the Company will reimburse such Purchaser for its reasonable legal and other expenses (including the cost of any investigation preparation and travel in connection therewith) incurred in connection therewith, as such expenses are incurred. The reimbursement obligations of the Company under this paragraph shall be in addition to any liability which the Company may otherwise have, shall extend upon the same terms and conditions to any Affiliates of the Purchasers who are actually named in such action, proceeding or investigation, and partners, directors, agents, employees and controlling persons (if any), as the case may be, of the Purchasers and any such Affiliate, and shall be binding upon and inure to the benefit of any successors, assigns, heirs and personal representatives of the Company, the Purchasers and any such Affiliate and any such Person. The Company also agrees that neither the Purchasers nor any such Affiliates, partners, directors, agents, employees or controlling persons shall have any liability to the Company or any Person asserting claims on behalf of or in right of the Company solely as a result of acquiring the Securities under this Agreement.

4.22 Most Favored Nation Provision. From the date hereof and for so long as a Purchaser holds any Securities, in the event that the Company issues or sells any Common Stock or Common Stock Equivalents, if a Purchaser then holding outstanding Securities reasonably believes that any of the terms and conditions appurtenant to such issuance or sale are more favorable to such investors than are the terms and conditions granted to the Purchasers hereunder, upon notice to the Company by such Purchaser within five (5) Trading Days after disclosure of such issuance or sale, the Company shall amend the terms of this transaction as to such Purchaser only so as to give such Purchaser the benefit of such more favorable terms or conditions. This Section 4.22 shall not apply with respect to an Exempt Issuance. The Company shall provide each Purchaser with notice of any such issuance or sale not later than ten (10) Trading Days before such issuance or sale.

4.23 Indebtedness. For so long as any Note is outstanding, the Company will not incur any Indebtedness other than Permitted Indebtedness, without the consent of the Majority in Interest.

4.24 Notice of Disqualification Events. The Company will notify the Purchasers 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 not otherwise disclosed herein or in the SEC Reports.

4.25 Duration of Undertakings. Unless otherwise stated in this Article IV, all of the Company's undertakings, obligations and responsibilities set forth in Article IV of this Agreement shall remain in effect for so long as any Securities remain outstanding.

4.26 Registration Rights. On or before the 30th calendar day following the Initial Closing, the Company shall file a registration statement on Form S-1 (the "Resale S-1") providing for the resale by the Purchasers of the Underlying Shares determinable as of the date such registration statement is first filed (or such lesser number of Underlying Shares as permitted by the SEC) pursuant to the terms of the Registration Rights Agreement.

ARTICLE V.

MISCELLANEOUS

5.1 Termination. This Agreement may be terminated by any Purchaser, as to such Purchaser's obligations hereunder only and without any effect whatsoever on the obligations between the Company and the other Purchasers, by written notice to the other parties, if the final Closing has not been consummated on or before August 31, 2019; provided, however, that such termination will not affect the right of any party to sue for any breach by any other party (or parties).

5.2 Fees and Expenses. At the Closing, the Company has agreed to pay G&M for the legal fees in connection with G&M's representation of Alpha Capital Anstalt (and no other Purchasers except in connection with the Escrow Agreement) in the amount of \$28,500. Except as expressly set forth in the Transaction Documents and on Schedule 3.1(s), each party shall pay the fees and expenses of its advisers, counsel, accountants and other experts, if any, and all other expenses incurred by such party incident to the negotiation, preparation, execution, delivery and performance of this Agreement. The Company shall pay all Transfer Agent fees (including, without limitation, any fees required for same-day processing of any instruction letter delivered by the Company and any conversion or exercise notice delivered by a Purchaser), stamp taxes and other taxes and duties levied in connection with the delivery of any Securities to the Purchasers. All of the Purchasers acknowledge that they have been advised to seek the advice of their own attorneys.

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

5.4 Notices. All notices, demands, requests, consents, approvals, and other communications required or permitted hereunder shall be in writing and, unless otherwise specified herein, shall be (i) personally served, (ii) deposited in the mail, registered or certified, return receipt requested, postage prepaid, (iii) delivered by reputable air courier service with charges prepaid, or (iv) transmitted by hand delivery, telegram, or facsimile, addressed as set forth below or to such other address as such party shall have specified most recently by written notice. Any notice or other communication required or permitted to be given hereunder shall be deemed effective (a) upon hand delivery or delivery by facsimile, with accurate confirmation generated by the transmitting facsimile machine, at the address or number designated below (if delivered on a business day during normal business hours where such notice is to be received), or the first business day following such delivery (if delivered other than on a business day during normal business hours where such notice is to be received) or (b) on the second business day following the date of mailing by express courier service, fully prepaid, addressed to such address, or upon actual receipt of such mailing, whichever shall first occur. The addresses for such communications shall be: (i) if to the Company, to: GT Biopharma, Inc., 9350 Wilshire Blvd, Suite 203, Beverly Hills, CA 90212, Attn: Chief Executive Officer, with a copy to (which shall not constitute notice): Gary R. Henrie, Esq., P.O. Box 107, Nauvoo, IL 62354, email: grhlaw@hotmail.com, and (ii) if to the Purchasers, to: the addresses and fax numbers indicated on the signature pages hereto, with an additional copy by fax only to (which shall not constitute notice): Grushko & Mittman, P.C., 515 Rockaway Avenue, Valley Stream, New York 11581, fax: (212) 697-3575.

5.5 Amendments; Waivers. No provision of this Agreement or any other Transaction Document may be waived, modified, supplemented or amended except in a written instrument signed, in the case of an amendment, by the Company and the Purchasers holding at least a majority in interest of the affected Securities then outstanding which must include Alpha Capital Anstalt and Bristol Investment Fund Ltd. (the “Majority in Interest”), or, in the case of a waiver, by the party against whom enforcement of any such waived provision is sought. Whenever the term “consent of the Purchasers” or a similar term is employed herein or any other Transaction Document, it shall mean the consent of a Majority in Interest. No waiver of any default with respect to any provision, condition or requirement of this Agreement shall be deemed to be a continuing waiver in the future or a waiver of any subsequent default or a waiver of any other provision, condition or requirement hereof, nor shall any delay or omission of any party to exercise any right hereunder in any manner impair the exercise of any such right.

5 . 6 Headings. The headings herein are for convenience only, do not constitute a part of this Agreement and shall not be deemed to limit or affect any of the provisions hereof.

5 . 7 Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the parties and their successors and permitted assigns. The Company may not assign this Agreement or any rights or obligations hereunder without the prior written consent of each Purchaser (other than by merger). Following a Closing, any Purchaser may assign any or all of its rights under this Agreement to any Person to whom such Purchaser assigns or transfers any Securities, provided that such transferee agrees in writing to be bound, with respect to the transferred Securities, by the provisions of the Transaction Documents that apply to the “Purchasers.”

5.8 No Third-Party Beneficiaries. This Agreement is intended for the benefit of the parties hereto and their respective successors and permitted assigns and is not for the benefit of, nor may any provision hereof be enforced by, any other Person, except as otherwise set forth in Section 4.10.

5.9 Governing Law. All questions concerning the construction, validity, enforcement and interpretation of the Transaction Documents shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. Each party agrees that all legal proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Agreement and any other Transaction Documents (whether brought against a party hereto or its respective affiliates, directors, officers, shareholders, partners, members, employees or agents) shall be commenced exclusively in the state and federal courts sitting in the City of New York. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, Borough of Manhattan for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein (including with respect to the enforcement of any of the Transaction Documents), and hereby irrevocably waives, and agrees not to assert in any action, suit or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is improper or is an inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by law. If either party shall commence an action or proceeding to enforce any provisions of the Transaction Documents, then, in addition to the obligations of the Company under Section 4.10, the prevailing party in such action, suit or proceeding shall be reimbursed by the other party for its reasonable attorneys’ fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

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

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

5.13 Rescission and Withdrawal Right. Notwithstanding anything to the contrary contained in (and without limiting any similar provisions of) any of the other Transaction Documents, whenever any Purchaser exercises a right, election, demand or option under a Transaction Document and the Company does not timely perform its related obligations within the periods therein provided, then such Purchaser may, at any time prior to the Company’s performance of such obligations, rescind or withdraw, in its sole discretion from time to time upon written notice to the Company, any relevant notice, demand or election in whole or in part without prejudice to its future actions and rights; provided, however, that in the case of a rescission of a conversion of a Note, the applicable Purchaser shall be required to return any shares of Common Stock subject to any such rescinded conversion.

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

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

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

5.17 Usury. To the extent it may lawfully do so, the Company hereby agrees not to insist upon or plead or in any manner whatsoever claim, and will resist any and all efforts to be compelled to take the benefit or advantage of, usury laws wherever enacted, now or at any time hereafter in force, in connection with any claim, action or proceeding that may be brought by any Purchaser in order to enforce any right or remedy under any Transaction Document. Notwithstanding any provision to the contrary contained in any Transaction Document, it is expressly agreed and provided that the total liability of the Company under the Transaction Documents for payments in the nature of interest shall not exceed the maximum lawful rate authorized under Applicable Law (the "Maximum Rate"), and, without limiting the foregoing, in no event shall any rate of interest or default interest, or both of them, when aggregated with any other sums in the nature of interest that the Company may be obligated to pay under the Transaction Documents exceed such Maximum Rate. It is agreed that if the maximum contract rate of interest allowed by law and applicable to the Transaction Documents is increased or decreased by statute or any official governmental action subsequent to the date hereof, the new maximum contract rate of interest allowed by law will be the Maximum Rate applicable to the Transaction Documents from the Closing Date thereof forward, unless such application is precluded by Applicable Law. If under any circumstances whatsoever, interest in excess of the Maximum Rate is paid by the Company to any Purchaser with respect to indebtedness evidenced by the Transaction Documents, such excess shall be applied by such Purchaser to the unpaid principal balance of any such indebtedness or be refunded to the Company, the manner of handling such excess to be at such Purchaser's election.

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

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

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

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

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

5.23 Equitable Adjustment. Trading volume amounts, price/volume amounts, the amount of shares of Common Stock identified in this Agreement, Conversion Price, Underlying Shares and similar figures in the Transaction Documents shall be equitably adjusted (but without duplication) to offset the effect of stock splits, similar events and as otherwise described in this Agreement and Note.

(Signature Pages Follow)

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

GT BIOPHARMA, INC.

Address for Notice:

9350 Wilshire Blvd, Suite 203
Beverly Hills, CA 90212

By: _____
Name: Steven Weldon
Title: Chief Financial Officer

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

[PURCHASER SIGNATURE PAGE TO GT BIOPHARMA, INC.
SECURITIES PURCHASE AGREEMENT]

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

Name of Purchaser: _____

Signature of Authorized Signatory of Purchaser: _____

Name of Authorized Signatory: _____

Title of Authorized Signatory: _____

Email Address of Authorized Signatory: _____

Facsimile Number of Authorized Signatory: _____

State of Residence of Purchaser: _____

Address for Notice to Purchaser:

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

Cash Subscription Amount: US\$ _____

Total Note principal amount: _____

EIN Number, if applicable, will be provided under separate cover

Date: _____

[SIGNATURE PAGES CONTINUE]

EXHIBITS AND SCHEDULES

| | |
|-----------|--------------------------------|
| Exhibit A | Form of |
| | Note |
| Exhibit B | Form of Investor Questionnaire |
| Exhibit C | Form of 8-K |
| Exhibit D | Registration Rights Agreement |

Schedule 3.1(a)
Schedule 3.1(g)
Schedule 3.1(h)
Schedule 3.1(i)
Schedule 3.1(j)
Schedule 3.1(k)
Schedule 3.1(l)
Schedule 3.1(q)
Schedule 3.1(s)
Schedule 3.1(aa)
Schedule 3.1(bb)
Schedule 3.1(cc)
Schedule 3.1(ff)
Schedule 3.1(gg)
Schedule 4.9

1.

EXHIBIT B
ACCREDITED INVESTOR QUESTIONNAIRE
IN CONNECTION WITH INVESTMENT IN CONVERTIBLE NOTE
GT BIOPHARMA, INC.,
A DELAWARE CORPORATION
PURSUANT TO SECURITIES PURCHASE AGREEMENT DATED _____

TO : GT Biopharma, Inc.
9350 Wilshire Blvd, Suite 20
Beverly Hills, CA 90212

INSTRUCTIONS

PLEASE ANSWER ALL QUESTIONS. If the appropriate answer is "None" or "Not Applicable", so state. Please print or type your answers to all questions. Attach additional sheets if necessary to complete your answers to any item.

Your answers will be kept strictly confidential at all times. However, GT Biopharma, Inc. (the "Company") may present this Questionnaire to such parties as it deems appropriate in order to assure itself that the offer and sale of securities of the Company will not result in a violation of the registration provisions of the Securities Act of 1933, as amended, or a violation of the securities laws of any state.

1. Please provide the following information:

Name: _____

Name of additional purchaser: _____

(Please complete information in Question 5)

Date of birth, or if other than an individual, year of organization or incorporation:

2. Residence address, or if other than an individual, principal office address:

Telephone number: _____

Social Security Number: _____

Taxpayer Identification Number: _____

3. Business address: _____

Business telephone number:

4. Send mail to: Residence _____ Business _____

5. With respect to tenants in common, joint tenants and tenants by the entirety, complete only if information differs from that above:

Residence address: _____

Telephone number: _____

Social Security Number: _____

Taxpayer Identification Number: _____

Business address: _____

Business telephone number:

Send Mail to: Residence _____ Business _____

6. Please describe your present or most recent business or occupation and indicate such information as the nature of your employment, how long you have been employed there, the principal business of your employer, the principal activities under your management or supervision and the scope (e.g. dollar volume, industry rank, etc.) of such activities:

7. Please state whether you (i) are associated with or affiliated with a member of the Financial Industry Regulatory Association, Inc. ("FINRA"), (ii) are an owner of stock or other securities of FINRA member (other than stock or other securities purchased on the open market), or (iii) have made a subordinated loan to any FINRA member:

Yes

No

- (a) If you answered yes to any of (i) – (iii) above, please indicate the applicable answer and briefly describe the facts below:

- 8A. Applicable to Individuals ONLY. Please answer the following questions concerning your financial condition as an Accredited Investor (within the meaning of Rule 501 of Regulation D). If the purchaser is more than one individual, each individual must initial an answer where the question indicates a "yes" or "no" response and must answer any other question fully, indicating to which individual such answer applies. If the purchaser is purchasing jointly with his or her spouse, one answer may be indicated for the couple as a whole:

- 8.1 Does your net worth* (or joint net worth with your spouse) exceed \$1,000,000?

Yes

No

- 8.2 Did you have an individual income** in excess of \$200,000 or joint income together with your spouse in excess of \$300,000 in each of the two most recent years and do you reasonably expect to reach the same income level in the current year?

Yes

No

- 8.3 Are you an executive officer of the Company?

Yes

No

* For purposes hereof, net worth shall be deemed to include ALL of your assets, liquid or illiquid MINUS any liabilities.

** For purposes hereof, the term "income" is not limited to "adjusted gross income" as that term is defined for federal income tax purposes, but rather includes certain items of income which are deducted in computing "adjusted gross income". For investors who are salaried employees, the gross salary of such investor, minus any significant expenses personally incurred by such investor in connection with earning the salary, plus any income from any other source including unearned income, is a fair measure of "income" for purposes hereof. For investors who are self-employed, "income" is generally construed to mean total revenues received during the calendar year minus significant expenses incurred in connection with earning such revenues.

8.B Applicable to Corporations, Partnerships, Trusts, Limited Liability Companies and other Entities
ONLY:

The purchaser is an Accredited Investor because the purchaser falls within at least one of the following categories (Check all appropriate lines):

- ☐ (i) a bank as defined in Section 3(a)(2) of the Act or a savings and loan association or other institution as defined in Section 3(a)(5)(A) of the Act whether acting in its individual or fiduciary capacity;
- ☐ (ii) a broker-dealer registered pursuant to Section 15 of the Securities Exchange Act of 1934, as amended;
- ☐ (iii) an insurance company as defined in Section 2(13) of the Act;
- ☐ (iv) an investment company registered under the Investment Company Act of 1940, as amended (the "Investment Act") or a business development company as defined in Section 2(a)(48) of the Investment Act;
- ☐ (v) a Small Business Investment Company licensed by the U.S. Small Business Administration under Section 301(c) or (d) of the Small Business Investment Act of 1958, as amended;
- ☐ (vi) a plan established and maintained by a state, its political subdivisions, or any agency or instrumentality of a state or its political subdivisions, for the benefit of its employees, where such plan has total assets in excess of \$5,000,000;
- ☐ (vii) an employee benefit plan within the meaning of Title 1 of the Employee Retirement Income Security Act of 1974, as amended (the "Employee Act"), where the investment decision is made by a plan fiduciary, as defined in Section 3(21) of the Employee Act, which is either a bank, savings and loan association, insurance company, or registered investment adviser, or an employee benefit plan that has total assets in excess of \$5,000,000, or a self-directed plan the investment decisions of which are made solely by persons that are Accredited Investors;
- ☐ (viii) a private business development company, as defined in Section 202(a)(22) of the Investment Advisers Act of 1940, as amended;
- ☐ (ix) an organization described in Section 501(c)(3) of the Internal Revenue Code, a corporation, a Massachusetts or similar business trust, or a partnership, not formed for the specific purpose of acquiring the securities offered, with total assets in excess of \$5,000,000;
- ☐ (x) a trust, with total assets in excess of \$5,000,000, not formed for the specific purpose of acquiring the securities offered, whose purchase is directed by a "sophisticated" person, as described in Rule 506(b)(2)(ii) promulgated under the Act, who has such knowledge and experience in financial and business matters that he or she is capable of evaluating the merits and risks of the prospective investment;
- ☐ (xi) an entity in which all of the equity investors are persons or entities described above ("Accredited Investors"). ALL EQUITY OWNERS MUST COMPLETE "EXHIBIT A" ATTACHED HERETO.

9.A Do you have sufficient knowledge and experience in financial and business matters so as to be capable of evaluating the merits and risks associated with investing in the Company?

Yes

No

ANSWER QUESTION 9B ONLY IF THE ANSWER TO QUESTION 9A WAS "NO."

9.B If the answer to Question 9A was "NO," do you have a financial or investment adviser (a) that is acting in the capacity as a purchaser representative and (b) who has sufficient knowledge and experience in financial and business matters so as to be capable of evaluating the merits and risks associated with investing in the Company?

Yes

No

If you have a financial or investment adviser(s), please identify each such person and indicate his or her business address and telephone number in the space below. (Each such person must complete, and you must review and acknowledge, a separate Purchaser Representative Questionnaire which will be supplied at your request).

10. You have the right, will be afforded an opportunity, and are encouraged to investigate the Company and review relevant factors and documents pertaining to the officers of the Company, and the Company and its business and to ask questions of a qualified representative of the Company regarding this investment and the properties, operations, and methods of doing business of the Company.

Have you or has your purchaser representative, if any, conducted any such investigation, sought such documents or asked questions of a qualified representative of the Company regarding this investment and the properties, operations, and methods of doing business of the Company?

Yes

No

If so, briefly describe: _____

If so, have you completed your investigation and/or received satisfactory answers to your questions?

Yes

No

11. Do you understand the nature of an investment in the Company and the risks associated with such an investment?
- Yes No
12. Do you understand that there is no guarantee of any financial return on this investment and that you will be exposed to the risk of losing your entire investment?
- Yes No
13. Do you understand that this investment is not liquid?
- Yes No
14. Do you have adequate means of providing for your current needs and personal contingencies in view of the fact that this is not a liquid investment?
- Yes No
15. Are you aware of the Company's business affairs and financial condition, and have you acquired all such information about the Company as you deem necessary and appropriate to enable you to reach an informed and knowledgeable decision to acquire the Interests?
- Yes No
16. Do you have a "pre-existing relationship" with the Company or any of the officers of the Company?
- Yes No

(For purposes hereof, "pre-existing relationship" means any relationship consisting of personal or business contacts of a nature and duration such as would enable a reasonably prudent investor to be aware of the character, business acumen, and general business and financial circumstances of the person with whom such relationship exists.)

If so, please name the individual or other person with whom you have a pre-existing relationship and describe the relationship:

17. **Exceptions to the representations and warranties made in Section 3.2 of the Securities Purchase Agreement (if no exceptions, write “none” – if left blank, the response will be deemed to be “none”):** _____

Dated: _____, 2019

If purchaser is one or more individuals (all individuals must sign):

(Type or print name of prospective purchaser)

Signature of prospective purchaser

Social Security Number

(Type or print name of additional purchaser)

Signature of spouse, joint tenant, tenant in common or other signature, if required

Social Security Number

Annex A

Definition of Accredited Investor

The securities will only be sold to investors who represent in writing in the Securities Purchase Agreement that they are Accredited Investors, as defined in Regulation D, Rule 501 under the Act which definition is set forth below:

1. A natural person whose net worth, or joint net worth with spouse, at the time of purchase exceeds \$1 million (excluding home);
or
2. A natural person whose individual gross income exceeded \$200,000 or whose joint income with that person's spouse exceeded \$300,000 in each of the last two years, and who reasonably expects to exceed such income level in the current year; or
3. A trust with total assets in excess of \$5 million, not formed for the specific purpose of acquiring the securities offered, whose purchase is directed by a sophisticated person described in Regulation D; or
4. A director or executive officer of the Company;
or
5. The investor is an entity, all of the owners of which are Accredited Investors;
or
6. (a) bank as defined in Section 3(a)(2) of the Act, or any savings and loan association or other institution as defined in Section 3(a)(5)(A) of the Act, (b) any broker or dealer registered pursuant to Section 15 of the Securities Exchange Act of 1934, (c) an insurance Company as defined in Section 2(13) of the Act, (d) an investment Company registered under the Investment Company Act of 1940 or a business development Company as defined in Section 2(a)(48) of such Act, (e) a Small Business Investment Company licensed by the United States Small Business Administration under Section 301(c) or (d) of the Small Business Investment Act of 1958, (f) an employee benefit plan established and maintained by a state, its political subdivisions, or any agency or instrumentality of a state or its political subdivisions, if such plan has total assets in excess of \$5 million, (g) an employee benefit plan within the meaning of Title I of the Employee Retirement Income Securities Act of 1974, and the employee benefit plan has assets in excess of \$5 million, or the investment decision is made by a plan fiduciary, as defined in Section 3(21) of such act, that is either a bank, savings and loan institution, insurance Company, or registered investment advisor, or, if a self-directed plan, with an investment decisions made solely by persons that are Accredited Investors, (h) a private business development company as defined in Section 202(a)(22) of the Investment Advisers Act of 1940, or (i) an organization described in Section 501(c)(3) of the Internal Revenue code, corporation, Massachusetts or similar business trust, or partnership, not formed for the specific purpose of acquiring the securities offered, with assets in excess of \$5 million.

EXHIBIT "A" TO ACCREDITED INVESTOR QUESTIONNAIRE

ACCREDITED CORPORATIONS, PARTNERSHIPS, LIMITED LIABILITY COMPANIES, TRUSTS OR OTHER ENTITIES INITIALING QUESTION 8B(xi) MUST PROVIDE THE FOLLOWING INFORMATION.

I hereby certify that set forth below is a complete list of all equity owners in _____ [NAME OF ENTITY], a [TYPE OF ENTITY] formed pursuant to the laws of the State of _____. .. I also certify that EACH SUCH OWNER HAS INITIALED THE SPACE OPPOSITE HIS OR HER NAME and that each such owner understands that by initialing that space he or she is representing that he or she is an accredited individual investor satisfying the test for accredited individual investors indicated under "Type of Accredited Investor."

signature of authorized corporate officer, general partner or trustee

Name of Equity Owner

Type of Accredited Investor¹

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

¹ Indicate which Subparagraph of 8.1 - 8.3 the equity owner satisfies.

REGISTRATION RIGHTS AGREEMENT

REGISTRATION RIGHTS AGREEMENT (this "**Agreement**"), dated as of _____, by and among GT Biopharma, Inc., a Delaware corporation, with headquarters located at 9350 Wilshire Blvd, Suite 203, Beverly Hills, CA 90212 (the "**Company**"), and the investors listed on the Schedule of Purchasers attached hereto (each, a "**Purchaser**" and collectively, the "**Purchasers**").

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 Purchaser, a Convertible Note (collectively, the "**Notes**"), which will be convertible into shares of the Company's common stock, par value \$0.001 per share (the "**Common Stock**") (the shares of Common Stock issuable upon conversion of the Notes, collectively, the "**Common Shares**").

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 Purchasers 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, fifty (50) calendar days after the earlier of the Additional Filing Date and the Additional Filing Deadline and (y) the fifth (5th) 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, thirty (30) days after the date substantially all of the Registrable Securities registered under the immediately preceding Registration Statement are sold.

(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 Common Shares, or the Cutback Shares, as applicable, as a result of any stock split, stock dividend, recapitalization, exchange or similar event or otherwise.

(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 (I) any Cutback Shares not previously included on a Registration Statement, all subject to adjustment as provided in Section 2(f) or (II) such other amount as may be permitted by the staff of the SEC pursuant to Rule 415.

(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 (without regard to clause (II) in the definition thereof) of Registrable Securities not included in all Registration Statements previously declared effective as contemplated 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, the Common Shares shall be excluded on a pro rata basis among the Investors until all of the Common Shares have been excluded.

(k) **"Effective Date"** means the Initial Effective Date and the Additional Effective Date, as applicable.

(l) **"Effectiveness Deadline"** means the Initial Effectiveness Deadline and the Additional Effectiveness Deadline, as applicable.

(m) **"Eligible Market"** means the Principal Market, The New York Stock Exchange, Inc., the NYSE American, The Nasdaq Capital Market, The Nasdaq Global Select Market, The Nasdaq Global Market, the OTC Bulletin Board, the OTCQB or the OTCQX (or any successor to any of the foregoing).

(n) **"Filing Deadline"** means the Initial Filing Deadline and the Additional Filing Deadline, as applicable.

(o) **"Initial Effective Date"** means the date that the Initial Registration Statement has been declared effective by the SEC.

(p) **"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, forty-five (45) calendar days after the Initial Filing Deadline, or (ii) in the event that the Initial Registration Statement is subject to a full review by the SEC, ninety (90) calendar days after the Initial Filing Deadline, and (y) the fifth (5th) 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.

- (q) **"Initial Filing Date"** means the date on which the Initial Registration Statement is filed with the SEC.
- (r) **"Initial Filing Deadline"** means thirty (30) days after the Initial Closing (as defined in the Securities Purchase Agreement).
- (s) **"Initial Registrable Securities"** means (i) the Common Shares issued or issuable upon conversion of the Notes issued pursuant to the terms of the Securities Purchase Agreement, and (ii) any capital stock of the Company issued or issuable with respect to the Common Shares, or the Notes as a result of any stock split, stock dividend, recapitalization, exchange or similar event or otherwise without regard to any limitations on conversion of the Notes.
- (t) **"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.
- (u) **"Initial Required Registration Amount"** means (i) the sum of the number of Common Shares, or (ii) such other amount as may be permitted by the staff of the SEC pursuant to Rule 415.
- (v) **"Investor"** means a Purchaser or any transferee or assignee thereof to whom a Purchaser 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.
- (w) **"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.
- (x) **"Principal Market"** means The OTCQB.
- (y) **"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.
- (z) **"Registrable Securities"** means the Initial Registrable Securities and the Additional Registrable Securities.
- (aa) **"Registration Statement"** means the Initial Registration Statement and the Additional Registration Statement, as applicable.
- (bb) **"Required Holders"** means holders of at least a majority of the Registrable Securities.

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

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

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

(ff) **"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; provided that "Trading Day" shall not include any day on which the Common Stock is scheduled to trade on such exchange or market for 3 or more hours or any day that the Common Stock is suspended from trading during the final hour of trading on such exchange or market (or if such exchange or market does not designate in advance the closing time of trading on such exchange or market, then during the hour ending at 4:00:00 p.m., New York time).

2. Registration.

(a) Initial Mandatory Registration. Promptly following the Closing Date, 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-1 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 Form S-1 or 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 Shareholders" sections in substantially the form attached hereto as Exhibit B, with such modifications as may be required by law. The Company shall use its commercially reasonable 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 second (2nd) 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. The Company represents and warrants that it is the Company's understanding that the SEC will not cause there to be Cutback Shares with respect to up to one-third of the Company's public float, calculated under SEC rules.

(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-1 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; provided that after two rejections by the SEC of Additional Registration Statements, the Company shall not be required to file Additional Registration Statements more frequently than once per sixty day period commencing subsequent to the second rejection. In the event that Form S-3 is unavailable for such a registration, the Company shall use Form S-1 or 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 Shareholders" sections in substantially the form attached hereto as Exhibit B, with such modifications as may be required by law. The Company shall use its commercially reasonable 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 second (2nd) 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 Gary Henric, Esq., 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 if such form becomes available prior to any required post-effective amendment, provided that the Company shall maintain the effectiveness of the Registration Statement then in effect until such time as any such Registration Statement on Form S-3 filed by the Company 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 commercially reasonable 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.

(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" and collectively with a Registration Failure, a Filing Failure, and an Effectiveness Failure, the "Failures" and each a "Failure"), then, as partial relief for the damages to any holder by reason of a Failure (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 one percent (1.0%) of the aggregate Subscription Amount (as 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; provided however, in the event that there shall be more than one Failure occurring simultaneously, the 1.0% shall apply in the aggregate (e.g., during any single or multiple Failure, 1% shall be due, however 1% shall not be due "per Failure" if the Failures are simultaneous and for so long as such Failures are simultaneous). 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 percent (1%) per month (prorated for partial months) until paid in full. Notwithstanding anything to the contrary contained herein, Registration Delay Payments shall (i) not, in the aggregate, exceed fifteen percent (15%) of the aggregate Purchase Price, (ii) cease to accrue when all of the Registrable Securities may be sold by non-affiliates of the Company pursuant to Rule 144 without any restrictions or limitations and (iii) cease to accrue upon the termination of the Registration Period (as defined below).

(h) Limitation on Other Registration Statements. The Company shall not file another registration statement under the 1933 Act prior to the earlier of (i) date that the Initial Registration Statement is declared effective by the SEC and (ii) the end of the Registration Period (as defined in Section 3(a); provided that, this Section 2(h) shall not prevent the Company from filing a registration statement on Form S-4 or Form S-8 with the SEC at any time beginning thirty (30) days after the initial filing of the Initial Registration Statement with the SEC.

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 commercially reasonable 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 commercially reasonable 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 that is two (2) years and six (6) months after the Closing Date, (ii) the date on which the Investors shall have sold all of the Registrable Securities required to be covered by such Registration Statement or (iii) the date on which all of the Registrable Securities may be sold by non-affiliates of the Company pursuant to Rule 144 without any restrictions or limitations (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 "commercially reasonable 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 three (3) Business Days prior to its filing with the SEC and (ii) all amendments and supplements to all Registration Statements (except for those filed by reason of the Company filing 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, (B) permit each Investor to review and comment on the "Plan of Distribution" and "Selling Shareholders" sections of the Registration Statement and all amendments and supplements to the Registration Statement to the extent any changes are made to those sections, and (C) not file any Registration Statement or amendment or supplement thereto in a form to which Legal Counsel reasonably objects; provided however, that if the delay in filing the Registration Statement is due to Legal Counsel's or an Investor's unreasonable objections (and unreasonable refusal to allow the Company to file the Registration Statement) then in such event, no Registration Failure (or similar event that triggers a Registration Delay Payment) shall be deemed to have occurred with such delay arising from Legal Counsel's unreasonable objections, or solely with respect to an Investor, arising from such Investor's unreasonable objections. 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; provided however, that if the delay in filing the effectiveness of the Registration Statement is due to Legal Counsel's unreasonable objections (and unreasonable refusal to allow the Registration Statement to become effective) then in such event, no Effectiveness Failure (or similar event that triggers a Registration Delay Payment) shall be deemed to have occurred. The Company shall furnish to Legal Counsel, without charge, copies of any correspondence from the SEC or the staff of the SEC to the Company or its representatives relating to any Registration Statement. The Company shall reasonably cooperate with Legal Counsel in performing the Company's obligations pursuant to this Section 3.

(d) 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 commercially reasonable 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 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 in writing of the happening of any event, as promptly as practicable but not later than the first Business Day after becoming aware of such event, (i) 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), or (ii) that results in the lack of effectiveness of any Registration Statement, and, subject to Section 3(r), promptly prepare a supplement or amendment to such Registration Statement to correct such untrue statement or omission, or lack of effectiveness of any Registration Statement. The Company shall also promptly notify Legal Counsel 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 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 second (2nd) day 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 commercially reasonable 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 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 by the SEC to be described in the Registration Statement as an underwriter or the Company and an Investor agree that it should be identified as an underwriter of Registrable Securities in the Registration Statement and the Registration Statement is so modified, 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 the Company and an Investor agrees 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 a reasonable period of time, 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 commercially reasonable 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 commercially reasonable 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 commercially reasonable 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 reasonably 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 commercially reasonable 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 commercially reasonable efforts to comply in all material respects 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 thirty (30) consecutive Trading Days and during any three hundred sixty five (365) day period such Grace Periods shall not exceed an aggregate of sixty (60) 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) Except as required by applicable law, 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 Purchaser 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. If the Company is required by law to identify any Investor as an underwriter in any public disclosure or filing with the SEC, the Principal Market or any Eligible Market, prior to so identifying any such Investor, the Company shall promptly notify each such Investor of the legal requirement and give each such Investor a reasonable opportunity to persuade the applicable regulator that said disclosure is not required. If the applicable Investors are unable to eliminate the legal requirement to be identified as an underwriter, the applicable Investor shall have five (5) Business Days, or such shorter time as required by the applicable regulator or applicable law, to consent to such disclosure or to agree to withdraw as a selling shareholder under the Registration Statement. If an Investor agrees to withdraw as a selling shareholder under the Registration Statement, the Company shall not be responsible for any such Failures with respect to any such Investor.

(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 preventing the Company from performing its obligations hereunder.

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 timely 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 by the Company to effect and maintain the effectiveness of the registration of such Registrable Securities and shall timely 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 3(f) (a "**No Sale Notice**"), 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 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 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.

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 reasonably 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, 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 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; 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 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 and has acknowledged its indemnification obligations hereunder in writing, 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 and the indemnifying party would be inappropriate due to 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, a written statement by the Company, if true, that it has complied with the reporting requirements of the 1933 Act and the 1934 Act and that it has satisfied the current public information provisions set forth in Rule 144.

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 receipt, when sent by facsimile (provided confirmation of transmission is mechanically or electronically generated and kept on file by the sending party); (iii) when sent, if sent by electronic mail; 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.
9350 Wilshire Blvd, Suite 203
Beverly Hills, CA 90212
Attn: Chief Financial Officer
Email: sww@gtbiopharma.com

If to the Transfer Agent:
Computershare
350 Indiana Street, Suite 800
Golden, Colorado 80401
Fax: (303) 262-0610

If to Legal Counsel:

Gary R. Henrie, Esq.
P.O. Box 107
Nauvoo, IL 62354
Email: grhlaw@hotmail.com

If to a Purchaser, to its address, facsimile number and/or email address set forth on the Schedule of Purchasers attached hereto or on the signature pages of the Securities Purchase Agreement, with copies to such Purchaser's representatives as set forth on the Schedule of Purchasers, 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 and 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.

(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.

(o) Legal Counsel may resign as Legal Counsel on five (5) calendar days' prior notice to the Company and Alpha Capital Anstalt. Legal Counsel may rely on instructions from Alpha Capital Anstalt without communicating or verifying such instructions with any other Purchaser.

* * * * *

[Signature Page Follows]

IN WITNESS WHEREOF, the parties have executed this Registration Rights Agreement as of the date first written above.

COMPANY:

GT BIOPHARMA, INC.

By: _____
Name: Steven Weldon
Title: Chief Financial Officer

[SIGNATURE PAGE OF HOLDERS FOLLOWS]

[SIGNATURE PAGE OF PURCHASERS TO GT BIOPHARMA, INC. RRA]

Name of Purchaser: _____

Address of Purchaser: _____

Signature of Authorized Signatory of Purchaser: _____

Name of Authorized Signatory: _____

Title of Authorized Signatory: _____

[SIGNATURE PAGES CONTINUE]

FORM OF NOTICE OF EFFECTIVENESS
OF REGISTRATION STATEMENT

Computershare
350 Indiana Street, Suite 800
Golden, Colorado 80401
Fax: (303) 262-0610

Re: GT Biopharma, Inc.

Ladies and Gentlemen:

We have been requested by GT Biopharma, Inc., a Delaware corporation (the "**Company**"), and have represented the Company in connection with that certain Securities Purchase Agreement, dated as of _____ (the "**Securities Purchase Agreement**"), entered into by and among the Company and the purchasers named therein (collectively, the "**Holders**") pursuant to which the Company issued to the Holders convertible promissory notes ("**Notes**") convertible for shares of 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 and Securities Purchase Agreement, collectively, the "**Conversion Shares**"). 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 Conversion Shares issuable pursuant to the Securities Purchase Agreement under the Securities Act of 1933, as amended (the "**1933 Act**"). The description of the Registrable Securities are set forth on **Schedule A** hereto [Selling Shareholder Table]. In connection with the Company's obligations under the Registration Rights Agreement, on _____, the Company filed a Registration Statement on Form S-3 (File No. 333-229667) (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 shareholder thereunder.

In connection with the foregoing, we advise you that a member of the SEC's staff has advised us 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]. We have no knowledge, subsequent to such telephonic conversation with 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. Based on the foregoing, the Registrable Securities set forth on **Schedule A** hereto are available for resale under the 1933 Act pursuant to the Registration Statement.

This letter, unless and until subsequently revoked or modified orally by the Company's securities counsel or in writing from any member of this firm (which writing may include email correspondence), shall serve as our standing instruction to you that the Registrable Securities set forth on **Schedule A** hereto 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 Registrable Securities to the Holders as contemplated by the Company's Irrevocable Transfer Agent Instructions dated July [●], 2019.

Very truly yours,

EXHIBIT B
SELLING SHAREHOLDERS

The shares of Common Stock being offered by the selling stockholders are those issued upon conversion of the Notes that were issued to the selling stockholders pursuant to the Securities Purchase Agreement dated as of August 16, 2019 (the “**Securities Purchase Agreement**”), by and among the Company and the investors named therein. 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 shares of common stock issued pursuant to the Securities Purchase Agreement, the selling shareholders 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 Notes as of August 16, 2019.

The third column lists the shares of Common Stock being offered by this prospectus by the selling stockholders and does not take in account any limitations on conversion of the Notes or issuance of Common Stock.

In accordance with the terms of a registration rights agreement with the selling stockholders (the “**Registration Rights Agreement**”), this prospectus generally covers the resale of at least the sum of the number of shares of Common Stock issued upon conversion of the Notes issued pursuant to the Securities Purchase Agreement as of the trading day immediately preceding the date the registration statement is initially filed with the SEC. The fourth column assumes the sale of all of the shares offered by the selling stockholders pursuant to this prospectus.

Under the terms of the Notes, a selling stockholder may not convert the Notes to the extent such exercise would cause such selling stockholder, together with its affiliates, to beneficially own a number of shares of Common Stock which would exceed 9.99% of our then outstanding shares of Common Stock following such exercise. The number of shares in the second column does not reflect these limitations. The selling stockholders may sell all, some or none of their shares in this offering. See “Plan of Distribution.”

| Name of Selling Shareholder | Number of Shares of Common Stock Owned Prior to Offering | Maximum Number of Shares of Common Stock to be Sold Pursuant to this Prospectus | Number of Shares of Common Stock Owned After Offering |
|------------------------------------|---|--|--|
|------------------------------------|---|--|--|

PLAN OF DISTRIBUTION

We are registering the shares of Common Stock that may be issued upon conversion of the Notes issued pursuant to the Securities Purchase Agreement to permit the resale of these shares of Common Stock by the holders of such shares 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, pursuant to one or more of the following methods:

- 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 effected after the effective date of this Registration Statement;
- 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 shares of Common Stock or Notes 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 re-allowed 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 Exchange Act 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 \$10,000 in total, including, without limitation, SEC 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 Agreement, 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 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.

TRANSFER AGENT INSTRUCTIONS

GT BIOPHARMA, INC.

August 16,2019

Computershare Trust Company, N.A.
250 Royall Street
Canton, MA 02021
Attn: Kathy Heagerty

Ladies and Gentlemen:

Reference is made to that certain Securities Purchase Agreement, dated as of August 16,2019 (the "**Agreement**"), by and among GT Biopharma, Inc., a Delaware corporation (the "**Company**"), and the purchasers identified on the signature pages thereto (collectively, the "**Purchasers**"), pursuant to which the Company is issuing to the Purchasers (i) the 10% senior secured 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**").

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) to issue shares of the 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 the 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 the Common Stock will contain a restrictive legend or legends, and the details of such legend(s), 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 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 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 registered in the names of such transferees, and such certificates shall not bear any legend restricting transfer of the Conversion Shares thereby and should not be subject to any stop-transfer restriction; provided, however, that if such Conversion 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 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 (1) 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 SUCH SECURITIES."

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

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 sww@gtbiopharma.com.

Very truly yours,

GT BIOPHARMA, INC.

By: _____
Name: Anthony Cataldo
Title: Chief Executive Officer

THE FOREGOING INSTRUCTIONS ARE
ACKNOWLEDGED AND AGREED TO
THIS ____ day of _____, 2019

COMPUTERSHARE TRUST COMPANY, N.A.

By: _____
Name:
Title:

Enclosures

NEITHER THIS SECURITY NOR THE SECURITIES INTO WHICH THIS SECURITY IS CONVERTIBLE HAVE BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN AVAILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS AS EVIDENCED BY A LEGAL OPINION OF COUNSEL TO THE TRANSFEROR TO SUCH EFFECT, THE SUBSTANCE OF WHICH SHALL BE REASONABLY ACCEPTABLE TO BORROWER. THIS SECURITY AND THE SECURITIES ISSUABLE UPON CONVERSION OF THIS SECURITY MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT WITH A REGISTERED BROKER-DEALER OR OTHER LOAN WITH A FINANCIAL INSTITUTION THAT IS AN "ACCREDITED INVESTOR" AS DEFINED IN RULE 501(a) UNDER THE SECURITIES ACT OR OTHER LOAN SECURED BY SUCH SECURITIES.

Original Issue Date: _____ 2020

Principal Amount: _____ .00

Original Conversion Price (subject to adjustment herein): \$0.20

CONVERTIBLE NOTE
DUE _____

THIS CONVERTIBLE NOTE is one of a series of duly authorized and validly issued Notes of **GT BIOPHARMA, INC.**, a Delaware corporation, (the "Borrower"), having its principal place of business at 9350 Wilshire Blvd, Suite 203, Beverly Hills, CA 90212, due _____ (this note, the "Note" and, collectively with the other notes of such series, the "Notes").

FOR VALUE RECEIVED, Borrower promises to pay to _____ or its registered assigns (the "Holder"), with an address at: _____, or shall have paid pursuant to the terms hereunder, the principal sum of _____ (_____.00) on _____ (the "Maturity Date") or such earlier date as this Note is required or permitted to be repaid as provided hereunder, and to pay interest, if any, to the Holder on the aggregate unconverted and then outstanding principal amount of this Note in accordance with the provisions hereof.

This Note is subject to the following additional provisions:

Section 1. Definitions. For the purposes hereof, in addition to the terms defined elsewhere in this Note, (a) capitalized terms not otherwise defined herein shall have the meanings set forth in the Purchase Agreement and (b) the following terms shall have the following meanings:

"Alternate Consideration" shall have the meaning set forth in Section 5(e).

“Bankruptcy Event” means any of the following events: (a) Borrower or any Subsidiary thereof commences a case or other proceeding under any bankruptcy, reorganization, arrangement, adjustment of debt, relief of debtors, dissolution, insolvency or liquidation or similar law of any jurisdiction relating to Borrower or any Subsidiary thereof, (b) there is commenced against Borrower or any Subsidiary thereof any such case or proceeding that is not dismissed within 60 days after commencement, (c) Borrower or any Subsidiary thereof is adjudicated insolvent or bankrupt or any order of relief or other order approving any such case or proceeding is entered, (d) Borrower or any Subsidiary thereof suffers any appointment of any custodian or the like for it or any substantial part of its property that is not discharged or stayed within 60 calendar days after such appointment, (e) Borrower or any Subsidiary thereof makes a general assignment for the benefit of creditors, (f) Borrower or any Subsidiary thereof calls a meeting of its creditors with a view to arranging a composition, adjustment or restructuring of its debts or (g) Borrower or any Subsidiary thereof, by any act or failure to act, expressly indicates its consent to, approval of or acquiescence in any of the foregoing or takes any corporate or other action for the purpose of effecting any of the foregoing.

“Beneficial Ownership Limitation” shall have the meaning set forth in Section 4(d).

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

“Buy-In” shall have the meaning set forth in Section 4(c)(v).

“Change of Control Transaction” means, other than by means of conversion or exercise of the Notes and the Securities issued together with the Notes, the occurrence after the date hereof of any of (a) an acquisition after the date hereof by an individual or legal entity or “group” (as described in Rule 13d-5(b)(1) promulgated under the Exchange Act) of effective control (whether through legal or beneficial ownership of capital stock of Borrower, by contract or otherwise) of in excess of 50% of the voting securities of Borrower, (b) Borrower merges into or consolidates with any other Person, or any Person merges into or consolidates with Borrower and, after giving effect to such transaction, the stockholders of Borrower immediately prior to such transaction own less than 50% of the aggregate voting power of Borrower or the successor entity of such transaction, (c) Borrower sells or transfers all or substantially all of its assets to another Person and the stockholders of Borrower immediately prior to such transaction own less than 50% of the aggregate voting power of the acquiring entity immediately after the transaction, (d) a replacement at one time or within a three year period of more than one-half of the members of the Board of Directors which is not approved by a majority of those individuals who are members of the Board of Directors on the Original Issue Date (or by those individuals who are serving as members of the Board of Directors on any date whose nomination to the Board of Directors was approved by a majority of the members of the Board of Directors who are members on the date hereof), or (e) the execution by Borrower of an agreement to which Borrower is a party or by which it is bound, providing for any of the events set forth in clauses (a) through (d) above.

“Conversion” shall have the meaning ascribed to such term in Section 4.

“Conversion Date” shall have the meaning set forth in Section 4(a).

“Conversion Price” shall have the meaning set forth in Section 4(b).

“Conversion Shares” means, collectively, the shares of Common Stock issuable upon conversion of this Note in accordance with the terms hereof.

“Debentures” means those certain 10% Senior Convertible Debentures of the Borrower issued on August 2, 2018, September 7, 2018, September 24, 2018, and the Senior Convertible Notes issued on February 4, 2019.

“Dilutive Issuance” shall have the meaning set forth in Section 5(e).

“Equity Conditions” means, during the period in question, (a) Borrower shall have duly honored all conversions scheduled to occur or occurring by virtue of one or more Notices of Conversion of the applicable Holder on or prior to the dates so requested or required, if any, (b) Borrower shall have paid all liquidated damages and other amounts owing to the applicable Holder in respect of this Note and the other Transaction Documents, (c) all of the Underlying Shares (and shares issuable in lieu of cash payments of interest) may be resold by Persons other than Affiliates of the Borrower pursuant to Rule 144 without volume or manner-of-sale restrictions or current public information requirements as confirmed by counsel to Borrower in a written opinion letter to such effect, addressed and acceptable to the Borrower’s Transfer Agent and the affected Holders, (d) the Common Stock is listed or quoted for trading on a Trading Market (and Borrower believes, in good faith, that trading of the Common Stock on a Trading Market will continue uninterrupted for the foreseeable future), (e) there is a sufficient number of authorized, but unissued and otherwise unreserved, shares of Common Stock for the issuance of all of the shares then issuable pursuant to the Transaction Documents, (f) an Event of Default has not occurred, whether or not such Event of Default has been cured, (g) there is no existing event which, with the passage of time or the giving of notice, would constitute an Event of Default, (h) the issuance of the shares in question to the applicable Holder would not exceed the Beneficial Ownership Limitation, (i) there has been no public announcement of a pending or proposed Fundamental Transaction or Change of Control Transaction that has not been consummated, (j) the applicable Holder, if not an Affiliate of the Borrower is not in possession of any information provided by Borrower that constitutes, or may constitute, material non-public information, and (k) a Public Information Failure has not occurred.

“Event of Default” shall have the meaning set forth in Section 8(a).

“Fundamental Transaction” shall have the meaning set forth in Section 5(d).

“Interest Payment Date” shall have the meaning set forth in Section 2(1).

“Majority in Interest” means, at any given time, the Holders then holding at least 51% in principal amount of the then outstanding Notes and Other Notes which must include Alpha Capital Anstalt and Bristol Investment Fund Ltd. of the component of the affected Securities then outstanding.

“Mandatory Default Amount” means the sum of (a) the greater of (i) the outstanding principal amount of this Note divided by the Conversion Price on the date the Mandatory Default Amount is either (A) demanded (if demand or notice is required to create an Event of Default) or otherwise due or (B) paid in full, whichever has a lower Conversion Price, multiplied by the VWAP on the date the Mandatory Default Amount is either (x) demanded (if demand or notice is required to create an Event of Default) or otherwise due or (y) paid in full, whichever has a higher VWAP, or (ii) 130% of the outstanding principal amount of this Note and (b) all other amounts, costs, expenses and liquidated damages due in respect of this Note.

“New York Courts” shall have the meaning set forth in Section 10(d).

“Note Register” shall have the meaning set forth in Section 2(c).

“Notice of Conversion” shall have the meaning set forth in Section 4(a).

“Original Issue Date” means the date of the first issuance of the Notes, regardless of any transfers of any Note and regardless of the number of instruments which may be issued to evidence such Notes.

“Other Holders” means holders of Other Notes.

“Other Notes” means Notes nearly identical to this Note issued to other Holders pursuant to the Purchase Agreement.

“Permitted Indebtedness” shall have the meaning provided in the Purchase Agreement.

“Permitted Lien” shall have the meaning provided in the Purchase Agreement.

“Purchase Agreement” means the Securities Purchase Agreement, dated as of May __, 2019 among Borrower and the original Holders, as amended, modified or supplemented from time to time in accordance with its terms.

“Registration Statement” shall have the meaning set forth in the Purchase Agreement and Registration Rights Agreement.

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

“Share Delivery Date” shall have the meaning set forth in Section 4(c)(ii).

“Successor Entity” shall have the meaning set forth in Section 5(e).

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

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

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg 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 any of the Nasdaq markets or exchanges is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the OTC Bulletin Board, (c) if the Common Stock is not then listed or quoted for trading on the OTC Bulletin Board and if prices for the Common Stock are then reported on the OTCQX, OTCQB or OTC Pink Marketplace maintained by the OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the volume weighted average price of the Common Stock on the first such facility (or a similar organization or agency succeeding to its functions of reporting prices), or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Majority in Interest and reasonably acceptable to Borrower, the fees and expenses of which shall be paid by Borrower.

Section 2. Interest and General Provisions.

a) Payment of Interest in Cash or Kind. The Borrower shall pay interest to the Holder on the aggregate unconverted and then outstanding principal amount of this Note at the rate of 10% per annum, payable on each Conversion Date (as to that principal amount then being converted), and on the Maturity Date (each such date, an “Interest Payment Date”) (if any Interest Payment Date is not a Business Day, then the applicable payment shall be due on the next succeeding Business Day), in cash or, at the Holder’s option, in duly authorized, validly issued, fully paid and non-assessable shares of Common Stock based on the Conversion Price then in effect. Borrower may not pay any interest in shares of Common Stock in excess of the Beneficial Ownership Limitation when applicable, unless waived by Holder. Following the occurrence and during the continuance of an Event of Default, then from the first date of such occurrence, the annual interest rate on this Note shall be eighteen percent (18%). Such interest shall be due and payable on the Maturity Date, whether by acceleration or otherwise.

b) Payment Grace Period. Except as described in this Note, the Borrower shall not have any grace period to pay any monetary amounts due under this Note.

c) Conversion Privileges. The Conversion Rights set forth in Section 4 shall remain in full force and effect immediately from the date hereof and until the Note is paid in full regardless of the occurrence of an Event of Default. This Note shall be payable in full on the Maturity Date, unless previously converted into Common Stock in accordance with Section 4 hereof.

d) Application of Payments. Interest on this Note shall be calculated on the basis of a 360-day year and the actual number of days elapsed. Payments made in connection with this Note shall be applied first to amounts due hereunder other than principal and interest, thereafter to interest and finally to principal.

e) Pari Passu. Except as otherwise set forth herein, all payments made on this Note and the Other Notes and all actions taken by the Borrower with respect to this Note and the Other Notes, shall be made and taken *pari passu* with respect to this Note and the Other Notes. Notwithstanding anything to the contrary contained herein or in the Transaction Documents, it shall not be considered non-pari passu for a Holder or Other Holder to elect to receive interest paid in Common Stock or for Borrower to actually pay interest in Common Stock to such electing Holder or Other Holder.

f) Manner and Place of Payment. Principal and interest on this Note and other payments in connection with this Note shall be payable at the Holder’s offices as designated above in lawful money of the United States of America in immediately available funds without set-off, deduction or counterclaim. Upon assignment of the interest of Holder in this Note, Borrower shall instead make its payment pursuant to the assignee’s instructions upon receipt of written notice thereof. Except as set forth herein, this Note may not be prepaid or mandatorily converted without the consent of the Holder.

g) Prepayment. Except as otherwise set forth in this Note, the Borrower may not prepay any portion of the principal amount of this Note without the prior written consent of the Holder.

Section 3. Registration of Transfers and Exchanges.

a) Different Denominations. This Note is exchangeable for an equal aggregate principal amount of Notes of different authorized denominations, as requested by the Holder surrendering the same. No service charge will be payable for such registration of transfer or exchange.

b) Investment Representations. This Note has been issued subject to certain investment representations of the original Holder set forth in the Purchase Agreement and may be transferred or exchanged only in compliance with the Purchase Agreement and applicable federal and state securities laws and regulations.

c) Reliance on Note Register. Prior to due presentment for transfer to Borrower of this Note, Borrower and any agent of Borrower may treat the Person in whose name this Note is duly registered on the Note Register as the owner hereof for the purpose of receiving payment as herein provided and for all other purposes, whether or not this Note is overdue, and neither Borrower nor any such agent shall be affected by notice to the contrary.

Section 4. Conversion.

a) Voluntary Conversion. At any time after the Original Issue Date until this Note is no longer outstanding, this Note including interest accrued hereon shall be convertible, in whole or in part, into shares of Common Stock at the option of the Holder, at any time and from time to time (subject to the conversion limitations set forth in Section 4(d) hereof). The Holder shall effect conversions by delivering to Borrower a Notice of Conversion, the form of which is attached hereto as Annex A (each, a "Notice of Conversion"), specifying therein the principal amount of this Note and accrued interest, if any, to be converted and the date on which such conversion shall be effected (such date, the "Conversion Date"). If no Conversion Date is specified in a Notice of Conversion, the Conversion Date shall be the date that such Notice of Conversion is deemed delivered hereunder. To effect conversions hereunder, the Holder shall not be required to physically surrender this Note to Borrower unless the entire principal amount of this Note has been so converted. Conversions hereunder shall have the effect of lowering the outstanding principal amount of this Note in an amount equal to the applicable conversion. The Holder and Borrower shall maintain records showing the principal amount(s) converted and the date of such conversion(s). Borrower may deliver an objection to any Notice of Conversion within one (1) Business Day of delivery of such Notice of Conversion. In the event of any dispute or discrepancy, the records of the Holder shall be controlling and determinative in the absence of manifest error. **The Holder, and any assignee by acceptance of this Note, acknowledges and agrees that, by reason of the provisions of this paragraph, following conversion of a portion of this Note, the unpaid and unconverted principal amount of this Note may be less than the amount stated on the face hereof.**

b) Conversion Price. The conversion price for the principal and interest, if any, in connection with voluntary conversions by the Holder shall be **\$0.20** per share of Common Stock, subject to adjustment herein (the "Conversion Price").

c) Mechanics of Conversion.

i . Conversion Shares Issuable Upon Conversion of Principal Amount. The number of Conversion Shares issuable upon a conversion hereunder shall be determined by the quotient obtained by dividing (x) the outstanding principal amount of this Note to be converted plus interest, if any, elected by the Holder to be converted by (y) the Conversion Price.

ii . Delivery of Certificate Upon Conversion. In connection with sales of the Underlying Shares, not later than two (2) Trading Days after each Conversion Date (the "Share Delivery Date"), Borrower shall deliver, or cause to be delivered, to the Holder a certificate or certificates representing the Conversion Shares which, on or after the earlier of the one year or six month anniversary of the Original Issue Date in accordance with Rule 144, shall be free of restrictive legends and trading restrictions (other than those which may then be required by the Purchase Agreement) representing the number of Conversion Shares being acquired upon the conversion of this Note. Borrower shall use its best efforts to deliver any certificate or certificates required to be delivered by Borrower under this Section 4(c) electronically through the Depository Trust Company or another established clearing corporation performing similar functions.

iii. Failure to Deliver Certificates. If, in the case of any Notice of Conversion, such certificate or certificates are not delivered to or as directed by the applicable Holder by the Share Delivery Date, the Holder shall be entitled to elect by written notice to Borrower at any time on or before its receipt of such certificate or certificates, to rescind such Conversion, in which event Borrower shall promptly return to the Holder any original Note delivered to Borrower and the Holder shall promptly return to Borrower the Common Stock certificates issued to such Holder pursuant to the rescinded Conversion Notice.

iv. Obligation Absolute; Partial Liquidated Damages. Borrower's obligations to issue and deliver the Conversion Shares upon conversion of this Note in accordance with the terms hereof are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by the Holder or any other Person of any obligation to Borrower or any violation or alleged violation of law by the Holder or any other Person, and irrespective of any other circumstance which might otherwise limit such obligation of Borrower to the Holder in connection with the issuance of such Conversion Shares; provided, however, that such delivery shall not operate as a waiver by Borrower of any such action Borrower may have against the Holder. In the event the Holder of this Note shall elect to convert any or all of the outstanding principal amount hereof, Borrower may not refuse conversion based on any claim that the Holder or anyone associated or affiliated with the Holder has been engaged in any violation of law, agreement or for any other reason, unless an injunction from a court, on notice to Holder, restraining and or enjoining conversion of all or part of this Note shall have been sought and obtained, and Borrower posts a surety bond for the benefit of the Holder in the amount of 150% of the outstanding principal amount of this Note, which is subject to the injunction, which bond shall remain in effect until the completion of arbitration/litigation of the underlying dispute and the proceeds of which shall be payable to the Holder to the extent it obtains judgment. In the absence of such injunction, Borrower shall issue Conversion Shares or, if applicable, cash, upon a properly noticed conversion. If Borrower fails for any reason to deliver to the Holder such certificate or certificates pursuant to Section 4(c)(ii) by the Share Delivery Date, Borrower shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of principal amount being converted, \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth (5th) Trading Day after such liquidated damages being to accrue) for each Trading Day after such Share Delivery Date until such certificates are delivered or Holder rescinds such conversion. Nothing herein shall limit a Holder's right to pursue actual damages or declare an Event of Default pursuant to Section 8 hereof for Borrower's failure to deliver Conversion Shares within the period specified herein and the Holder shall have the right to pursue all remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief. The exercise of any such rights shall not prohibit the Holder from seeking to enforce damages pursuant to any other Section hereof or under applicable law.

v. Compensation for Buy-In on Failure to Timely Deliver Certificates Upon Conversion. In addition to any other rights available to the Holder, if Borrower fails for any reason to deliver to the Holder such certificate or certificates by the Share Delivery Date pursuant to Section 4(c)(ii), and if after such Share Delivery Date the Holder is required by its brokerage firm to purchase (in an open market transaction or otherwise), or the Holder or Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Conversion Shares which the Holder was entitled to receive upon the conversion relating to such Share Delivery Date (a "Buy-In"), then Borrower shall (A) pay in cash to the Holder (in addition to any other remedies available to or elected by the Holder) the amount, if any, by which (x) the Holder's total purchase price (including any brokerage commissions) for the Common Stock so purchased exceeds (y) the product of (1) the aggregate number of shares of Common Stock that the Holder was entitled to receive from the conversion at issue multiplied by (2) the actual sale price at which the sell order giving rise to such purchase obligation was executed (including any brokerage commissions) and (B) at the option of the Holder, either reissue (if surrendered) this Note in a principal amount equal to the principal amount of the attempted conversion (in which case such conversion shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued if Borrower had timely complied with its delivery requirements under Section 4(c)(ii). For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted conversion of this Note with respect to which the actual sale price of the Conversion Shares (including any brokerage commissions) giving rise to such purchase obligation was a total of \$10,000 under clause (A) of the immediately preceding sentence, Borrower shall be required to pay the Holder \$1,000. The Holder shall provide Borrower written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of Borrower, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to Borrower's failure to timely deliver certificates representing shares of Common Stock upon conversion of this Note as required pursuant to the terms hereof.

vi. Reservation of Shares Issuable Upon Conversion. Borrower covenants that it will at all times reserve and keep available out of its authorized and unissued shares of Common Stock for the sole purpose of issuance upon conversion of this Note as herein provided, free from preemptive rights or any other actual contingent purchase rights of Persons other than the Holder (and the other holders of the Notes), not less than 150% of the aggregate number of shares of the Common Stock as shall (subject to the terms and conditions set forth in the Purchase Agreement) be issuable (taking into account the adjustments and restrictions of Section 5) upon the conversion of the then outstanding principal amount of this Note and interest which has accrued and would accrue on such principal amount assuming such principal amount was not converted through the Maturity Date. Borrower covenants that all shares of Common Stock that shall be so issuable shall, upon issue, be duly authorized, validly issued, fully paid and nonassessable.

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

viii. Transfer Taxes and Expenses. The issuance of certificates for shares of the Common Stock on conversion of this Note shall be made without charge to the Holder hereof for any documentary stamp or similar taxes that may be payable in respect of the issue or delivery of such certificates, provided that, Borrower shall not be required to pay any tax that may be payable in respect of any transfer involved in the issuance and delivery of any such certificate upon conversion in a name other than that of the Holder of this Note so converted and Borrower shall not be required to issue or deliver such certificates unless or until the Person or Persons requesting the issuance thereof shall have paid to Borrower the amount of such tax or shall have established to the satisfaction of Borrower that such tax has been paid. Borrower shall pay all Transfer Agent fees required for same-day processing of any Notice of Conversion.

d) Holder's Conversion Limitations. Borrower shall not effect any conversion of this Note, and a Holder shall not have the right to convert any portion of this Note, to the extent that after giving effect to the conversion set forth on the applicable Notice of Conversion, the Holder (together with the Holder's Affiliates, and any Persons acting as a group together with the Holder or any of the Holder's Affiliates) would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates shall include the number of shares of Common Stock issuable upon conversion of this Note with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which are issuable upon (i) conversion of the remaining, unconverted principal amount of this Note beneficially owned by the Holder or any of its Affiliates and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of Borrower subject to a limitation on conversion or exercise analogous to the limitation contained herein (including, without limitation, any other Notes) beneficially owned by the Holder or any of its Affiliates. Except as set forth in the preceding sentence, for purposes of this Section 4(d), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. To the extent that the limitation contained in this Section 4(d) applies, the determination of whether this Note is convertible (in relation to other securities owned by the Holder together with any Affiliates) and of which principal amount of this Note is convertible shall be in the sole discretion of the Holder, and the submission of a Notice of Conversion shall be deemed to be the Holder's determination of whether this Note may be converted (in relation to other securities owned by the Holder together with any Affiliates) and which principal amount of this Note is convertible, in each case subject to the Beneficial Ownership Limitation. To ensure compliance with this restriction, the Holder will be deemed to represent to Borrower each time it delivers a Notice of Conversion that such Notice of Conversion has not violated the restrictions set forth in this paragraph and Borrower shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 4(d), in determining the number of outstanding shares of Common Stock, the Holder may rely on the number of outstanding shares of Common Stock as stated in the most recent of the following: (i) Borrower's most recent periodic or annual report filed with the Commission, as the case may be, (ii) a more recent public announcement by Borrower, or (iii) a more recent written notice by Borrower or Borrower's transfer agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, Borrower shall within two Trading Days confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of Borrower, including this Note, by the Holder or its Affiliates since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon conversion of this Note held by the Holder. The Holder may decrease the Beneficial Ownership Limitation at any time upon not less than 61 days' prior notice to Borrower, and may increase the Beneficial Ownership Limitation provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon conversion of this Note held by the Holder and the Beneficial Ownership Limitation provisions of this Section 4(d) shall continue to apply. Any such increase will not be effective until the 61st day after such notice is delivered to Borrower. The Beneficial Ownership Limitation provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 4(d) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation contained herein or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Note.

Section 5. Certain Adjustments.

a) Stock Dividends and Stock Splits. If Borrower, at any time while this Note is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions payable in shares of Common Stock on shares of Common Stock or any Common Stock Equivalents (which, for avoidance of doubt, shall not include any shares of Common Stock issued by Borrower upon conversion of the Notes), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of a reverse stock split) outstanding shares of Common Stock into a smaller number of shares or (iv) issues, in the event of a reclassification of shares of the Common Stock, any shares of capital stock of Borrower, then the Conversion Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding any treasury shares of Borrower) outstanding immediately before such event, and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to this Section shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

b) Subsequent Equity Sales. In addition to the reductions of the Conversion Price described in Section 4(b), if, at any time while this Note is outstanding, the Borrower or any Subsidiary, as applicable, sells or grants any option to purchase or sells or grants any right to reprice, or otherwise disposes of or issues (or announces any sale, grant or any option to purchase or other disposition), any Common Stock or Common Stock Equivalents entitling any Person to acquire Common Stock at an effective price per share that is lower than the then Conversion Price (such lower price, the “Base Conversion Price” and such issuances, collectively, a “Dilutive Issuance”) (if the holder of the Common Stock or Common Stock Equivalents so issued shall at any time, whether by operation of purchase price adjustments, reset provisions, floating conversion, exercise or exchange prices or otherwise, or due to warrants, options or rights per share which are issued in connection with such issuance, be entitled to receive Common Stock at an effective price per share that is lower than the Conversion Price, such issuance shall be deemed to have occurred for less than the Conversion Price on such date of the Dilutive Issuance), then the Conversion Price shall be reduced to equal the Base Conversion Price, subject to adjustment for reverse and forward stock splits and the like. Such adjustment shall be made whenever such Common Stock or Common Stock Equivalents are issued. Notwithstanding the foregoing, no adjustment will be made under this Section 5(b) in respect of an Exempt Issuance. If the Borrower enters into a Variable Rate Transaction, despite the prohibition set forth in the Purchase Agreement, the Borrower shall be deemed to have issued Common Stock or Common Stock Equivalents at the lowest possible conversion price at which such securities may be converted or exercised. The Borrower shall notify the Holder in writing, no later than the Trading Day following the issuance of any Common Stock or Common Stock Equivalents subject to this Section 5(b), indicating therein the applicable issuance price, or applicable reset price, exchange price, conversion price and other pricing terms (such notice, the “Dilutive Issuance Notice”). For purposes of clarification, whether or not the Borrower provides a Dilutive Issuance Notice pursuant to this Section 5(b), upon the occurrence of any Dilutive Issuance, the Holder is entitled to receive a number of Conversion Shares based upon the Base Conversion Price on or after the date of such Dilutive Issuance, regardless of whether the Holder accurately refers to the Base Conversion Price in the Notice of Conversion.

c) Subsequent Rights Offerings. In addition to any adjustments pursuant to Sections 5(a) and (b) above, if at any time Borrower grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights 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 regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

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

e) Fundamental Transaction. If, at any time while this Note is outstanding, (i) Borrower, directly or indirectly, in one or more related transactions effects any merger or consolidation of Borrower with or into another Person, (ii) Borrower, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by Borrower or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) Borrower, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, (v) Borrower, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person whereby such other Person acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or other business combination) (each a "Fundamental Transaction"), then, upon any subsequent conversion of this Note, the Holder shall have the right to receive, for each Conversion Share that would have been issuable upon such conversion immediately prior to the occurrence of such Fundamental Transaction (without regard to any limitation in Section 4(d) on the conversion of this Note), the number of shares of Common Stock of the successor or acquiring corporation or of Borrower, if it is the surviving corporation, and any additional consideration (the "Alternate Consideration") receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Note is convertible immediately prior to such Fundamental Transaction (without regard to any limitation in Section 4(d) on the conversion of this Note). For purposes of any such conversion, the determination of the Conversion Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one (1) share of Common Stock in such Fundamental Transaction, and Borrower shall apportion the Conversion Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any conversion of this Note following such Fundamental Transaction. Borrower shall cause any successor entity in a Fundamental Transaction in which Borrower is not the survivor (the "Successor Entity") to assume in writing all of the obligations of Borrower under this Note and the other Transaction Documents (as defined in the Purchase Agreement) in accordance with the provisions of this Section 5(e) pursuant to written agreements in form and substance reasonably satisfactory to the Majority in Interest (which approval shall not be unreasonably withheld, delayed or conditioned) prior to such Fundamental Transaction and shall, at the option of the holder of this Note, deliver to the Holder in exchange for this Note a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Note which is convertible for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon conversion of this Note (without regard to any limitations on the conversion of this Note) prior to such Fundamental Transaction, and with a conversion price which applies the conversion price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such conversion price being for the purpose of protecting the economic value of this Note immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Note and the other Transaction Documents referring to the "Borrower" shall refer instead to the Successor Entity), and may exercise every right and power of Borrower and shall assume all of the obligations of Borrower under this Note and the other Transaction Documents with the same effect as if such Successor Entity had been named as Borrower herein.

f) Calculations. All calculations under this Section 5 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 5, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding any treasury shares of Borrower) issued and outstanding.

g) Notice to the
Holder.

i . Adjustment to Conversion Price. Whenever the Conversion Price is adjusted pursuant to any provision of this Section 5, Borrower shall promptly deliver to each Holder a notice setting forth the Conversion Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment.

ii. Notice to Allow Conversion by Holder. If (A) Borrower shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) Borrower shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) Borrower shall authorize the granting to all holders of the Common Stock of rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of Borrower shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which Borrower is a party, any sale or transfer of all or substantially all of the assets of Borrower, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property or (E) Borrower shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of Borrower, then, in each case, Borrower shall cause to be filed at each office or agency maintained for the purpose of conversion of this Note, and shall cause to be delivered to the Holder at its last address as it shall appear upon the Note Register, at least twenty (20) calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange, provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided hereunder constitutes, or contains, material, non-public information regarding Borrower or any of the Subsidiaries, Borrower shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to convert this Note during the 20-day period commencing on the date of such notice through the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

h) Reset. Provided the Holder has acquired from the Borrower a Note in the principal amount of not less than _____, then for so long as this Note is outstanding, if from and after the Issue Date of this Note the Holder converts any or all of a Debenture, then with respect to an aggregate amount of such conversions of the Debenture not exceeding the initial Principal Amount of this Note, upon the occurrence of a Dilutive Issuance (as defined in the Debenture), Borrower shall issue to Holder additional shares of Common Stock (the "Additional Shares") for no additional consideration, so that the average price per share of the shares of Common Stock issued and issuable upon the aforescribed conversion of the Debenture when added to the Additional Shares shall be equal to the Base Conversion Price (as defined in the Debenture).

Section 6. Registration Rights. The Company shall file a registration statement pursuant to the terms of the Purchase Agreement and Registration Rights Agreement.

Section 7. Negative Covenants. As long as any portion of this Note remains outstanding, unless the Majority in Interest shall have otherwise given prior written consent, Borrower shall not directly or indirectly:

- a) other than Permitted Indebtedness, enter into, create, incur, assume, guarantee or suffer to exist any indebtedness for borrowed money of any kind, including, but not limited to, a guarantee, on or with respect to any of its property or assets now owned or hereafter acquired or any interest therein or any income or profits therefrom;
- b) other than Permitted Liens, enter into, create, incur, assume or suffer to exist any Liens of any kind, on or with respect to any of its property or assets now owned or hereafter acquired or any interest therein or any income or profits therefrom;
- c) amend its charter documents, including, without limitation, its certificate of incorporation and bylaws, in any manner that materially and adversely affects any rights of the Holder, provided however, the consent of a Majority in Interest shall not be required in connection with an increase in the authorized shares by the Company;
- d) repay, repurchase or offer to repay, repurchase or otherwise acquire any shares of its Common Stock or Common Stock Equivalents other than as to the Conversion Shares as permitted or required under the Transaction Documents;
- e) 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 Permitted Indebtedness or the Notes if on a pro-rata basis), whether by way of payment in respect of principal of (or premium, if any) or interest on, such Indebtedness, the foregoing restriction shall also apply to Permitted Indebtedness from and after the occurrence of an Event of Default;
- f) declare or make any dividend or other distribution of its assets or rights to acquire its assets to holders of shares of Common Stock, by way of return of capital or otherwise including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, liquidation, distribution, preferential payments in connection with any securities or debt issuances, corporate rearrangement, scheme of arrangement or other similar transaction;
- g) issue any Common Stock or Common Stock Equivalents in violation of the terms of the Purchase Agreement;
- h) enter into any transaction with any Affiliate of Borrower which would be required to be disclosed by a company subject to the reporting requirements of Section 12(g) of the Exchange Act in any public filing with the Commission, unless such transaction is made on reasonable commercial terms and expressly approved by either (i) a majority of the disinterested directors of Borrower (even if less than a quorum otherwise required for board approval) or (ii) all of the directors; or
- i) enter into any agreement with respect to any of the foregoing

Section 8. Events of Default.

- a) “Event of Default” means, wherever used herein, any of the following events (whatever the reason for such event and whether such event shall be voluntary or involuntary or effected by operation of law or pursuant to any judgment, decree or order of any court, or any order, rule or regulation of any administrative or governmental body):

i. any default in the payment of (A) the principal amount of this Note, or (B) interest, liquidated damages and other amounts owing to a Holder on any Note, as and when the same shall become due and payable (whether on a Conversion Date or the Maturity Date or by acceleration or otherwise) which default, solely in the case of a default under clause (B) above, is not cured within 3 Trading Days after Borrower has become aware of such default;

ii. Borrower shall fail to observe or perform any other material covenant or agreement contained in the Notes (other than a breach by Borrower of its obligations to deliver shares of Common Stock to the Holder upon conversion, which breach is addressed in clause (ix) below) which failure is not cured, if possible to cure, within the earlier to occur of (A) 5 Trading Days after notice of such failure sent by the Holder or by any Other Holder to Borrower and (B) 10 Trading Days after Borrower has become aware of such failure;

iii. a material default or event of default (subject to any grace or cure period provided in the applicable agreement, document or instrument) shall occur under (A) any of the Transaction Documents, including but not limited to failure to strictly comply with the material provisions of the Transaction Documents, or (B) any other material agreement, lease, document or instrument to which Borrower or any Subsidiary is obligated (and not covered by clause (vi) below), which in the case of subsection (B) would reasonably be expected to have a Material Adverse Effect;

iv. any material representation or warranty made in this Note, any other Transaction Documents, any written statement pursuant hereto or thereto or any other report, financial statement or certificate made or delivered to the Holder or any Other Holder shall be untrue or incorrect in any material respect as of the date when made or deemed made;

v. Borrower or any Subsidiary shall be subject to a Bankruptcy Event;

vi. Borrower or any Subsidiary shall default on any of its obligations under any mortgage, credit agreement or other facility, indenture agreement, factoring agreement or other instrument under which there may be issued, or by which there may be secured or evidenced, any indebtedness for borrowed money or money due under any long term leasing or factoring arrangement that (a) involves an obligation greater than \$50,000, whether such indebtedness now exists or shall hereafter be created, and (b) results in such indebtedness becoming or being declared due and payable prior to the date on which it would otherwise become due and payable;

vii. Borrower shall be a party to any Change of Control Transaction or Fundamental Transaction or disposition of all or in excess of 30% of its assets in one transaction or a series of related transactions (whether or not such sale would constitute a Change of Control Transaction);

viii. Borrower does not meet the current public information requirements under Rule 144;

ix. Borrower shall fail for any reason to deliver certificates to a Holder prior to the fifth Trading Day after a Conversion Date pursuant to Section 4(c) or Borrower shall provide at any time notice to the Holder, including by way of public announcement, of Borrower's intention to not honor requests for conversions of any Notes in accordance with the terms hereof;

x. any Person shall materially breach any agreement delivered to the initial Holders pursuant to Section 2.2 of the Purchase Agreement, which breach is not cured within any allowed cure period;

xi. any monetary judgment, writ or similar final process shall be entered or filed against Borrower, or any of its respective property or other assets for more than \$50,000, and such judgment, writ or similar final process shall remain unvacated, unbonded or unstayed for a period of 90 calendar days;

xii. any dissolution, liquidation or winding up by Borrower, of a substantial portion of their business;

xiii. cessation of operations by Borrower;

xiv. the failure by Borrower or any material Subsidiary to maintain any material intellectual property rights, personal, real property, equipment, leases or other assets which are necessary to conduct its business (whether now or in the future) and such breach is not cured with twenty (20) days after written notice to the Borrower from the Holder;

xv. the occurrence of a Listing Default;

xvi. a Commission or judicial stop trade order or suspension from the Borrower's Principal Trading Market;

xvii. the restatement after the date hereof of any financial statements filed by the Borrower with the Commission for any date or period from the Original Issue Date and until this Note is no longer outstanding, if the result of such restatement would, by comparison to the unrestated financial statements, have constituted a Material Adverse Effect. For the avoidance of doubt, any restatement related to new accounting pronouncements shall not constitute a default under this Section;

xviii. the Borrower effectuates a reverse split of its Common Stock without five (5) days prior written notice to the Holder;

xix. a failure by Borrower to notify Holder of any material event of which Borrower is obligated to notify Holder pursuant to the terms of this Note or any other Transaction Document;

xx. a default by the Borrower of a material term, covenant, warranty or undertaking of any other agreement to which the Borrower and Holder are parties, or the occurrence of an event of default under any such other agreement to which Borrower and Holder are parties which is not cured after any required notice and/or cure period;

xxi. the occurrence of an Event of Default under any Other Note;

xxii. any material provision of any Transaction Document shall at any time for any reason (other than pursuant to the express terms thereof) cease to be valid and binding on or enforceable against the Borrower, or the validity or enforceability thereof shall be contested by Borrower, or a proceeding shall be commenced by Borrower or any governmental authority having jurisdiction over Borrower or Holder, seeking to establish the invalidity or unenforceability thereof, or Borrower shall deny in writing that it has any liability or obligation purported to be created under any Transaction Document; or

xxiii. any default under the Registration Rights Agreement including but not limited to the timely compliance with all filing and effectiveness deadlines.

In the event more than one grace, cure or notice period is applicable to an Event of Default, then the shortest grace, cure or notice period shall be applicable thereto.

b) Remedies Upon Event of Default, Fundamental Transaction and Change of Control Transaction If any Event of Default or a Fundamental Transaction or a Change of Control Transaction occurs, the outstanding principal amount of this Note, liquidated damages and other amounts owing in respect thereof through the date of acceleration, shall become, at the Holder's election, immediately due and payable in cash at the Mandatory Default Amount. Commencing on the Maturity Date and also five (5) days after the occurrence of any Event of Default interest on this Note shall accrue at an interest rate equal to the lesser of 18% per annum or the maximum rate permitted under applicable law. Upon the payment in full of the Mandatory Default Amount, the Holder shall promptly surrender this Note to or as directed by Borrower. In connection with such acceleration described herein, the Holder need not provide, and Borrower hereby waives, any presentment, demand, protest or other notice of any kind, and the Holder may immediately and without expiration of any grace period enforce any and all of its rights and remedies hereunder and all other remedies available to it under applicable law. Such acceleration may be rescinded and annulled by Holder at any time prior to payment hereunder and the Holder shall have all rights as a holder of the Note until such time, if any, as the Holder receives full payment pursuant to this Section 8(b). No such rescission or annulment shall affect any subsequent Event of Default or impair any right consequent thereon.

Section 9. Miscellaneous.

a) Notices. All notices, demands, requests, consents, approvals, and other communications required or permitted hereunder shall be in writing and, unless otherwise specified herein, shall be (i) personally served, (ii) deposited in the mail, registered or certified, return receipt requested, postage prepaid, (iii) delivered by reputable air courier service with charges prepaid, or (iv) transmitted by hand delivery, telegram, facsimile, or electronic mail, addressed as set forth below or to such other address as such party shall have specified most recently by written notice. Any notice or other communication required or permitted to be given hereunder shall be deemed effective (a) upon hand delivery or delivery by facsimile, with accurate confirmation generated by the transmitting facsimile machine, at the address or number designated below (if delivered on a business day during normal business hours where such notice is to be received), or the first business day following such delivery (if delivered other than on a business day during normal business hours where such notice is to be received), or (b) upon receipt, when sent by electronic mail (provided confirmation of transmission is electronically generated and kept on file by the sending party), or (c) on the second business day following the date of mailing by express courier service, fully prepaid, addressed to such address, or upon actual receipt of such mailing, whichever shall first occur. The addresses for such communications shall be: (i) if to Borrower, to: GT Biopharma, Inc., 9350 Wilshire Blvd, Suite 203, Beverly Hills, CA 90212, Attn: Chief Executive Officer, with a copy to (which shall not constitute notice): Gary R. Henrie, Esq., P.O. Box 107, Nauvoo, IL 62354, email: grhlaw@hotmail.com, and (ii) if to the Holder, to: the address and fax number indicated on the front page of this Note.

b) Absolute Obligation. Except as expressly provided herein, no provision of this Note shall alter or impair the obligation of Borrower, which is absolute and unconditional, to pay the principal of, liquidated damages and accrued interest, as applicable, on this Note at the time, place, and rate, and in the coin or currency, herein prescribed. This Note is a direct debt obligation of Borrower. This Note ranks pari passu with all other Notes now or hereafter issued under the terms set forth herein.

c) Lost or Mutilated Note. If this Note shall be mutilated, lost, stolen or destroyed, Borrower shall execute and deliver, in exchange and substitution for and upon cancellation of a mutilated Note, or in lieu of or in substitution for a lost, stolen or destroyed Note, a new Note for the principal amount of this Note so mutilated, lost, stolen or destroyed, but only upon receipt of evidence of such loss, theft or destruction of such Note, and of the ownership hereof, reasonably satisfactory to Borrower.

d) Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Note shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflict of laws thereof. Each party agrees that all legal proceedings concerning the interpretation, enforcement and defense of the transactions contemplated by any of the Transaction Documents (whether brought against a party hereto or its respective Affiliates, directors, officers, shareholders, employees or agents) shall be commenced in the state and federal courts sitting in the City of New York, Borough of Manhattan (the "New York Courts"). Each party hereto hereby irrevocably submits to the exclusive jurisdiction of the New York Courts for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein (including with respect to the enforcement of any of the Transaction Documents), and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of such New York Courts, or such New York Courts are improper or inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Note and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by applicable law. Each party hereto hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Note or the transactions contemplated hereby. If any party shall commence an action or proceeding to enforce any provisions of this Note, then the prevailing party in such action or proceeding shall be reimbursed by the other party for its attorneys fees and other costs and expenses incurred in the investigation, preparation and prosecution of such action or proceeding. **This Note shall be deemed an unconditional obligation of Borrower for the payment of money and, without limitation to any other remedies of Holder, may be enforced against Borrower by summary proceeding pursuant to New York Civil Procedure Law and Rules Section 3213 or any similar rule or statute in the jurisdiction where enforcement is sought. For purposes of such rule or statute, any other document or agreement to which Holder and Borrower are parties or which Borrower delivered to Holder, which may be convenient or necessary to determine Holder's rights hereunder or Borrower's obligations to Holder are deemed a part of this Note, whether or not such other document or agreement was delivered together herewith or was executed apart from this Note.**

e) Waiver. Any waiver by Borrower or the Holder of a breach of any provision of this Note shall not operate as or be construed to be a waiver of any other breach of such provision or of any breach of any other provision of this Note. The failure of Borrower or the Holder to insist upon strict adherence to any term of this Note on one or more occasions shall not be considered a waiver or deprive that party of the right thereafter to insist upon strict adherence to that term or any other term of this Note on any other occasion. Any waiver by Borrower or the Holder must be in writing.

f) Severability. If any provision of this Note is invalid, illegal or unenforceable, the balance of this Note shall remain in effect, and if any provision is inapplicable to any Person or circumstance, it shall nevertheless remain applicable to all other Persons and circumstances.

g) Usury. If it shall be found that any interest or other amount deemed interest due hereunder violates the applicable law governing usury, the applicable rate of interest due hereunder shall automatically be lowered to equal the maximum rate of interest permitted under applicable law. Borrower covenants (to the extent that it may lawfully do so) that it shall not at any time insist upon, plead, or in any manner whatsoever claim or take the benefit or advantage of, any stay, extension or usury law or other law which would prohibit or forgive Borrower from paying all or any portion of the principal of or interest on this Note as contemplated herein, wherever enacted, now or at any time hereafter in force, or which may affect the covenants or the performance of this Note, and Borrower (to the extent it may lawfully do so) hereby expressly waives all benefits or advantage of any such law, and covenants that it will not, by resort to any such law, hinder, delay or impede the execution of any power herein granted to the Holder, but will suffer and permit the execution of every such as though no such law has been enacted.

h) Next Business Day. Whenever any payment or other obligation hereunder shall be due on a day other than a Business Day, such payment shall be made on the next succeeding Business Day.

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

j) Amendment. This Note may be amended and any provisions hereof may be waived by written consent of Borrower and the Majority in Interest.

k) Facsimile Signature. In the event that the Borrower's signature is delivered by facsimile transmission, PDF, electronic signature or other similar electronic means, such signature shall create a valid and binding obligation of the Borrower with the same force and effect as if such signature page were an original thereof.

(Signature Pages Follow)

IN WITNESS WHEREOF, Borrower has caused this Note to be signed in its name by an authorized officer as of _____ 2019.

GT BIOPHARMA, INC.

By: _____

Name: Steven Weldon

Title: Chief Financial Officer

ANNEX A

NOTICE OF CONVERSION

The undersigned hereby elects to convert principal under the Convertible Note Due _____ of GT Biopharma, Inc., a Delaware corporation (the "Company"), into shares of common stock (the "Common Stock"), of Borrower according to the conditions hereof, as of the date written below. If shares of Common Stock are to be issued in the name of a person other than the undersigned, the undersigned will pay all transfer taxes payable with respect thereto and is delivering herewith such certificates and opinions as reasonably requested by Borrower in accordance therewith. No fee will be charged to the holder for any conversion, except for such transfer taxes, if any.

By the delivery of this Notice of Conversion the undersigned represents and warrants to Borrower that its ownership of the Common Stock does not exceed the amounts specified under Section 4 of this Note, as determined in accordance with Section 13(d) of the Exchange Act.

The undersigned agrees to comply with the prospectus delivery requirements under the applicable securities laws in connection with any transfer of the aforesaid shares of Common Stock.

Conversion calculations:

Date to Effect Conversion: _____

Principal Amount of Note to be Converted: \$ _____

Accrued Interest to be Converted, if any: \$ _____

Conversion Price: \$ _____

Number of shares of Common Stock to be issued: _____

Signature: _____

Name: _____

Address for Delivery of Common Stock Certificates: _____

Or

DWAC Instructions: _____

Broker No: _____

Account No: _____

SECURITIES PURCHASE AGREEMENT

This Securities Purchase Agreement (this “Agreement”) is dated as of _____, 2020, between GT Biopharma, Inc., a Delaware corporation and includes any successor Company thereto (the “Company”), and each purchaser identified on the signature pages hereto (each, including its successors and permitted assigns, a “Purchaser” and collectively, the “Purchasers”).

WHEREAS, subject to the terms and conditions set forth in this Agreement and pursuant to Section 4(a)(2) of the Securities Act of 1933, as amended (the “Securities Act”), and Rule 506 promulgated thereunder, the Company desires to issue and sell to each Purchaser, and each Purchaser, severally and not jointly, desires to purchase in not more than two closings from the Company, securities of the Company as more fully described in this Agreement (the “Offering”).

NOW, THEREFORE, IN CONSIDERATION of the mutual covenants contained in this Agreement, and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Company and each Purchaser agree as follows:

ARTICLE I. DEFINITIONS

1.1 Definitions. In addition to the terms defined elsewhere in this Agreement: (a) capitalized terms that are not otherwise defined herein have the meanings given to such terms in the Notes (as defined herein), and (b) the following terms have the meanings set forth in this Section 1.1:

“Accredited Investor” shall have the meaning ascribed to such term in Section 3.2(c).

“Acquiring Person” shall have the meaning ascribed to such term in Section 4.7.

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

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

“Applicable Law” shall mean any law, rule or regulation of any governmental authority or jurisdiction applicable to any party to this Agreement, as the case may be.

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

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

“Buy-In” shall have the meaning ascribed to such term in Section 4.1(h).

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

“Closing Date” means, with respect to any Closing, the date of such Closing.

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

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

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

“Conversion Price” shall have the meaning ascribed to such term in the Notes.

“Debentures” means those certain 10% Senior Convertible Debentures of the Company issued on August 2, 2018, September 7, 2018, September 24, 2018, May 22, 2019, August 16, 2019, December 18, 2019, January 30, 2020 and the Senior Convertible Notes issued on February 4, 2019.

“DGCL” means the Delaware General Corporation Law.

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

“Disqualification Event” shall have the meaning ascribed to such term in Section 3.1(o).

“Effective Date” means the earliest of the date that (a) a Registration Statement has been declared effective by the Commission with respect to all of the Underlying Shares (as defined herein) and has been continuously effective for not less than sixty (60) Business Days, or (b) (i) all of the Underlying Shares have been sold pursuant to Rule 144, or (ii) may be sold by the holders thereof (other than Affiliates of the Company) pursuant to Rule 144 without the requirement for the Company to be in compliance with the current public information required under Rule 144 and without volume or manner-of-sale restrictions, and (c) Company counsel has delivered to the Transfer Agent and Purchasers a standing written unqualified opinion that resales may then be made by such holders of the Underlying Shares (other than Affiliates of the Company) pursuant to an effective Registration Statement or the exemption described in (b)(ii) above, which opinion shall be in form and substance reasonably acceptable to such Purchasers.

“End Date” means the first date that (i) less than 10% of the aggregate amount of Note principal is outstanding, and (ii) no Event of Default (as defined in the Note) nor an event which with the passage of time or the giving of notice could become an Event of Default is pending.

“Equity Line of Credit” shall have the meaning ascribed to such term in Section 4.13.

“Event of Default” shall have the meaning ascribed to such term in the Note.

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

“Exempt Issuance” means the issuance of (a) shares of Common Stock or options to employees, officers or directors of the Company pursuant to any stock or option plan duly adopted for such purpose, by a majority of the non-employee members of the Board of Directors or a majority of the members of a committee of non-employee directors established for such purpose and only as disclosed on Schedule 3.1(g), (b) securities exercisable or exchangeable for or convertible into shares of Common Stock issued and outstanding on the date of this Agreement, provided that such securities and any term thereof have not been amended since the date of this Agreement to increase the number of such securities or to decrease the issue price, exercise price, exchange price or conversion price of such securities and which securities and the principal terms thereof are set forth on Schedule 3.1(g), and described in the SEC Reports, (c) securities issued pursuant to acquisitions or strategic transactions approved by a majority of the disinterested directors of the Company, provided that any such issuance shall only be to a Person (or to the equity holders of a Person) which is, itself or through its subsidiaries, an operating company or an owner of an asset in a business synergistic with the business of the Company and shall be intended to provide to the Company substantial additional benefits in addition to the investment of funds, but shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities, (d) as set forth on Schedule 3.1(g), and (e) securities issued or issuable to the Purchasers and their assigns pursuant to this Agreement, the Notes and other Transaction Documents including without limitation, Section 4.16 and Section 4.22 herein, or upon exercise, conversion or exchange of any such securities.

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

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

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

“G&M” shall mean Grushko & Mittman, P.C., with offices located at 515 Rockaway Avenue, Valley Stream, New York 11581, Fax: 212-697-3575.

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

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

“Issuer Covered Person” means the Company, any of its predecessors, any affiliated issuer, any director, executive officer, other officer of the Company participating in the Offering, any beneficial owner of 20% or more of the Company’s outstanding voting equity securities, calculated on the basis of voting power, and any promoter (as that term is defined in Rule 405 under the Securities Act) connected with the Company in any capacity at the time of sale.

“Legend Removal Date” shall have the meaning ascribed to such term in Section 4.1(d).

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

“Listing Default” shall have the meaning ascribed to such term in Section 4.11(b).

“Majority in Interest” shall have the meaning ascribed to such term in Section 5.5.

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

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

“Maximum Rate” shall have the meaning ascribed to such term in Section 5.17.

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

“Notes” means the convertible notes issuable pursuant to this Agreement, in the form of Exhibit A hereto.

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

“Participation Maximum” shall have the meaning ascribed to such term in Section 4.16(a).

“Permitted Indebtedness” means (a) the Indebtedness evidenced by the Notes and the Debentures all as set forth on Schedule 3.1(aa), (b) any liabilities for borrowed money or amounts owed not in excess of \$10,000 in the aggregate (other than trade accounts payable incurred in the ordinary course of business), (c) all guaranties, endorsements and other contingent obligations in respect of indebtedness of others, whether or not the same are or should be reflected in the Company’s consolidated balance sheet (or the notes thereto) not affecting more than \$10,000 in the aggregate, except guaranties by endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business; (d) the present value of any lease payments not in excess of \$100,000 due under leases required to be capitalized in accordance with GAAP; and (e) any liabilities for borrowed money that are junior to the Debentures pursuant to an intercreditor agreement acceptable to Purchasers, and the holders of which are not granted any security interest.

“Permitted Lien” means the individual and collective reference to the following: (a) Liens for taxes, assessments and other governmental charges or levies not yet due or Liens for taxes, assessments and other governmental charges or levies being contested in good faith and by appropriate proceedings for which adequate reserves (in the good faith judgment of the management of the Company) have been established in accordance with GAAP, (b) Liens imposed by law which were incurred in the ordinary course of the Company’s business, such as carriers’, warehousemen’s and mechanics’ Liens, statutory landlords’ Liens, and other similar Liens arising in the ordinary course of the Company’s business, and which (x) do not individually or in the aggregate materially detract from the value of such property or assets or materially impair the use thereof in the operation of the business of the Company and its consolidated Subsidiaries or (y) are being contested in good faith by appropriate proceedings, which proceedings have the effect of preventing for the foreseeable future the forfeiture or sale of the property or asset subject to such Liens, and (c) Liens in connection with Permitted Indebtedness under clauses (a), (b) and (c) thereunder.

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

“Pre-Notice” shall have the meaning ascribed to such term in Section 4.16(b).

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

“Pro-Rata Portion” shall have the meaning ascribed to such term in Section 4.16(e).

“Public Information Failure” shall have the meaning ascribed to such term in Section 4.3(b).

“Public Information Failure Payments” shall have the meaning ascribed to such term in Section 4.3(b).

“Purchaser Party” shall have the meaning ascribed to such term in Section 4.10.

“Registration Rights Agreement” means the Registration Rights Agreement, dated the date hereof, among the Company and the Purchasers, in the form of Exhibit B attached hereto.

“Registration Statement” means a registration statement declared effective by the Commission allowing the public resale of not less than all of the Underlying Shares by the Purchaser, at the time such registration statement is effective and the prospectus contained therein is current.

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

“Required Minimum” means, as of any date, 150% of the maximum aggregate number of shares of Common Stock then issued or potentially issuable in the future pursuant to the Transaction Documents, including any Underlying Shares issuable upon conversion in full of all Notes, ignoring any conversion or exercise limits set forth therein.

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

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

“Securities” means the Notes and the Underlying Shares.

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

“Short Sales” means “short sales” as defined in Rule 200 of Regulation SHO under the Exchange Act and all types of direct and indirect stock pledges, forward sale contracts, options, puts, calls, swaps and similar arrangements (including on a total return basis) whether such transactions are made through U.S. or non-U.S. broker dealers or foreign regulated brokers.

“Stock Option Plans” means the Stock Option Plan of the Company in effect as the date of this Agreement, the principal terms of which have been disclosed in the SEC Reports.

“Subscription Amount” means, as to each Purchaser, the aggregate amount to be paid for the Notes purchased hereunder at the Closing as specified below such Purchaser’s name on the signature page of this Agreement and next to the heading “Subscription Amount,” in United States dollars and in immediately available funds.

“Subsequent Financing” shall have the meaning ascribed to such term in Section 4.16(a).

“Subsequent Financing Notice” shall have the meaning ascribed to such term in Section 4.16(b).

“Subsidiary” means with respect to any entity at any date, any direct or indirect Person, limited or general partnership, limited liability company, trust, estate, association, joint venture or other business entity of which (A) more than 50% of (i) the outstanding capital stock having (in the absence of contingencies) ordinary voting power to elect a majority of the board of directors or other managing body of such entity, (ii) in the case of a partnership or limited liability company, the interest in the capital or profits of such partnership or limited liability company or (iii) in the case of a trust, estate, association, joint venture or other entity, the beneficial interest in such trust, estate, association or other entity business is, at the time of determination, owned or controlled directly or indirectly through one or more intermediaries, by such entity, or (B) is under the actual control of the Company.

“Termination Date” means August 31, 2019.

“Trading Day” means a day on which the principal Trading Market is open for trading for three or more hours, or if there is no applicable Trading Market, Trading Day shall mean Business Day.

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

“Transaction Documents” means this Agreement, the Notes, the Registration Rights Agreement, all exhibits and schedules thereto and hereto and any other documents or agreements executed by any party hereto in connection with the transactions contemplated hereunder.

“Transfer Agent” means Computershare, the current transfer agent of the Company, with a mailing address of 350 Indiana Street, Suite 800 Golden, Colorado 80401, and a facsimile number of (303) 262-0610, and any successor transfer agent of the Company.

“Underlying Shares” means the shares of Common Stock issued and issuable upon conversion of the Notes and issued and issuable in lieu of the cash payment of interest on the Notes in accordance with the terms of the Notes and any other shares of Common Stock issued or issuable to a Purchaser in connection with or pursuant to the Securities or Transaction Documents.

“Unlegended Shares” shall have the meaning ascribed to such term in Section 4.1(d).

“Variable Priced Equity Linked Instruments” shall have the meaning ascribed to such term in Section 4.13.

“Variable Rate Transaction” shall have the meaning ascribed to such term in Section 4.13.

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg 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 a Trading Market but is then reported on the OTC Pink Marketplace maintained by the OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the volume weighted average price of the Common Stock on the first such facility (or a similar organization or agency succeeding to its functions of reporting prices), or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected by the Company, the fees and expenses of which shall be paid by the Company.

ARTICLE II. PURCHASE AND SALE

2.1 Purchase and Sale of Notes.

(a) Subject to the terms and conditions of this Agreement, each Purchaser agrees to purchase and the Company agrees to sell and issue to each Purchaser at the Closing (as defined below) the principal amount of Notes of the Company as is set forth opposite such Purchaser's name on such Purchaser's signature page hereto. The Notes issued to the Purchasers pursuant to this Agreement (including any notes issued at the Initial Closing and any Additional Notes, as defined below) shall be referred to in this Agreement as the “Notes.” Each Note shall be in the form attached hereto as Exhibit A hereto.

(b) The initial purchase and sale of the Notes shall take place remotely via the electronic exchange of documents and signatures on the Business Day on which all of the Transaction Documents have been executed and delivered by the applicable parties thereto, and all conditions precedent to (i) the Purchasers' obligation to pay the Subscription Amount at such Closing, and (ii) the Company's obligations to deliver the Securities to be issued and sold at such Closing, in each case, have been satisfied or waived, but in no event later than the tenth Business Day following the date hereof (such initial closing is referred to herein as the "Initial Closing").

(c) After the Initial Closing, the Company may sell, in one or more closings and on the terms and conditions contained in this Agreement, Notes in the aggregate principal amount of up to \$6,000,000 (collectively, the "Additional Notes"), to one or more purchasers (the "Additional Purchasers") reasonably acceptable to the Company, provided that (A) such subsequent sale is consummated prior to May 31, 2020 (the "Termination Date"), or such date as the Company and a Majority in Interest may mutually agree upon; and (B) each Additional Purchaser shall become a party to the Transaction Documents by executing and delivering a counterpart signature page to each of the Transaction Documents. Signature pages shall be added to this Agreement to reflect the amount of Additional Notes purchased at each such closing (an "Additional Closing") and together with the Initial Closing, each, a "Closing") and the parties purchasing such Additional Notes.

(d) At each Closing, the payment by a Purchaser of such Purchaser's Subscription Amount may be made via wire transfer or a certified check in immediately available funds to the Company.

NO MINIMUM AMOUNT OF NOTES MUST BE SOLD IN ORDER FOR THE COMPANY TO ACCEPT ANY SUBSCRIPTIONS, AND ALL NET PROCEEDS OF THE OFFERING WILL BE IMMEDIATELY AVAILABLE FOR COMPANY PURPOSES UPON CLOSING.

2.2 Deliveries.

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

(i) this Agreement duly executed by the Company;

(ii) a Note with a principal amount as set forth on the signature page hereto equal to each Purchaser's Subscription Amount, registered in the name of such Purchaser;

(iii) the Registration Rights Agreement duly executed by the Company;

(iv) a certificate executed on behalf of the Company by its Principal Executive Officer or Chief Executive Officer (each as defined in the Exchange Act) of the Company, dated as of the Closing Date, in which such officer shall certify that the conditions set forth in Section 2.3(b) have been fulfilled; and

(v) a certificate executed on behalf of the Company by its Secretary's certificate containing (i) copies of the text of the resolutions by which the corporate action on the part of the Company necessary to approve this Agreement and the other Transaction Documents and the transactions and actions contemplated hereby and thereby, which shall be accompanied by a certificate of the corporate secretary or assistant corporate secretary of Company dated as of the Closing Date certifying to the Purchasers that such resolutions were duly adopted and have not been amended or rescinded, (ii) an incumbency certificate dated as of the Closing Date executed on behalf of Company by its corporate secretary or one of its assistant corporate secretaries certifying the office of each officer of Company executing this Agreement, or any other agreement, certificate or other instrument executed pursuant hereto, and (iii) copies of (A) the Company's Certificate of Incorporation and bylaws in effect on the Closing Date, and (B) the certificate evidencing the good standing of Company as of a day within five (5) Business Days prior to the Closing Date.

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

- (i) this Agreement duly executed by such Purchaser;
- (ii) such Purchaser's Subscription Amount;
- (iii) Accredited Investor Questionnaire duly executed by each Purchaser; and
- (iv) the Registration Rights Agreement duly executed by each Purchaser.

2.3 Closing Conditions.

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

(i) the accuracy in all material respects (determined without regard to any materiality, Material Adverse Effect or other similar qualifiers therein) on the date of this Agreement and the Closing Date of the representations and warranties of the Purchasers contained herein (unless as of a specific date therein in which case they shall be accurate as of such date);

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

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

(b) The respective obligations of a Purchaser hereunder to effect the Closing, unless waived by such Purchaser, are subject to the following conditions being met:

(i) the accuracy in all material respects (determined without regard to any materiality, Material Adverse Effect or other similar qualifiers therein) on the date of this Agreement and Closing Date of the representations and warranties of the Company contained herein (unless as of a specific date therein in which case they shall be accurate as of such date);

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

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

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

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

ARTICLE III. REPRESENTATIONS AND WARRANTIES

3.1 Representations and Warranties of the Company. Except as set forth in the SEC Reports or the Disclosure Schedules, which Disclosure Schedules shall be deemed a part hereof and shall qualify any representation made herein only to the extent of the disclosure contained in the corresponding or cross-referenced section of the Disclosure Schedules, the Company hereby makes the following representations and warranties to each Purchaser:

(a) Subsidiaries. All of the direct and indirect Subsidiaries of the Company and the Company's ownership interests therein are set forth on Schedule 3.1(a). The Company owns, directly or indirectly, the capital stock or other equity interests of each Subsidiary set forth on Schedule 3.1(a), free and clear of any Liens, and all of the issued and outstanding shares of capital stock of each Subsidiary are validly issued and are fully paid, non-assessable and free of pre-emptive and similar rights to subscribe for or purchase securities.

(b) Organization and Qualification. The Company and each Subsidiary is an entity duly incorporated or otherwise organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation or organization, with the requisite power and authority to own and use its properties and assets and to carry on its business as currently conducted. Neither the Company nor any Subsidiary is in violation nor default of any of the provisions of its respective certificate or articles of incorporation, bylaws or other organizational or charter documents. Each of the Company and each Subsidiary is duly qualified to conduct business and is in good standing as a foreign Person or other entity in each jurisdiction in which the nature of the business conducted or property owned by it makes such qualification necessary, except where the failure to be so qualified or in good standing, as the case may be, would not reasonably be expected to result in: (i) a material adverse effect on the legality, validity or enforceability of any Transaction Document, (ii) a material adverse effect on the results of operations, assets, business, or condition (financial or otherwise) of the Company and each Subsidiary, taken as a whole, or (iii) a material adverse effect on the Company's ability to perform in any material respect on a timely basis its obligations under any Transaction Document (any of (i), (ii) or (iii), a "Material Adverse Effect") and, no Proceeding has been instituted in any such jurisdiction revoking, limiting or curtailing or seeking to revoke, limit or curtail such power and authority or qualification.

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

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

(e) Filings, Consents and Approvals. The Company is not required to obtain any consent, waiver, authorization or order of, give any notice to, or make any filing or registration with, any court or other federal, state, local or other governmental authority or other Person in connection with the execution, delivery and performance by the Company of the Transaction Documents, other than: (i) the filings required pursuant to Section 4.6 of this Agreement, (ii) the notice and/or application(s) to each applicable Trading Market for the issuance and sale of the Securities and the listing of the Underlying Shares for trading thereon in the time and manner required thereby and (iii) the filing of Form D with the Commission and such filings as are required to be made under applicable state securities laws (collectively, the "Required Approvals").

(f) Issuance of the Securities. The Securities are duly authorized and, when issued and paid for in accordance with the applicable Transaction Documents, will be duly and validly issued, fully paid and nonassessable, free and clear of all Liens imposed by the Company other than restrictions on transfer provided for in the Transaction Documents. The Underlying Shares, when issued in accordance with the terms of the Transaction Documents, will be validly issued, fully paid and nonassessable, free and clear of all Liens imposed by the Company other than restrictions on transfer provided for in the Transaction Documents.

(g) Capitalization. Except as set forth on Schedule 3.1(g), the Company has not issued any capital stock since its most recently filed annual report on Form 10-K. Except as set forth on Schedule 3.1(g), no Person has any right of first refusal, preemptive right, right of participation, or any similar right to participate in the transactions contemplated by the Transaction Documents. Except as disclosed on Schedule 3.1(g), there are no outstanding options, employee or incentive stock option plans, warrants, scrip rights to subscribe to, calls or commitments of any character whatsoever relating to, or securities, rights or obligations convertible into or exercisable or exchangeable for, or giving any Person any right to subscribe for or acquire any shares of Common Stock, or contracts, commitments, understandings or arrangements by which the Company or any Subsidiary is or may become bound to issue additional shares of Common Stock or Common Stock Equivalents. Except as set forth on Schedule 3.1(g), the issuance and sale of the Securities will not obligate the Company to issue shares of Common Stock or other securities to any Person (other than the Purchasers) and will not result in a right of any holder of Company securities to adjust the exercise, conversion, exchange or reset price under any of such securities. All of the outstanding shares of capital stock of the Company are duly authorized, validly issued, fully paid and nonassessable, have been issued in material compliance with all federal and state securities laws, and none of such outstanding shares was issued in violation of any preemptive rights or similar rights to subscribe for or purchase securities. Except as contemplated by Section 3.1(e), no further approval or authorization of any stockholder, the Board of Directors or other Person is required for the issuance and sale of the Securities and the Company's compliance with the terms of the Transaction Documents. There are no stockholders agreements, voting agreements or other similar agreements with respect to the Company's capital stock to which the Company is a party or, to the knowledge of the Company, between or among any of the Company's stockholders. Except as disclosed on Schedule 3.1(g), the Company is not a party to any Variable Rate Transaction and as of Closing, there will not be outstanding any Equity Line of Credit nor Variable Priced Equity Linked Instruments as of the Closing.

(h) SEC Reports; Financial Statements. Except as set forth on Schedule 3.1(h), the Company has filed all reports, schedules, forms, statements and other documents required to be filed by the Company under the Securities Act and the Exchange Act, including pursuant to Section 13(a) or 15(d) thereof, for the three years preceding the date hereof (or such shorter period as the Company was required by law or regulation to file such material) (the foregoing materials, including the exhibits thereto and documents incorporated by reference therein, being collectively referred to herein as the "SEC Reports") on a timely basis or has received a valid extension of such time of filing and has filed any such SEC Reports prior to the expiration of any such extension. As of their respective dates, the SEC Reports complied in all material respects with the requirements of the Securities Act and the Exchange Act, as applicable, and none of the SEC Reports, when filed, contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The Company has never been an issuer subject to Rule 144(i) under the Securities Act. The financial statements of the Company included in the SEC Reports comply in all material respects with applicable accounting requirements and the rules and regulations of the Commission with respect thereto as in effect at the time of filing. Such financial statements have been prepared in accordance with United States generally accepted accounting principles applied on a consistent basis during the periods involved ("GAAP"), except as may be otherwise specified in such financial statements or the notes thereto and except that unaudited financial statements may not contain all footnotes required by GAAP, and fairly present in all material respects the financial position of the Company and its consolidated Subsidiaries as of and for the dates thereof and the results of operations and cash flows for the periods then ended, subject, in the case of unaudited statements, to normal, immaterial, year-end audit adjustments.

(i) Material Changes: Undisclosed Events, Liabilities or Developments. Since the date of the latest audited financial statements included within the SEC Reports, except as set forth on Schedule 3.1(i) or as specifically disclosed in a subsequent SEC Report filed prior to the date hereof: (i) there has been no event, occurrence or development that has had or that could reasonably be expected to result in a Material Adverse Effect, (ii) the Company has not incurred any liabilities (contingent or otherwise) other than (A) trade payables and accrued expenses incurred in the ordinary course of business consistent with past practice and (B) liabilities not required to be reflected in the Company's financial statements pursuant to GAAP or disclosed in filings made with the Commission, (iii) the Company has not altered its method of accounting, (iv) the Company has not declared or made any dividend or distribution of cash or other property to its stockholders or purchased, redeemed or made any agreements to purchase or redeem any shares of its capital stock and (v) the Company has not issued any equity securities to any officer, director or Affiliate, except pursuant to existing Company stock option plans. The Company does not have pending before the Commission any request for confidential treatment of information. Except for the issuance of the Securities contemplated by this Agreement or as set forth on Schedule 3.1(i), no event, liability, fact, circumstance, occurrence or development has occurred or exists or is reasonably expected to occur or exist with respect to the Company or its Subsidiaries or their respective businesses, properties, operations, assets or financial condition, that would be required to be disclosed by the Company under applicable securities laws at the time this representation is made or deemed made that has not been publicly disclosed at least one (1) Trading Day prior to the date that this representation is made.

(j) Litigation. Except as set forth in Schedule 3.1(j), there is no action, suit, inquiry, notice of violation, proceeding or investigation pending or, to the knowledge of the Company, threatened against or affecting the Company, any Subsidiary or any of their respective properties before or by any court, arbitrator, governmental or administrative agency or regulatory authority (federal, state, county, local or foreign) (collectively, an "Action") which (i) adversely affects or challenges the legality, validity or enforceability of any of the Transaction Documents or the Securities or (ii) could, if there were an unfavorable decision, have or reasonably be expected to result in a Material Adverse Effect. Neither the Company nor any Subsidiary, nor any director or officer thereof, is or has been the subject of any Action involving a claim of violation of or liability under federal or state securities laws or a claim of breach of fiduciary duty. There has not been, and to the knowledge of the Company, there is not pending or contemplated, any investigation by the Commission involving the Company or any current or former director or officer of the Company. The Commission has not issued any stop order or other order suspending the effectiveness of any registration statement filed by the Company or any Subsidiary under the Exchange Act or the Securities Act.

(k) Labor Relations. No labor dispute exists or, to the knowledge of the Company, is imminent with respect to any of the employees of the Company, which could reasonably be expected to result in a Material Adverse Effect. None of the Company's or its Subsidiaries' employees is a member of a union that relates to such employee's relationship with the Company or such Subsidiary, and neither the Company nor any of its Subsidiaries is a party to a collective bargaining agreement, and the Company and its Subsidiaries believe that their relationships with their employees are good. To the knowledge of the Company, no executive officer of the Company or any Subsidiary, is, or is now expected to be, in violation of any material term of any employment contract, confidentiality, disclosure or proprietary information agreement or non-competition agreement, or any other contract or agreement or any restrictive covenant in favor of any third party, and the continued employment of each such executive officer does not subject the Company or any of its Subsidiaries to any liability with respect to any of the foregoing matters. Except as set forth on Schedule 3.1(k), the Company and its Subsidiaries are in compliance with all U.S. federal, state, local and foreign laws and regulations relating to employment and employment practices, terms and conditions of employment and wages and hours, except where the failure to be in compliance could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(l) Compliance. Except as set forth on Schedule 3.1(l), neither the Company nor any Subsidiary: (i) is in default under or in violation of (and no event has occurred that has not been waived that, with notice or lapse of time or both, would result in a default by the Company or any Subsidiary under), nor has the Company or any Subsidiary received notice of a claim that it is in default under or that it is in violation of, any indenture, loan or credit agreement or any other agreement or instrument to which it is a party or by which it or any of its properties is bound (whether or not such default or violation has been waived), (ii) is in violation of any judgment, decree or order of any court, arbitrator or other governmental authority or (iii) is or has been in violation of any statute, rule, ordinance or regulation of any governmental authority, including without limitation all foreign, federal, state and local laws relating to taxes, environmental protection, occupational health and safety, product quality and safety and employment and labor matters, except in each case as could not have or reasonably be expected to result in a Material Adverse Effect.

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

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

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

(p) Insurance. The Company and each Subsidiary maintain insurance coverage for Product/Human Clinical Trial Liability, Professional Liability, General Liability, Property and Directors and Officers.

(q) Transactions With Affiliates and Employees. Except as set forth in the SEC Reports and on Schedule 3.1(q), none of the officers or directors of the Company or any Subsidiary and, to the knowledge of the Company, none of the employees of the Company or any Subsidiary is presently a party to any transaction with the Company or any Subsidiary (other than for services as employees, officers and directors), including any contract, agreement or other arrangement providing for the furnishing of services to or by, providing for rental of real or personal property to or from providing for the borrowing of money from or lending of money to, or otherwise requiring payments to or from any officer, director or such employee or, to the knowledge of the Company, any entity in which any officer, director, or any such employee has a substantial interest or is an officer, director, trustee, stockholder, member or partner, in each case in excess of \$60,000 other than for: (i) payment of salary or consulting fees for services rendered, (ii) reimbursement for expenses incurred on behalf of the Company and (iii) other employee benefits, including stock option agreements under any stock option plan of the Company.

(r) Sarbanes-Oxley; Internal Accounting Controls. The Company and the Subsidiaries are not in compliance with any and all applicable requirements of the Sarbanes-Oxley Act of 2002 that are effective as of the date hereof, and any and all applicable rules and regulations promulgated by the Commission thereunder that are effective as of the date hereof and as of the Closing Date. The Company and the Subsidiaries currently do not maintain a system of internal accounting controls sufficient to provide reasonable assurance that: (i) transactions are executed in accordance with management's general or specific authorizations, (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain asset accountability, (iii) access to assets is permitted only in accordance with management's general or specific authorization, and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences.

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

(t) Private Placement. Assuming the accuracy of the Purchasers' representations and warranties set forth in Section 3.2, no registration under the Securities Act is required for the offer and sale of the Securities by the Company to the Purchasers as contemplated hereby. The issuance and sale of the Securities hereunder does not contravene the rules and regulations of the Trading Market.

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

(v) Registration Rights. No Person has any right to cause the Company to effect the registration under the Securities Act of any securities of the Company or any Subsidiaries other than as set forth on Schedule 3.1(v).

(w) Listing and Maintenance Requirements. The Common Stock is registered pursuant to Section 12(b) or 12(g) of the Exchange Act, and the Company has taken no action designed to, or which to its knowledge is likely to have the effect of, terminating the registration of the Common Stock under the Exchange Act nor has the Company received any notification that the Commission is contemplating terminating such registration. The Company has not, in the 12 months preceding the date hereof, received notice from any Trading Market on which the Common Stock is or has been listed or quoted to the effect that the Company is not in compliance with the listing or maintenance requirements of such Trading Market. The Company is, and has no reason to believe that it will not in the foreseeable future continue to be, in compliance with all such listing and maintenance requirements. The Common Stock is currently eligible for electronic transfer through the Depository Trust Company or another established clearing corporation and the Company is current in payment of the fees to the Depository Trust Company (or such other established clearing corporation) in connection with such electronic transfer.

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

(y) Disclosure. Except with respect to the material terms and conditions of the transactions contemplated by the Transaction Documents, the Company confirms that neither it nor any other Person acting on its behalf has provided any of the Purchasers or their agents or counsel with any information that it believes constitutes or might constitute material, non-public information. The Company understands and confirms that the Purchasers will rely on the foregoing representation in effecting transactions in securities of the Company. All of the disclosure furnished by or on behalf of the Company to the Purchasers regarding the Company and its Subsidiaries, their respective businesses and the transactions contemplated hereby, including the Disclosure Schedules to this Agreement, 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 light of the circumstances under which they were made, not misleading. The Company acknowledges and agrees that no Purchaser makes or has made any representations or warranties with respect to the transactions contemplated hereby other than those specifically set forth in Section 3.2 hereof.

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

(aa) Indebtedness. Schedule 3.1(aa) sets forth as of the date hereof all outstanding secured and unsecured Indebtedness of the Company or any Subsidiary, or for which the Company or any Subsidiary has commitments. For the purposes of this Agreement, "Indebtedness" means (x) any liabilities for borrowed money or amounts owed in excess of \$10,000 (other than trade accounts payable incurred in the ordinary course of business), (y) all guaranties, endorsements and other contingent obligations in respect of indebtedness of others, whether or not the same are or should be reflected in the Company's consolidated balance sheet (or the notes thereto), except guaranties by endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business; and (z) the present value of any lease payments in excess of \$10,000 due under leases required to be capitalized in accordance with GAAP.

(bb) Solvency. Based on the consolidated financial condition of the Company and Subsidiaries as of the Closing Date, and the Company's good faith estimate of the fair market value of its assets, after giving effect to the receipt by the Company of the proceeds from the sale of the Securities hereunder: (i) the fair saleable value of the Company's assets exceeds the amount that will be required to be paid on or in respect of the Company's existing debts and other liabilities (including known contingent liabilities) as they mature, (ii) the Company's assets do not constitute unreasonably small capital to carry on its business as now conducted and as proposed to be conducted including its capital needs taking into account the particular capital requirements of the business conducted by the Company, consolidated and projected capital requirements and capital availability thereof, and (iii) the current cash flow of the Company, together with the proceeds the Company would receive, were it to liquidate all of its assets, after taking into account all anticipated uses of the cash, would be sufficient to pay all amounts on or in respect of its liabilities when such amounts are required to be paid. The Company does not intend to incur debts beyond its ability to pay such debts as they mature (taking into account the timing and amounts of cash to be payable on or in respect of its debt). The Company has no knowledge of any facts or circumstances which lead it to believe that it will file for reorganization or liquidation under the bankruptcy or reorganization laws of any jurisdiction within one year from the Closing Date. Schedule 3.1(bb) sets forth as of the date hereof all outstanding secured and unsecured Indebtedness of the Company or any Subsidiary, or for which the Company or any Subsidiary has commitments. For the purposes of this Agreement, "Indebtedness" means (x) any liabilities for borrowed money or amounts owed in excess of \$50,000 in the aggregate (including trade accounts payable and other liabilities incurred in the ordinary course of business), (y) all guaranties, endorsements and other contingent obligations in respect of indebtedness of others, whether or not the same are or should be reflected in the Company's consolidated balance sheet (or the notes thereto), except guaranties by endorsement of negotiable instruments for deposit or collection or similar transactions in the ordinary course of business; and (z) the present value of any lease payments in excess of \$50,000 due under leases required to be capitalized in accordance with GAAP. Neither the Company nor any Subsidiary is in default with respect to any Indebtedness.

(cc) Tax Status. Except as set forth on Schedule 3.1(cc) and for matters that would not, individually or in the aggregate, have or reasonably be expected to result in a Material Adverse Effect, the Company and its Subsidiaries each (i) has made or filed all United States federal, state and local income and all foreign income and franchise tax returns, reports and declarations required by any jurisdiction to which it is subject, (ii) has paid all taxes and other governmental assessments and charges that are material in amount, shown or determined to be due on such returns, reports and declarations and (iii) has set aside on its books provision reasonably adequate for the payment of all material taxes for periods subsequent to the periods to which such returns, reports or declarations apply. There are no unpaid taxes in any material amount claimed to be due by the taxing authority of any jurisdiction, and the officers of the Company or of any Subsidiary know of no basis for any such claim.

(dd) No General Solicitation. Neither the Company nor any person acting on behalf of the Company has offered or sold any of the Securities by any form of general solicitation or general advertising. The Company has offered the Securities for sale only to the Purchasers and certain other "accredited investors" within the meaning of Rule 501 under the Securities Act.

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

(ff) Accountants. The Company's accounting firm is set forth on Schedule 3.1(ff) of the Disclosure Schedules. To the knowledge and belief of the Company, such accounting firm: (i) is a registered public accounting firm as required by the Exchange Act and (ii) shall express its opinion with respect to the financial statements to be included in the Company's Annual Report for the fiscal year ending December 31, 2018.

(gg) Seniority. As of the Closing Date, except as set forth on Schedule 3.1(gg), no Indebtedness or other claim against the Company is senior to the Debentures and Notes in right of payment, whether with respect to interest or upon liquidation or dissolution, or otherwise, other than indebtedness secured by purchase money security interests (which is senior only as to underlying assets covered thereby) and capital lease obligations (which is senior only as to the property covered thereby).

(hh) No Disagreements with Accountants and Lawyers. There are no 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.

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

(jj) Acknowledgment Regarding Purchaser's Trading Activity. Anything in this Agreement or elsewhere herein to the contrary notwithstanding (except for Sections 3.2(f) and 4.15 hereof), it is understood and acknowledged by the Company that: (i) none of the Purchasers has been asked by the Company to agree, nor has any Purchaser agreed, to desist from purchasing or selling, long and/or short, securities of the Company, or "derivative" securities based on securities issued by the Company or to hold the Securities for any specified term, (ii) past or future open market or other transactions by any Purchaser, specifically including, without limitation, Short Sales or "derivative" transactions, before or after the closing of this or future private placement transactions, may negatively impact the market price of the Company's publicly-traded securities, (iii) any Purchaser, and counter-parties in "derivative" transactions to which any such Purchaser is a party, directly or indirectly, may presently have a "short" position in the Common Stock and (iv) each Purchaser shall not be deemed to have any affiliation with or control over any arm's length counter-party in any "derivative" transaction. The Company further understands and acknowledges that (y) one or more Purchasers may engage in hedging activities at various times during the period that the Securities are outstanding, including, without limitation, during the periods that the value of the Underlying Shares deliverable with respect to Securities are being determined, and (z) such hedging activities (if any) could reduce the value of the existing stockholders' equity interests in the Company at and after the time that the hedging activities are being conducted. The Company acknowledges that such aforementioned hedging activities do not constitute a breach of any of the Transaction Documents.

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

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

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

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

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

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

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

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

(ss) Notice of Disqualification Events. The Company will notify the Purchasers 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.

(tt) Survival. The foregoing representations and warranties shall survive the Closing.

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

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

(b) Understandings or Arrangements. Such Purchaser understands that the Securities are “restricted securities” and have not been registered under the Securities Act or any applicable state securities law and is acquiring the Securities as principal for its own account and not with a view to or for distributing or reselling such Securities or any part thereof in violation of the Securities Act or any applicable state securities law, has no present intention of distributing any of such Securities in violation of the Securities Act or any applicable state securities law and has no direct or indirect arrangement or understandings with any other persons to distribute or regarding the distribution of such Securities in violation of the Securities Act or any applicable state securities law (this representation and warranty not limiting such Purchaser’s right to sell the Securities pursuant to any registration statement or otherwise in compliance with applicable federal and state securities laws). Such Purchaser is acquiring the Securities hereunder in the ordinary course of its business.

(c) Purchaser Status. At the time such Purchaser was offered the Securities, it was, and as of the date hereof it is, and on each date on which it converts any Notes it will be either: (i) an accredited investor (“Accredited Investor”) as defined in Rule 501(a)(1), (a)(2), (a)(3), (a)(7) or (a)(8) under the Securities Act or (ii) a “qualified institutional buyer” as defined in Rule 144A(a) under the Securities Act. Such Purchaser is not required to be registered as a broker-dealer under Section 15 of the Exchange Act. Such Purchaser has the authority and is duly and legally qualified to purchase and own the Securities. Such Purchaser is able to bear the risk of such investment for an indefinite period and to afford a complete loss thereof. The information set forth on the signature pages hereto regarding such Purchaser is true and complete in all respects. Except as disclosed, such Purchaser has had no position, office or other material relationship within the past three years with the Company or Persons (as defined below) known to such Purchaser to be affiliates of the Company, and is not a member of the Financial Industry Regulatory Authority or an “associated person” (as such term is defined under the FINRA Membership and Registration Rules Section 1011).

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

(e) Information on Company. Such Purchaser has been furnished with or has had access to the SEC Reports and Disclosure Schedules. Purchasers are not deemed to have any knowledge of any information not included in the SEC Reports and Disclosure Schedules unless such information is delivered in the manner described in the next sentence. In addition, such Purchaser may have received in writing from the Company such other information concerning its operations, financial condition and other matters as such Purchaser has requested, identified thereon as OTHER WRITTEN INFORMATION (such other information is collectively, the “*Other Written Information*”), and considered all factors such Purchaser deems material in deciding on the advisability of investing in the Securities. Such Purchaser was afforded (i) the opportunity to ask such questions as such Purchaser deemed necessary of, and to receive answers from, representatives of the Company concerning the merits and risks of acquiring the Securities; (ii) the right of access to information about the Company and its financial condition, results of operations, business, properties, management and prospects sufficient to enable such Purchaser to evaluate the Securities; and (iii) the opportunity to obtain such additional information that the Company possesses or can acquire without unreasonable effort or expense that is necessary to make an informed investment decision with respect to acquiring the Securities.

(f) Compliance with Securities Act; Reliance on Exemptions. Such Purchaser understands and agrees that the Securities have not been registered under the Securities Act or any applicable state securities laws, by reason of their issuance in a transaction that does not require registration under the Securities Act, and that such Securities must be held indefinitely unless a subsequent disposition is registered under the Securities Act or any applicable state securities laws or is exempt from such registration. Such Purchaser understands and agrees that the Securities are being offered and sold to such Purchaser in reliance on specific exemptions from the registration requirements of United States federal and state securities laws and regulations and that the Company is relying in part upon the truth and accuracy of, and such Purchaser’s compliance with, the representations, warranties, agreements, acknowledgments and understandings of such Purchaser set forth herein in order to determine the availability of such exemptions and the eligibility of such Purchaser to acquire the Securities.

(g) Communication of Offer. Such Purchaser is not purchasing the Securities as a result of any “general solicitation” or “general advertising,” as such terms are defined in Regulation D, which includes, but is not limited to, any advertisement, article, notice or other communication regarding the Securities published in any newspaper, magazine or similar media or on the internet or broadcast over television, radio or the internet or presented at any seminar or any other general solicitation or general advertisement.

(h) No Governmental Review. Such Purchaser understands that no United States federal or state agency or any other governmental or state agency has passed on or made recommendations or endorsement of the Securities or the suitability of the investment in the Securities nor have such authorities passed upon or endorsed the merits of the Offering.

(i) No Conflicts. The execution, delivery and performance of this Agreement and performance under the other Transaction Documents and the consummation by such Purchaser of the transactions contemplated hereby and thereby or relating hereto or thereto do not and will not (i) result in a violation of such Purchaser’s charter documents, bylaws or other organizational documents, if applicable, (ii) conflict with nor constitute a default (or an event which with notice or lapse of time or both would become a default) under any agreement to which such Purchaser is a party, nor (iii) result in a violation of any law, rule, or regulation, or any order, judgment or decree of any court or governmental agency applicable to such Purchaser or its properties (except for such conflicts, defaults and violations as would not, individually or in the aggregate, have a material adverse effect on such Purchaser). Such Purchaser is not required to obtain any consent, authorization or order of, or make any filing or registration with, any court or governmental agency in order for it to execute, deliver or perform any of its obligations under this Agreement or perform under the other Transaction Documents nor to purchase the Securities in accordance with the terms hereof, provided that for purposes of the representation made in this sentence, such Purchaser is assuming and relying upon the accuracy of the relevant representations and agreements of the Company herein.

(j) Certain Transactions and Confidentiality. Other than consummating the transactions contemplated hereunder, such Purchaser has not directly or indirectly, nor has any Person acting on behalf of or pursuant to any understanding with such Purchaser, executed any purchases or sales, including Short Sales, of the securities of the Company during the period commencing as of the time that such Purchaser first received a written term sheet from the Company or any other Person representing the Company setting forth the material terms of the transactions contemplated hereby and ending immediately prior to the execution hereof.

(k) Survival. The foregoing representations and warranties shall survive the Closing.

The Company acknowledges and agrees that the representations contained in Section 3.2 shall not modify, amend or affect such Purchaser’s right to rely on the Company’s representations and warranties contained in this Agreement or any representations and warranties contained in any other Transaction Document or any other document or instrument executed and/or delivered in connection with this Agreement or the consummation of the transaction contemplated hereby.

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

4.1 (a) Transfer Restrictions. The Securities may only be disposed of in compliance with state and federal securities laws. In connection with any transfer of Securities other than pursuant to an effective registration statement or Rule 144, to the Company or to an Affiliate of a Purchaser or in connection with a pledge as contemplated in Section 4.1(c), the Company may require the transferor thereof to provide to the Company, at the Company's expense, an opinion of counsel selected by the transferor and reasonably acceptable to the Company, the form and substance of which opinion shall be reasonably satisfactory to the Company, to the effect that such transfer does not require registration of such transferred Securities under the Securities Act. As a condition of such transfer, any such transferee shall agree in writing to be bound by the terms of this Agreement and shall have the rights and obligations of a Purchaser under this Agreement and the other Transaction Documents.

(b) Legend. The Purchasers agree to the imprinting, so long as is required by this Section 4.1, of a legend on any of the Securities in the following form:

[NEITHER] THIS SECURITY [NOR THE SECURITIES INTO WHICH THIS SECURITY IS [EXERCISABLE] [CONVERTIBLE]] HAS [NOT] BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN AVAILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS AS EVIDENCED BY A LEGAL OPINION OF COUNSEL TO THE TRANSFEROR TO SUCH EFFECT, THE SUBSTANCE OF WHICH SHALL BE REASONABLY ACCEPTABLE TO THE COMPANY. THIS SECURITY [AND THE SECURITIES ISSUABLE UPON [EXERCISE] [CONVERSION] OF THIS SECURITY] MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT WITH A REGISTERED BROKER-DEALER OR OTHER LOAN WITH A FINANCIAL INSTITUTION THAT IS AN ACCREDITED INVESTOR AS DEFINED IN RULE 501(a) UNDER THE SECURITIES ACT OR OTHER LOAN SECURED BY SUCH SECURITIES.

(c) Pledge. The Company acknowledges and agrees that a Purchaser may from time to time pledge pursuant to a bona fide margin agreement with a registered broker-dealer or grant a security interest in some or all of the Securities to a financial institution that is an Accredited Investor and who agrees to be bound by the provisions of this Agreement and, if required under the terms of such arrangement, such Purchaser may transfer pledge or secure Securities to the pledgees or secured parties. Such a pledge or transfer would not be subject to approval of the Company and no legal opinion of legal counsel of the pledgee, secured party or pledgor shall be required in connection therewith. Further, no notice shall be required of such pledge. At the appropriate Purchaser's expense, the Company will execute and deliver such reasonable documentation as a pledgee or secured party of Securities may reasonably request in connection with a pledge or transfer of the Securities, including, if the Securities are subject to registration pursuant to Section 4.26 hereof, the preparation and filing of any required prospectus supplement under Rule 424(b)(3) under the Securities Act or other applicable provision of the Securities Act to appropriately amend the list of selling stockholders thereunder.

(d) Legend Removal. Certificates evidencing the Underlying Shares shall not contain any legend (“Unlegended Shares”) (including the legend set forth in Section 4.1(b) hereof): (i) while a registration statement covering the resale of such security is effective under the Securities Act, (ii) following any sale of such Underlying Shares pursuant to Rule 144, (iii) if such Underlying Shares are eligible for sale under Rule 144 (in the case of a non-Affiliate of the Company), without the requirement for the Company to be in compliance with the current public information required under Rule 144 as to such Underlying Shares and without volume or manner-of-sale restrictions or (iv) if such legend is not required under applicable requirements of the Securities Act (including judicial interpretations and pronouncements issued by the staff of the Commission). The Company shall cause its counsel, at the expense of the Company, to issue a legal opinion to the Transfer Agent promptly after the Effective Date if required by the Transfer Agent to effect the removal of the legend hereunder. If all or any Notes are converted at a time when there is an effective registration statement to cover the resale of the Underlying Shares, or if such Underlying Shares may be sold under Rule 144 or if such legend is not otherwise required under applicable requirements of the Securities Act (including judicial interpretations and pronouncements issued by the staff of the Commission) then such Underlying Shares shall be issued free of all legends. The Company agrees that following such time as such legend is no longer required under this Section 4.1(c), it will, no later than two (2) Trading Days following the delivery by a Purchaser to the Company or the Transfer Agent of a certificate representing Underlying Shares, as applicable, issued with a restrictive legend (such second (2nd) Trading Day, the “Legend Removal Date”), deliver or cause to be delivered to such Purchaser a certificate representing such shares that is free from all restrictive and other legends. The Company may not make any notation on its records or give instructions to the Transfer Agent that enlarge the restrictions on transfer set forth in this Section 4. Certificates for Underlying Shares subject to legend removal hereunder shall be transmitted by the Transfer Agent to the Purchaser by crediting the account of the Purchaser’s prime broker with the Depository Trust Company System as directed by such Purchaser.

(e) Legend Removal Default. In addition to such Purchaser’s other available remedies, provided the conditions for legend removal set forth in Section 4.1(d) exist, the Company shall pay to a Purchaser, in cash, as partial liquidated damages and not as a penalty, for each \$1,000 of Underlying Shares (based on the higher of the actual purchase price or VWAP of the Common Stock on the date such Securities are submitted to the Transfer Agent) delivered for removal of the restrictive legend and subject to Section 4.1(d), \$10 per Trading Day for each Trading Day after the Legend Removal Date (increasing to \$20 per Trading Day after the fifth Trading Day) until such certificate is delivered without a legend. Nothing herein shall limit such Purchaser’s right to pursue actual damages for the Company’s failure to deliver certificates representing any Securities as required by the Transaction Documents, and such Purchaser shall have the right to pursue all remedies available to it at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief.

(f) DWAC. In lieu of delivering physical certificates representing the Unlegended Shares, upon request of a Purchaser, so long as the certificates therefor do not bear a legend and the Purchaser is not obligated to return such certificate for the placement of a legend thereon, the Company shall cause its transfer agent to electronically transmit the Unlegended Shares by crediting the account of Purchaser’s prime broker with the Depository Trust Company through its Deposit Withdrawal At Custodian system, provided that the Company’s Common Stock is DTC eligible and the Company’s transfer agent participates in the Deposit Withdrawal at Custodian system. Such delivery must be made on or before the Legend Removal Date.

(g) Injunction. In the event a Purchaser shall request delivery of Unlegended Shares as described in this Section 4.1 and the Company is required to deliver such Unlegended Shares, the Company may not refuse to deliver Unlegended Shares based on any claim that such Purchaser or anyone associated or affiliated with such Purchaser has not complied with Purchaser’s obligations under the Transaction Documents, or for any other reason, unless, an injunction or temporary restraining order from a court, on notice, restraining and or enjoining delivery of such Unlegended Shares shall have been sought and obtained by the Company and the Company has posted a surety bond for the benefit of such Purchaser in the amount of the greater of (i) 120% of the amount of the aggregate purchase price of the Underlying Shares to be subject to the injunction or temporary restraining order, or (ii) the VWAP of the Common Stock on the Trading Day before the issue date of the injunction multiplied by the number of Unlegended Shares to be subject to the injunction, which bond shall remain in effect until the completion of arbitration/litigation of the dispute and the proceeds of which shall be payable to such Purchaser to the extent Purchaser obtains judgment in Purchaser’s favor.

(h) Buy-In. In addition to any other rights available to Purchaser, if the Company fails to deliver to a Purchaser Unlegended Shares as required pursuant to this Agreement and after the Legend Removal Date the Purchaser, or a broker on the Purchaser's behalf, purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by such Purchaser of the shares of Common Stock which the Purchaser was entitled to receive in unlegended form from the Company (a "Buy-In"), then the Company shall promptly pay in cash to the Purchaser (in addition to any remedies available to or elected by the Purchaser) the amount, if any, by which (A) the Purchaser's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (B) the aggregate purchase price of the shares of Common Stock delivered to the Company for reissuance as Unlegended Shares together with interest thereon at a rate of 15% per annum accruing until such amount and any accrued interest thereon is paid in full (which amount shall be paid as liquidated damages and not as a penalty). For example, if a Purchaser purchases shares of Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to \$10,000 of purchase price of Underlying Shares delivered to the Company for reissuance as Unlegended Shares, the Company shall be required to pay the Purchaser \$1,000, plus interest, if any. The Purchaser shall provide the Company written notice indicating the amounts payable to the Purchaser in respect of the Buy-In.

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

4.3 Furnishing of Information: Public Information.

(a) Until no Purchaser owns Securities, the Company covenants to file all periodic reports with the Commission pursuant to the Exchange Act and maintain the registration of the Common Stock under Section 12(b) or 12(g) of the Exchange Act after such time as the Company initially becomes subject to such requirements and to timely file (or obtain extensions in respect thereof and file within the applicable grace period) all reports required to be filed by the Company after the date hereof pursuant to the Exchange Act and timely file all reports that would be required to be filed by an issuer subject to Section 12(b) or 12(g) of the Exchange Act even if the Company is not then subject to the reporting requirements of the Exchange Act.

(b) At any time commencing on the Closing Date, and ending at such time that all of the Securities may be sold by non-Affiliates of the Company without the requirement for the Company to be in compliance with Rule 144(c)(1) and otherwise without restriction or limitation pursuant to Rule 144, if the Company shall fail for any reason to satisfy the current public information requirement under Rule 144(c) (a "Public Information Failure") then, in addition to such Purchaser's other available remedies, the Company shall pay to a Purchaser, in cash, as partial liquidated damages and not as a penalty, by reason of any such delay in or impairment of its ability to sell the Securities, an amount in cash equal to 2.0% of the aggregate principal amount of Notes outstanding and accrued interest thereon, and aggregate Conversion Price of Underlying Shares (with respect to the Notes) held by such Purchaser on the day of a Public Information Failure and on every thirtieth (30th) day (pro-rated for periods totaling less than thirty days) thereafter until the earlier of (a) the date such Public Information Failure is cured and (b) such time that such public information is no longer required for the Purchasers to transfer the Underlying Shares pursuant to Rule 144. The payments to which a Purchaser shall be entitled pursuant to this Section 4.3(b) 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 (3rd) 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. Nothing herein shall limit such Purchaser's right to pursue actual damages for the Public Information Failure, and such Purchaser shall have the right to pursue all remedies available to it at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief.

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

4.5 Conversion Procedures. The form of Notice of Conversion included in the Notes set forth the totality of the procedures required of the Purchasers in order to convert the Notes. No additional legal opinion, other information or instructions shall be required of the Purchasers to convert their Notes. The Company shall honor conversions of the Notes and shall deliver Underlying Shares in accordance with the terms, conditions and time periods set forth in the Transaction Documents.

4.6 Securities Laws Disclosure: Publicity. The Company shall, by 9:30 a.m. (New York City time) on the first Trading Day following each Closing Date, file a Current Report on Form 8-K including the Transaction Documents as exhibits thereto with the Commission within the time required by the Exchange Act ("Form 8-K"). From and after the filing of the Form 8-K, the Company represents to the Purchaser that it shall have publicly disclosed all material, non-public information delivered to the Purchaser by the Company or any of its Subsidiaries, or any of their respective officers, directors, employees or agents in connection with the transactions contemplated by the Transaction Documents. The Company and Purchaser shall consult with each other in issuing any press releases with respect to the transactions contemplated hereby, and neither the Company nor Purchaser shall issue any press release nor otherwise make any such public statement without the prior consent of the Company, with respect to any press release of Purchaser, or without the prior consent of Purchaser, with respect to any press release of the Company, which consent shall not unreasonably be withheld or delayed, except if such disclosure is required by law, in which case the disclosing party shall promptly provide the other party with prior notice of such public statement or communication. Notwithstanding the foregoing, the Company shall not publicly disclose the name of Purchaser, or include the name of Purchaser in any filing with the Commission or any regulatory agency or Trading Market unless the name of Purchaser is already included in the body of the Transaction Documents, without the prior written consent of Purchaser, except: (a) as required by federal securities law in connection with the filing of final Transaction Documents with the Commission and (b) to the extent such disclosure is required by law or Trading Market regulations, in which case the Company shall provide the Purchaser with prior notice of such disclosure permitted under this clause (b). The Company may file a Form 10-Q in lieu of the Form 8-K provided such filing contains the content required to be included in the Form 8-K and the Form 10-Q is filed not later than the Trading Day after the Closing Date.

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

4 . 8 Non-Public Information. Except with respect to the material terms and conditions of the transactions contemplated by the Transaction Documents and as required hereunder, the Company covenants and agrees that neither it, nor any other Person acting on its behalf, will provide any Purchaser or its agents or counsel with any information that the Company believes constitutes material non-public information, unless prior thereto such Purchaser shall have entered into a written agreement with the Company regarding the confidentiality and use of such information. The Company understands and confirms that each Purchaser shall be relying on the foregoing covenant in effecting transactions in securities of the Company.

4 . 9 Use of Proceeds. The Company shall use the net proceeds from the sale of the Securities hereunder substantially for the purposes set forth on Schedule 4.9 hereto and shall not use such proceeds: (a) for the satisfaction of any portion of the Company's debt except as disclosed on Schedule 4.9 (other than payment of trade payables in the ordinary course of the Company's business and consistent with prior practices), (b) for the redemption of any Common Stock or Common Stock Equivalents, (c) for the settlement of any outstanding litigation or (d) in violation of FCPA or OFAC regulations.

4 . 1 0 Indemnification of Purchasers. Subject to the provisions of this Section 4.10, the Company will indemnify and hold each Purchaser and its directors, officers, shareholders, members, partners, employees and agents (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title), each Person who controls such Purchaser (within the meaning of Section 15 of the Securities Act and Section 20 of the Exchange Act), and the directors, officers, shareholders, agents, members, partners or employees (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title) of such controlling persons (each, a "Purchaser Party") harmless from any and all losses, liabilities, obligations, claims, contingencies, damages, costs and expenses, including all judgments, amounts paid in settlements, court costs and reasonable attorneys' fees and costs of investigation that any such Purchaser Party may suffer or incur as a result of or relating to (a) any breach of any of the representations, warranties, covenants or agreements made by the Company in this Agreement or in the other Transaction Documents or (b) any action instituted against Purchaser Parties in any capacity, or any of them or their respective Affiliates, by any stockholder of the Company who is not an Affiliate of such Purchaser Party, with respect to any of the transactions contemplated by the Transaction Documents (unless such action is based upon a breach of such Purchaser Party's representations, warranties or covenants under the Transaction Documents or any agreements or understandings such Purchaser Party may have with any such stockholder or any violations by such Purchaser Party of state or federal securities laws or any conduct by such Purchaser Party which constitutes fraud, gross negligence, willful misconduct or malfeasance). If any action shall be brought against any Purchaser Party in respect of which indemnity may be sought pursuant to this Agreement, such Purchaser Party shall promptly notify the Company in writing, and the Company shall have the right to assume the defense thereof with counsel of its own choosing reasonably acceptable to the Purchaser Party. Any Purchaser Party shall have the right to employ separate counsel in any such action and participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Purchaser Party except to the extent that (i) the employment thereof has been specifically authorized by the Company in writing, (ii) the Company has failed after a reasonable period of time to assume such defense and to employ counsel or (iii) in such action there is, in the reasonable opinion of counsel, a material conflict on any material issue between the position of the Company and the position of such Purchaser Party, in which case the Company shall be responsible for the reasonable fees and expenses of no more than one such separate counsel. The Company will not be liable to any Purchaser Party under this Agreement (y) for any settlement by a Purchaser Party effected without the Company's prior written consent, which shall not be unreasonably withheld or delayed; or (z) to the extent, but only to the extent that a loss, claim, damage or liability is attributable to any Purchaser Party's breach of its material representations, warranties or covenants under the Transaction Documents. The indemnification required by this Section 4.10 shall be made by periodic payments of the amount thereof during the course of the investigation or defense, as and when bills are received or are incurred. The indemnity agreements contained herein shall be in addition to any cause of action or similar right of any Purchaser Party against the Company or others and any liabilities the Company may be subject to pursuant to law.

4.11 Reservation and Listing of Securities.

(a) As of the date hereof, the Company, ignoring any conversion or exercise limitations, has reserved for each Purchaser and the Company shall continue to reserve and keep available at all times, the “Required Minimum”, free of pre-emptive rights. If, on any date, the number of authorized but unissued (and otherwise unreserved) shares of Common Stock is less than the Required Minimum on such date (an “Authorized Share Failure”), then the Board of Directors shall use commercially reasonable efforts to amend the Company’s articles of incorporation to increase the number of authorized but unissued shares of Common Stock to at least the Required Minimum plus such other amount as may be required for the Company’s other purposes, and reserve the Required Minimum on behalf of the Purchaser, as soon as possible and in any event not later than the 60th day after such date. Notwithstanding the foregoing, the occurrence of an Authorized Share Failure is an Event of Default.

(b) The Company shall, if applicable: (i) in the time and manner required by the principal Trading Market, prepare and file with such Trading Market an additional shares listing application covering a number of shares of Common Stock at least equal to the Required Minimum on the date of such application, (ii) take all steps necessary to cause such shares of Common Stock to be approved for listing or quotation on such Trading Market as soon as possible thereafter, (iii) provide to the Purchasers evidence of such listing or quotation and (iv) maintain the listing or quotation of such Common Stock on any date at least equal to the Required Minimum on such date on such Trading Market or another Trading Market. The Company will then take all action necessary to continue the listing or quotation and trading of its Common Stock on a Trading Market until the later of (i) at least six (6) years after the Closing Date, and (ii) for so long as the Notes are outstanding, and will comply in all respects with the Company’s reporting, filing and other obligations under the bylaws or rules of the Trading Market. In the event the aforescribed listing is not continuously maintained for six (6) years after the Closing Date and for so long as Notes are outstanding (a “Listing Default”), then in addition to any other rights the Purchasers may have hereunder or under applicable law, on the first day of a Listing Default and on each monthly anniversary of each such Listing Default date (if the applicable Listing Default shall not have been cured by such date) until the applicable Listing Default is cured, the Company shall pay to each Purchaser an amount in cash, as partial liquidated damages and not as a penalty, equal to 2% of the aggregate Subscription Amount of Notes, and Conversion Price of the Conversion Shares held by such Purchaser on the day of a Listing Default and on every thirtieth day (pro-rated for periods less than thirty days) thereafter until the date such Listing Default is cured. If the Company fails to pay any liquidated damages pursuant to this Section in a timely manner, the Company will pay interest thereon at a rate of 1.5% per month (pro-rated for partial months) to the Purchaser.

4.12 Form D; Blue Sky Filings. The Company agrees to timely file a Form D with respect to the Securities as required under Regulation D and to provide a copy thereof, promptly upon request of any Purchaser. The Company shall take such action as the Company shall reasonably determine is necessary in order to obtain an exemption for, or to qualify the Securities for, sale to the Purchasers at a Closing under Applicable Law, including “Blue Sky” laws of the states of the United States, and shall provide evidence of such actions promptly upon request of any Purchaser.

4.13 Subsequent Equity Sales. From the date hereof until the End Date, the Company and each Subsidiary will not, without the consent of a Majority in Interest, enter into any Equity Line of Credit or similar agreement, issue or agree to issue floating or Variable Priced Equity Linked Instruments nor issue or agree to issue any of the foregoing or equity with price reset rights (subject to adjustment for stock splits, distributions, dividends, recapitalizations and the like) (collectively, a “Variable Rate Transaction”). For purposes hereof, “Equity Line of Credit” shall include any transaction involving a written agreement between the Company and an investor or underwriter whereby the Company has the right to “put” its securities to the investor or underwriter over an agreed period of time and at an agreed price or price formula, and “Variable Priced Equity Linked Instruments” shall include: (A) any debt or equity securities which are convertible into, exercisable or exchangeable for, or carry the right to receive additional shares of Common Stock or Common Stock Equivalents or any of the foregoing at a price that can be reduced either (1) at any conversion, exercise or exchange rate or other price that is based upon and/or varies with the trading prices of or quotations for Common Stock at any time after the initial issuance of such debt or equity security, or (2) with a fixed conversion, exercise or exchange price that is subject to being reset at some future date at any time after the initial issuance of such debt or equity security due to a change in the market price of the Company’s Common Stock since date of initial issuance, or upon the issuance of any debt, equity or Common Stock Equivalent, and (B) any amortizing convertible security which amortizes prior to its maturity date, where the Company is required or has the option to (or any investor in such transaction has the option to require the Company to) make such amortization payments in shares of Common Stock which are valued at a price that is based upon and/or varies with the trading prices of or quotations for Common Stock at any time after the initial issuance of such debt or equity security (whether or not such payments in stock are subject to certain equity conditions). For purposes of determining the total consideration for a convertible instrument (including a right to purchase equity of the Company) issued, subject to an original issue or similar discount or which principal amount is directly or indirectly increased after issuance, the consideration will be deemed to be the actual net cash amount received by the Company in consideration of the original issuance of such convertible instrument. Until the End Date, the Company will not, without the consent of a Majority in Interest, issue any Common Stock or Common Stock Equivalents nor issue or amend the terms of any securities or Common Stock Equivalents or of any agreement outstanding or in effect as of the date of this Agreement pursuant to which same were or may be acquired without the consent of a Majority in Interest, if the result of such issuance or amendment would be at an effective price per share of Common Stock less than the Conversion Price in effect at the time of such issuance or amendment; all subject to adjustment as described in Section 5.23 hereof. The restrictions and limitations in this Section 4.13 are in addition to and shall apply whether or not a Purchaser exercises its rights pursuant to Section 4.16 and Section 4.22.

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

4.15 Capital Changes. Until the one (1) year anniversary of the Closing Date, the Company shall not undertake a reverse or forward stock split or reclassification of the Common Stock without five (5) days prior written notice to the Purchasers. In no event will the Company increase the par value of the Common Stock to an amount greater than the Conversion Price, then in effect.

4.16 Participation in Future Financing

(a) Until the End Date, upon any proposed issuance by the Company or any of its Subsidiaries of Common Stock, Common Stock Equivalents, Indebtedness or a combination thereof, other than (i) a rights offering to all holders of Common Stock which does not include extending such rights offering to holders of Notes, or (ii) an Exempt Issuance (each a “Subsequent Financing”), the Purchasers shall have the right to participate in up to an amount of the Subsequent Financing equal to 100% of the Subsequent Financing (the “Participation Maximum”) pro rata to each other in proportion to their Subscription Amounts on the same terms, conditions and price provided for in the Subsequent Financing, unless the Subsequent Financing is an underwritten public offering, in which case the Company shall notify each Purchaser of such public offering when it is lawful for the Company to do so, but no Purchaser shall be entitled to purchase any particular amount of such public offering without the approval of the lead underwriter of such underwritten public offering.

(b) At least ten (10) Trading Days prior to the closing of the Subsequent Financing, the Company shall deliver to each Purchaser a written notice of its intention to effect a Subsequent Financing (“Pre-Notice”), which Pre-Notice shall ask such Purchaser if it wants to review the details of such financing (such additional notice, a “Subsequent Financing Notice”). Upon the request of a Purchaser, and only upon a request by such Purchaser, for a Subsequent Financing Notice, the Company shall promptly, but no later than one (1) Trading Day after such request, deliver a Subsequent Financing Notice to such Purchaser. The requesting Purchaser shall be deemed to have acknowledged that the Subsequent Financing Notice may contain material non-public information. The Subsequent Financing Notice shall describe in reasonable detail the proposed terms of such Subsequent Financing, the amount of proceeds intended to be raised thereunder and the Person or Persons through or with whom such Subsequent Financing is proposed to be effected and shall include a term sheet or similar document relating thereto as an attachment.

(c) Any Purchaser desiring to participate in such Subsequent Financing must provide written notice to the Company by not later than 5:30 p.m. (New York City time) on the tenth (10th) Trading Day after all of the Purchasers have received the Pre-Notice that the Purchaser is willing to participate in the Subsequent Financing, the amount of such Purchaser’s participation, and representing and warranting that such Purchaser has such funds ready, willing, and available for investment on the terms set forth in the Subsequent Financing Notice. If the Company receives no such notice from a Purchaser as of such tenth (10th) Trading Day, such Purchaser shall be deemed to have notified the Company that it does not elect to participate.

(d) If by 5:30 p.m. (New York City time) on the fifteenth (15th) Trading Day after all of the Purchasers have received the Pre-Notice, notifications by the Purchasers of their willingness to participate in the Subsequent Financing (or to cause their designees to participate) is, in the aggregate, less than the total amount of the Participation Maximum of the Subsequent Financing, then the Company may affect the remaining portion of such Subsequent Financing on the terms and with the Persons set forth in the Subsequent Financing Notice and the Purchasers shall simultaneously affect their portion of such Subsequent Financing as set forth in their notifications to the Company consistent with the terms set forth in the Subsequent Financing Notice.

(e) If by 5:30 p.m. (New York City time) on the fifth (5th) Trading Day after all of the Purchasers have received the Pre-Notice, the Company receives responses to a Subsequent Financing Notice from Purchasers seeking to purchase more than the aggregate amount of the Participation Maximum, each such Purchaser shall have the right to purchase its Pro Rata Portion (as defined below) of the Participation Maximum. “Pro Rata Portion” means the ratio of (x) the principal amount of Notes purchased hereunder by a Purchaser participating under this Section 4.16 and (y) the sum of the aggregate principal amounts of Notes purchased hereunder by all Purchasers participating under this Section 4.16.

(f) The Company must provide the Purchasers with a second Subsequent Financing Notice, and the Purchasers will again have the right of participation set forth above in this Section 4.16, if the Subsequent Financing subject to the initial Subsequent Financing Notice is not consummated for any reason on the terms set forth in such Subsequent Financing Notice within sixty (60) Trading Days after the date of the initial Subsequent Financing Notice.

(g) The Company and each Purchaser agree that if any Purchaser elects to participate in the Subsequent Financing, the transaction documents related to the Subsequent Financing shall not include any term or provision whereby such Purchaser shall be required to agree to any restrictions on trading as to any of the Securities purchased hereunder (for avoidance of doubt, the securities purchased in the Subsequent Financing shall not be considered securities purchased hereunder) or be required to consent to any amendment to or termination of, or grant any waiver, release or the like under or in connection with, this Agreement, without the prior written consent of such Purchaser.

(h) Notwithstanding anything to the contrary in this Section 4.16 and unless otherwise agreed to by such Purchaser, the Company shall either confirm in writing to such Purchaser that the transaction with respect to the Subsequent Financing has been abandoned or shall publicly disclose its intention to issue the securities in the Subsequent Financing, in either case in such a manner such that such Purchaser will not be in possession of any material, non-public information, by the seventeenth (17th) Trading Day following delivery of the Subsequent Financing Notice. If by such seventeenth (17th) Trading Day, no public disclosure regarding a transaction with respect to the Subsequent Financing has been made, and no notice regarding the abandonment of such transaction has been received by such Purchaser, such transaction shall be deemed to have been abandoned and such Purchaser shall not be deemed to be in possession of any material, non-public information with respect to the Company or any of its Subsidiaries.

4.17 Purchaser's Exercise Limitations. The Company shall not effect exercise of the rights granted in Sections 4.16 and 4.22 of this Agreement, and a Purchaser shall not have the right to exercise any portion of such rights granted in Sections 4.16 and 4.22 only to the extent that after giving effect to such exercise, the Purchaser, would beneficially own in excess of the Beneficial Ownership Limitation (as defined in the Note), applied in the manner set forth in the Note. In such event the right by Purchaser to benefit from such rights or receive shares in excess of the Beneficial Ownership Limitation shall be held in abeyance until such times as such excess shares shall not exceed the Beneficial Ownership Limitation, provided the Purchaser complies with the Purchaser's other obligations in connection with the exercise by Purchaser of its rights pursuant to Sections 4.16 and 4.22, and with respect to Section 4.16, provided that the Company receives the purchase price for any purchased securities in compliance with the terms of such Subsequent Financing.

4.18 Maintenance of Property/Insurance. The Company shall and shall cause each Subsidiary to keep all of its property, which is necessary or useful to the conduct of its business, in good working order and condition, ordinary wear and tear excepted and insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as are prudent and customary for the businesses of the Company and Subsidiary.

4.19 Preservation of Corporate Existence. The Company shall preserve and maintain its corporate existence, rights, privileges and franchises in the jurisdiction of its incorporation, and qualify and remain qualified, as a foreign entity in each jurisdiction in which such qualification is necessary in view of its business or operations and where the failure to qualify or remain qualified might reasonably have a Material Adverse Effect upon the financial condition, business or operations of the Company taken as a whole.

4.20 DTC Program. At all times that Notes are outstanding after the listing required by Section 4.11(b) is completed, the Company shall employ as the transfer agent for its Common Stock and Underlying Shares a participant in the Depository Trust Company Automated Securities Transfer Program and cause the Common Stock and Underlying Shares to be transferable pursuant to such program.

4.21 Reimbursement. If any Purchaser becomes involved in any capacity in any Proceeding by or against any Person who is a stockholder of the Company (except as a result of sales, pledges, margin sales and similar transactions by such Purchaser to or with any current stockholder), solely as a result of such Purchaser's acquisition of the Securities under this Agreement, the Company will reimburse such Purchaser for its reasonable legal and other expenses (including the cost of any investigation preparation and travel in connection therewith) incurred in connection therewith, as such expenses are incurred. The reimbursement obligations of the Company under this paragraph shall be in addition to any liability which the Company may otherwise have, shall extend upon the same terms and conditions to any Affiliates of the Purchasers who are actually named in such action, proceeding or investigation, and partners, directors, agents, employees and controlling persons (if any), as the case may be, of the Purchasers and any such Affiliate, and shall be binding upon and inure to the benefit of any successors, assigns, heirs and personal representatives of the Company, the Purchasers and any such Affiliate and any such Person. The Company also agrees that neither the Purchasers nor any such Affiliates, partners, directors, agents, employees or controlling persons shall have any liability to the Company or any Person asserting claims on behalf of or in right of the Company solely as a result of acquiring the Securities under this Agreement.

4.22 Most Favored Nation Provision. From the date hereof and for so long as a Purchaser holds any Securities, in the event that the Company issues or sells any Common Stock or Common Stock Equivalents, if a Purchaser then holding outstanding Securities reasonably believes that any of the terms and conditions appurtenant to such issuance or sale are more favorable to such investors than are the terms and conditions granted to the Purchasers hereunder, upon notice to the Company by such Purchaser within five (5) Trading Days after disclosure of such issuance or sale, the Company shall amend the terms of this transaction as to such Purchaser only so as to give such Purchaser the benefit of such more favorable terms or conditions. This Section 4.22 shall not apply with respect to an Exempt Issuance. The Company shall provide each Purchaser with notice of any such issuance or sale not later than ten (10) Trading Days before such issuance or sale.

4.23 Indebtedness. For so long as any Note is outstanding, the Company will not incur any Indebtedness other than Permitted Indebtedness.

4.24 Notice of Disqualification Events. The Company will notify the Purchasers 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 not otherwise disclosed herein or in the SEC Reports.

4.25 Duration of Undertakings. Unless otherwise stated in this Article IV, all of the Company's undertakings, obligations and responsibilities set forth in Article IV of this Agreement shall remain in effect for so long as any Securities remain outstanding.

4.26 Registration Rights. On or before the 30th calendar day following the Initial Closing, the Company shall file a registration statement on Form S-1 (the "Resale S-1") providing for the resale by the Purchasers of the Underlying Shares determinable as of the date such registration statement is first filed (or such lesser number of Underlying Shares as permitted by the SEC) pursuant to the terms of the Registration Rights Agreement.

**ARTICLE V.
MISCELLANEOUS**

5.1 Termination. This Agreement may be terminated by any Purchaser, as to such Purchaser's obligations hereunder only and without any effect whatsoever on the obligations between the Company and the other Purchasers, by written notice to the other parties, if the final Closing has not been consummated on or before August 31, 2019; provided, however, that such termination will not affect the right of any party to sue for any breach by any other party (or parties).

5.2 Fees and Expenses. At the Closing, the Company has agreed to pay G&M for the legal fees in connection with G&M's representation of Alpha Capital Anstalt (and no other Purchasers except in connection with the Escrow Agreement) in the amount of \$28,500. Except as expressly set forth in the Transaction Documents and on Schedule 3.1(s), each party shall pay the fees and expenses of its advisers, counsel, accountants and other experts, if any, and all other expenses incurred by such party incident to the negotiation, preparation, execution, delivery and performance of this Agreement. The Company shall pay all Transfer Agent fees (including, without limitation, any fees required for same-day processing of any instruction letter delivered by the Company and any conversion or exercise notice delivered by a Purchaser), stamp taxes and other taxes and duties levied in connection with the delivery of any Securities to the Purchasers. All of the Purchasers acknowledge that they have been advised to seek the advice of their own attorneys.

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

5.4 Notices. All notices, demands, requests, consents, approvals, and other communications required or permitted hereunder shall be in writing and, unless otherwise specified herein, shall be (i) personally served, (ii) deposited in the mail, registered or certified, return receipt requested, postage prepaid, (iii) delivered by reputable air courier service with charges prepaid, or (iv) transmitted by hand delivery, telegram, or facsimile, addressed as set forth below or to such other address as such party shall have specified most recently by written notice. Any notice or other communication required or permitted to be given hereunder shall be deemed effective (a) upon hand delivery or delivery by facsimile, with accurate confirmation generated by the transmitting facsimile machine, at the address or number designated below (if delivered on a business day during normal business hours where such notice is to be received), or the first business day following such delivery (if delivered other than on a business day during normal business hours where such notice is to be received) or (b) on the second business day following the date of mailing by express courier service, fully prepaid, addressed to such address, or upon actual receipt of such mailing, whichever shall first occur. The addresses for such communications shall be: (i) if to the Company, to: GT Biopharma, Inc., 9350 Wilshire Blvd, Suite 203, Beverly Hills, CA 90212, Attn: Chief Executive Officer, with a copy to (which shall not constitute notice): Gary R. Henrie, Esq., P.O. Box 107, Nauvoo, IL 62354, email: grhlaw@hotmail.com, and (ii) if to the Purchasers, to: the addresses and fax numbers indicated on the signature pages hereto.

5.5 Amendments; Waivers. No provision of this Agreement or any other Transaction Document may be waived, modified, supplemented or amended except in a written instrument signed, in the case of an amendment, by the Company and the Purchasers holding at least a majority in interest of the affected Securities then outstanding or, in the case of a waiver, by the party against whom enforcement of any such waived provision is sought. No waiver of any default with respect to any provision, condition or requirement of this Agreement shall be deemed to be a continuing waiver in the future or a waiver of any subsequent default or a waiver of any other provision, condition or requirement hereof, nor shall any delay or omission of any party to exercise any right hereunder in any manner impair the exercise of any such right.

5 . 6 Headings. The headings herein are for convenience only, do not constitute a part of this Agreement and shall not be deemed to limit or affect any of the provisions hereof.

5 . 7 Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the parties and their successors and permitted assigns. The Company may not assign this Agreement or any rights or obligations hereunder without the prior written consent of each Purchaser (other than by merger). Following a Closing, any Purchaser may assign any or all of its rights under this Agreement to any Person to whom such Purchaser assigns or transfers any Securities, provided that such transferee agrees in writing to be bound, with respect to the transferred Securities, by the provisions of the Transaction Documents that apply to the "Purchasers."

5.8 No Third-Party Beneficiaries. This Agreement is intended for the benefit of the parties hereto and their respective successors and permitted assigns and is not for the benefit of, nor may any provision hereof be enforced by, any other Person, except as otherwise set forth in Section 4.10.

5 . 9 Governing Law. All questions concerning the construction, validity, enforcement and interpretation of the Transaction Documents shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. Each party agrees that all legal proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Agreement and any other Transaction Documents (whether brought against a party hereto or its respective affiliates, directors, officers, shareholders, partners, members, employees or agents) shall be commenced exclusively in the state and federal courts sitting in the City of New York. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, Borough of Manhattan for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein (including with respect to the enforcement of any of the Transaction Documents), and hereby irrevocably waives, and agrees not to assert in any action, suit or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is improper or is an inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by law. If either party shall commence an action or proceeding to enforce any provisions of the Transaction Documents, then, in addition to the obligations of the Company under Section 4.10, the prevailing party in such action, suit or proceeding shall be reimbursed by the other party for its reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

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

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

5.13 Rescission and Withdrawal Right. Notwithstanding anything to the contrary contained in (and without limiting any similar provisions of) any of the other Transaction Documents, whenever any Purchaser exercises a right, election, demand or option under a Transaction Document and the Company does not timely perform its related obligations within the periods therein provided, then such Purchaser may, at any time prior to the Company's performance of such obligations, rescind or withdraw, in its sole discretion from time to time upon written notice to the Company, any relevant notice, demand or election in whole or in part without prejudice to its future actions and rights; provided, however, that in the case of a rescission of a conversion of a Note, the applicable Purchaser shall be required to return any shares of Common Stock subject to any such rescinded conversion.

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

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

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

5.17 Usury. To the extent it may lawfully do so, the Company hereby agrees not to insist upon or plead or in any manner whatsoever claim, and will resist any and all efforts to be compelled to take the benefit or advantage of, usury laws wherever enacted, now or at any time hereafter in force, in connection with any claim, action or proceeding that may be brought by any Purchaser in order to enforce any right or remedy under any Transaction Document. Notwithstanding any provision to the contrary contained in any Transaction Document, it is expressly agreed and provided that the total liability of the Company under the Transaction Documents for payments in the nature of interest shall not exceed the maximum lawful rate authorized under Applicable Law (the "Maximum Rate"), and, without limiting the foregoing, in no event shall any rate of interest or default interest, or both of them, when aggregated with any other sums in the nature of interest that the Company may be obligated to pay under the Transaction Documents exceed such Maximum Rate. It is agreed that if the maximum contract rate of interest allowed by law and applicable to the Transaction Documents is increased or decreased by statute or any official governmental action subsequent to the date hereof, the new maximum contract rate of interest allowed by law will be the Maximum Rate applicable to the Transaction Documents from the Closing Date thereof forward, unless such application is precluded by Applicable Law. If under any circumstances whatsoever, interest in excess of the Maximum Rate is paid by the Company to any Purchaser with respect to indebtedness evidenced by the Transaction Documents, such excess shall be applied by such Purchaser to the unpaid principal balance of any such indebtedness or be refunded to the Company, the manner of handling such excess to be at such Purchaser's election.

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

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

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

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

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

5.23 Equitable Adjustment. Trading volume amounts, price/volume amounts, the amount of shares of Common Stock identified in this Agreement, Conversion Price, Underlying Shares and similar figures in the Transaction Documents shall be equitably adjusted (but without duplication) to offset the effect of stock splits, similar events and as otherwise described in this Agreement and Note.

(Signature Pages Follow)

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

GT BIOPHARMA, INC.

Address for Notice:

9350 Wilshire Blvd, Suite 203
Beverly Hills, CA 90212

By: _____
Name: Steven Weldon
Title: Chief Financial Officer

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

[PURCHASER SIGNATURE PAGE TO GT BIOPHARMA, INC.
SECURITIES PURCHASE AGREEMENT]

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

Name of Purchaser: _____

Signature of Authorized Signatory of Purchaser: _____

Name of Authorized Signatory: _____

Title of Authorized Signatory: _____

Email Address of Authorized Signatory: _____

Facsimile Number of Authorized Signatory: _____

State of Residence of Purchaser: _____

Address for Notice to Purchaser:

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

Cash Subscription Amount: US\$ _____

Total Note principal amount: _____

EIN Number, if applicable, will be provided under separate cover

Date: _____

[SIGNATURE PAGES CONTINUE]

CLOSING STATEMENT

Pursuant to the attached Securities Purchase Agreement, dated as of the date hereto, the purchasers shall purchase \$_____ of Debentures from GT Biopharma, Inc., a Delaware corporation (the “Company”). All funds will be wired into an account maintained by the Company. All funds will be disbursed in accordance with this Closing Statement.

Disbursement Date: _____, 2020

I. PURCHASE PRICE

| | |
|--------------------------------------|-----|
| Gross Proceeds to be Received | \$0 |
|--------------------------------------|-----|

II. DISBURSEMENTS

| | |
|--|--------|
| | \$0.00 |
|--|--------|

| | |
|--|--------|
| | \$0.00 |
|--|--------|

| | |
|--|--------|
| | \$0.00 |
|--|--------|

| | |
|--|--------|
| | \$0.00 |
|--|--------|

Total Amount Disbursed:

EXHIBITS AND SCHEDULES

| | |
|-----------|-------------------------------|
| Exhibit A | Form of |
| | Note |
| Exhibit B | Registration Rights Agreement |

Schedule 3.1(a)
Schedule 3.1(g)
Schedule 3.1(h)
Schedule 3.1(i)
Schedule 3.1(j)
Schedule 3.1(k)
Schedule 3.1(l)
Schedule 3.1(q)
Schedule 3.1(s)
Schedule 3.1(aa)
Schedule 3.1(bb)
Schedule 3.1(cc)
Schedule 3.1(ff)
Schedule 3.1(gg)
Schedule 4.9

REGISTRATION RIGHTS AGREEMENT

REGISTRATION RIGHTS AGREEMENT (this "**Agreement**"), dated as of ____2020, by and among GT Biopharma, Inc., a Delaware corporation, with headquarters located at 9350 Wilshire Blvd, Suite 203, Beverly Hills, CA 90212 (the "**Company**"), and the investors listed on the Schedule of Purchasers attached hereto (each, a "**Purchaser**" and collectively, the "**Purchasers**").

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 Purchaser, a Convertible Note (collectively, the "**Notes**"), which will be convertible into shares of the Company's common stock, par value \$0.001 per share (the "**Common Stock**") (the shares of Common Stock issuable upon conversion of the Notes, collectively, the "**Common Shares**").

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 Purchasers 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, fifty (50) calendar days after the earlier of the Additional Filing Date and the Additional Filing Deadline and (y) the fifth (5th) 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, thirty (30) days after the date substantially all of the Registrable Securities registered under the immediately preceding Registration Statement are sold.

(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 Common Shares, or the Cutback Shares, as applicable, as a result of any stock split, stock dividend, recapitalization, exchange or similar event or otherwise.

(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 (I) any Cutback Shares not previously included on a Registration Statement, all subject to adjustment as provided in Section 2(f) or (II) such other amount as may be permitted by the staff of the SEC pursuant to Rule 415.

(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 (without regard to clause (II) in the definition thereof) of Registrable Securities not included in all Registration Statements previously declared effective as contemplated 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, the Common Shares shall be excluded on a pro rata basis among the Investors until all of the Common Shares have been excluded.

(k) **"Effective Date"** means the Initial Effective Date and the Additional Effective Date, as applicable.

(l) **"Effectiveness Deadline"** means the Initial Effectiveness Deadline and the Additional Effectiveness Deadline, as applicable.

(m) **"Eligible Market"** means the Principal Market, The New York Stock Exchange, Inc., the NYSE American, The Nasdaq Capital Market, The Nasdaq Global Select Market, The Nasdaq Global Market, the OTC Bulletin Board, the OTCQB or the OTCQX (or any successor to any of the foregoing).

(n) **"Filing Deadline"** means the Initial Filing Deadline and the Additional Filing Deadline, as applicable.

(o) **"Initial Effective Date"** means the date that the Initial Registration Statement has been declared effective by the SEC.

(p) **"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, forty-five (45) calendar days after the Initial Filing Deadline, or (ii) in the event that the Initial Registration Statement is subject to a full review by the SEC, ninety (90) calendar days after the Initial Filing Deadline, and (y) the fifth (5th) 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.

- (q) **"Initial Filing Date"** means the date on which the Initial Registration Statement is filed with the SEC.
- (r) **"Initial Filing Deadline"** means thirty (30) days after the Initial Closing (as defined in the Securities Purchase Agreement).
- (s) **"Initial Registrable Securities"** means (i) the Common Shares issued or issuable upon conversion of the Notes issued pursuant to the terms of the Securities Purchase Agreement, and (ii) any capital stock of the Company issued or issuable with respect to the Common Shares, or the Notes as a result of any stock split, stock dividend, recapitalization, exchange or similar event or otherwise without regard to any limitations on conversion of the Notes.
- (t) **"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.
- (u) **"Initial Required Registration Amount"** means (i) the sum of the number of Common Shares, or (ii) such other amount as may be permitted by the staff of the SEC pursuant to Rule 415.
- (v) **"Investor"** means a Purchaser or any transferee or assignee thereof to whom a Purchaser 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.
- (w) **"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.
- (x) **"Principal Market"** means The OTCQB.
- (y) **"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.
- (z) **"Registrable Securities"** means the Initial Registrable Securities and the Additional Registrable Securities.
- (aa) **"Registration Statement"** means the Initial Registration Statement and the Additional Registration Statement, as applicable.
- (bb) **"Required Holders"** means holders of at least a majority of the Registrable Securities.

- Amount, as applicable.
- (cc) **"Required Registration Amount"** means either the Initial Required Registration Amount or the Additional Required Registration Amount, as applicable.
- (dd) **"Rule 415"** means Rule 415 promulgated under the 1933 Act or any successor rule providing for offering securities on a continuous or delayed basis.
- (ee) **"SEC"** means the United States Securities and Exchange Commission.
- (ff) **"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; provided that "Trading Day" shall not include any day on which the Common Stock is scheduled to trade on such exchange or market for 3 or more hours or any day that the Common Stock is suspended from trading during the final hour of trading on such exchange or market (or if such exchange or market does not designate in advance the closing time of trading on such exchange or market, then during the hour ending at 4:00:00 p.m., New York time).

2. Registration.

(a) Initial Mandatory Registration. Promptly following the Closing Date, 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-1 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 Form S-1 or 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 Shareholders" sections in substantially the form attached hereto as Exhibit B, with such modifications as may be required by law. The Company shall use its commercially reasonable 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 second (2nd) 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. The Company represents and warrants that it is the Company's understanding that the SEC will not cause there to be Cutback Shares with respect to up to one-third of the Company's public float, calculated under SEC rules.

(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-1 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; provided that after two rejections by the SEC of Additional Registration Statements, the Company shall not be required to file Additional Registration Statements more frequently than once per sixty day period commencing subsequent to the second rejection. In the event that Form S-3 is unavailable for such a registration, the Company shall use Form S-1 or 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 Shareholders" sections in substantially the form attached hereto as Exhibit B, with such modifications as may be required by law. The Company shall use its commercially reasonable 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 second (2nd) 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 Gary Henric, Esq., 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 if such form becomes available prior to any required post-effective amendment, provided that the Company shall maintain the effectiveness of the Registration Statement then in effect until such time as any such Registration Statement on Form S-3 filed by the Company 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 commercially reasonable 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.

(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**" and collectively with a Registration Failure, a Filing Failure, and an Effectiveness Failure, the "**Failures**" and each a "**Failure**"), then, as partial relief for the damages to any holder by reason of a Failure (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 one percent (1.0%) of the aggregate Subscription Amount (as 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; provided however, in the event that there shall be more than one Failure occurring simultaneously, the 1.0% shall apply in the aggregate (e.g., during any single or multiple Failure, 1% shall be due, however 1% shall not be due "per Failure" if the Failures are simultaneous and for so long as such Failures are simultaneous). 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 percent (1%) per month (prorated for partial months) until paid in full. Notwithstanding anything to the contrary contained herein, Registration Delay Payments shall (i) not, in the aggregate, exceed fifteen percent (15%) of the aggregate Purchase Price, (ii) cease to accrue when all of the Registrable Securities may be sold by non-affiliates of the Company pursuant to Rule 144 without any restrictions or limitations and (iii) cease to accrue upon the termination of the Registration Period (as defined below).

(h) Limitation on Other Registration Statements. The Company shall not file another registration statement under the 1933 Act prior to the earlier of (i) date that the Initial Registration Statement is declared effective by the SEC and (ii) the end of the Registration Period (as defined in Section 3(a)); provided that, this Section 2(h) shall not prevent the Company from filing a registration statement on Form S-4 or Form S-8 with the SEC at any time beginning thirty (30) days after the initial filing of the Initial Registration Statement with the SEC.

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 commercially reasonable 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 commercially reasonable 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 that is two (2) years and six (6) months after the Closing Date, (ii) the date on which the Investors shall have sold all of the Registrable Securities required to be covered by such Registration Statement or (iii) the date on which all of the Registrable Securities may be sold by non-affiliates of the Company pursuant to Rule 144 without any restrictions or limitations (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 "commercially reasonable 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 three (3) Business Days prior to its filing with the SEC and (ii) all amendments and supplements to all Registration Statements (except for those filed by reason of the Company filing 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, (B) permit each Investor to review and comment on the "Plan of Distribution" and "Selling Shareholders" sections of the Registration Statement and all amendments and supplements to the Registration Statement to the extent any changes are made to those sections, and (C) not file any Registration Statement or amendment or supplement thereto in a form to which Legal Counsel reasonably objects; provided however, that if the delay in filing the Registration Statement is due to Legal Counsel's or an Investor's unreasonable objections (and unreasonable refusal to allow the Company to file the Registration Statement) then in such event, no Registration Failure (or similar event that triggers a Registration Delay Payment) shall be deemed to have occurred with such delay arising from Legal Counsel's unreasonable objections, or solely with respect to an Investor, arising from such Investor's unreasonable objections. 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; provided however, that if the delay in filing the effectiveness of the Registration Statement is due to Legal Counsel's unreasonable objections (and unreasonable refusal to allow the Registration Statement to become effective) then in such event, no Effectiveness Failure (or similar event that triggers a Registration Delay Payment) shall be deemed to have occurred. The Company shall furnish to Legal Counsel, without charge, copies of any correspondence from the SEC or the staff of the SEC to the Company or its representatives relating to any Registration Statement. The Company shall reasonably cooperate with Legal Counsel in performing the Company's obligations pursuant to this Section 3.

(d) 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 commercially reasonable 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 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 in writing of the happening of any event, as promptly as practicable but not later than the first Business Day after becoming aware of such event, (i) 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), or (ii) that results in the lack of effectiveness of any Registration Statement, and, subject to Section 3(r), promptly prepare a supplement or amendment to such Registration Statement to correct such untrue statement or omission, or lack of effectiveness of any Registration Statement. The Company shall also promptly notify Legal Counsel 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 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 second (2nd) day 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 commercially reasonable 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 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 by the SEC to be described in the Registration Statement as an underwriter or the Company and an Investor agree that it should be identified as an underwriter of Registrable Securities in the Registration Statement and the Registration Statement is so modified, 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 the Company and an Investor agrees 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 a reasonable period of time, 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 commercially reasonable 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 commercially reasonable 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 commercially reasonable 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 reasonably 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 commercially reasonable 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 commercially reasonable efforts to comply in all material respects 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 thirty (30) consecutive Trading Days and during any three hundred sixty five (365) day period such Grace Periods shall not exceed an aggregate of sixty (60) 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) Except as required by applicable law, 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 Purchaser 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. If the Company is required by law to identify any Investor as an underwriter in any public disclosure or filing with the SEC, the Principal Market or any Eligible Market, prior to so identifying any such Investor, the Company shall promptly notify each such Investor of the legal requirement and give each such Investor a reasonable opportunity to persuade the applicable regulator that said disclosure is not required. If the applicable Investors are unable to eliminate the legal requirement to be identified as an underwriter, the applicable Investor shall have five (5) Business Days, or such shorter time as required by the applicable regulator or applicable law, to consent to such disclosure or to agree to withdraw as a selling shareholder under the Registration Statement. If an Investor agrees to withdraw as a selling shareholder under the Registration Statement, the Company shall not be responsible for any such Failures with respect to any such Investor.

(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 preventing the Company from performing its obligations hereunder.

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 timely 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 by the Company to effect and maintain the effectiveness of the registration of such Registrable Securities and shall timely 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 3(f) (a "**No Sale Notice**"), 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 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 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.

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 reasonably 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, 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 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; 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 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 and has acknowledged its indemnification obligations hereunder in writing, 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 and the indemnifying party would be inappropriate due to 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, a written statement by the Company, if true, that it has complied with the reporting requirements of the 1933 Act and the 1934 Act and that it has satisfied the current public information provisions set forth in Rule 144.

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 receipt, when sent by facsimile (provided confirmation of transmission is mechanically or electronically generated and kept on file by the sending party); (iii) when sent, if sent by electronic mail; 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.
9350 Wilshire Blvd, Suite 203
Beverly Hills, CA 90212
Attn: Chief Financial Officer
Email: sww@gtbiopharma.com

If to the Transfer Agent:
Computershare
350 Indiana Street, Suite 800
Golden, Colorado 80401
Fax: (303) 262-0610

If to Legal Counsel:

Gary R. Henrie, Esq.
P.O. Box 5174
Etna, WY 83118
Email: grhlaw@hotmail.com

If to a Purchaser, to its address, facsimile number and/or email address set forth on the Schedule of Purchasers attached hereto or on the signature pages of the Securities Purchase Agreement, with copies to such Purchaser's representatives as set forth on the Schedule of Purchasers, 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 and 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.

(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, the parties have executed this Registration Rights Agreement as of the date first written above.

COMPANY:

GT BIOPHARMA, INC.

By: _____

Name: Steven Weldon

Title: Chief Financial Officer

[SIGNATURE PAGE OF HOLDERS FOLLOWS]

[SIGNATURE PAGE OF PURCHASERS TO GT BIOPHARMA, INC. RRA]

Name of Purchaser: _____

Address of Purchaser: _____

Signature of Authorized Signatory of Purchaser: _____

Name of Authorized Signatory: _____

Title of Authorized Signatory: _____

[SIGNATURE PAGES CONTINUE]

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

Computershare
350 Indiana Street, Suite 800
Golden, Colorado 80401
Fax: (303) 262-0610

Re: GT Biopharma, Inc.

Ladies and Gentlemen:

We have been requested by GT Biopharma, Inc., a Delaware corporation (the "**Company**"), and have represented the Company in connection with that certain Securities Purchase Agreement, dated as of August 14, 2019 (the "**Securities Purchase Agreement**"), entered into by and among the Company and the purchasers named therein (collectively, the "**Holders**") pursuant to which the Company issued to the Holders convertible promissory notes ("**Notes**") convertible for shares of 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 and Securities Purchase Agreement, collectively, the "**Conversion Shares**"). 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 Conversion Shares issuable pursuant to the Securities Purchase Agreement under the Securities Act of 1933, as amended (the "**1933 Act**"). The description of the Registrable Securities are set forth on **Schedule A** hereto [Selling Shareholder Table]. In connection with the Company's obligations under the Registration Rights Agreement, on August 14, 2019, the Company filed a Registration Statement on Form S-3 (File No. 333-229667) (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 shareholder thereunder.

In connection with the foregoing, we advise you that a member of the SEC's staff has advised us 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]. We have no knowledge, subsequent to such telephonic conversation with 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. Based on the foregoing, the Registrable Securities set forth on **Schedule A** hereto are available for resale under the 1933 Act pursuant to the Registration Statement.

This letter, unless and until subsequently revoked or modified orally by the Company's securities counsel or in writing from any member of this firm (which writing may include email correspondence), shall serve as our standing instruction to you that the Registrable Securities set forth on **Schedule A** hereto 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 Registrable Securities to the Holders as contemplated by the Company's Irrevocable Transfer Agent Instructions dated January [●], 2020.

Very truly yours,

EXHIBIT B
SELLING SHAREHOLDERS

The shares of Common Stock being offered by the selling stockholders are those issued upon conversion of the Notes that were issued to the selling stockholders pursuant to the Securities Purchase Agreement dated as of August 14, 2019 (the “**Securities Purchase Agreement**”), by and among the Company and the investors named therein. 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 shares of common stock issued pursuant to the Securities Purchase Agreement, the selling shareholders 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 Notes as of April 20, 2020.

The third column lists the shares of Common Stock being offered by this prospectus by the selling stockholders and does not take in account any limitations on conversion of the Notes or issuance of Common Stock.

In accordance with the terms of a registration rights agreement with the selling stockholders (the **“Registration Rights Agreement”**), this prospectus generally covers the resale of at least the sum of the number of shares of Common Stock issued upon conversion of the Notes issued pursuant to the Securities Purchase Agreement as of the trading day immediately preceding the date the registration statement is initially filed with the SEC. The fourth column assumes the sale of all of the shares offered by the selling stockholders pursuant to this prospectus.

Under the terms of the Notes, a selling stockholder may not convert the Notes to the extent such exercise would cause such selling stockholder, together with its affiliates, to beneficially own a number of shares of Common Stock which would exceed 9.99% of our then outstanding shares of Common Stock following such exercise. The number of shares in the second column does not reflect these limitations. The selling stockholders may sell all, some or none of their shares in this offering. See “Plan of Distribution.”

| Name of Selling Shareholder | Number of Shares of Common Stock Owned Prior to Offering | Maximum Number of Shares of Common Stock to be Sold Pursuant to this Prospectus | Number of Shares of Common Stock Owned After Offering |
|-----------------------------|--|---|---|
| | | | |

PLAN OF DISTRIBUTION

We are registering the shares of Common Stock that may be issued upon conversion of the Notes issued pursuant to the Securities Purchase Agreement to permit the resale of these shares of Common Stock by the holders of such shares 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, pursuant to one or more of the following methods:

- 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 effected after the effective date of this Registration Statement;
- 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 shares of Common Stock or Notes 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 re-allowed 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 Exchange Act 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 \$10,000 in total, including, without limitation, SEC 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 Agreement, 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 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.

TRANSFER AGENT INSTRUCTIONS

GT BIOPHARMA, INC.

April 20, 2020

Computershare Trust Company, N.A.
250 Royall Street
Canton, MA 02021
Attn: Kathy Heagerty

Ladies and Gentlemen:

Reference is made to that certain Securities Purchase Agreement, dated as of April 20, 2020 (the "**Agreement**"), by and among GT Biopharma, Inc., a Delaware corporation (the "**Company**"), and the purchasers identified on the signature pages thereto (collectively, the "**Purchasers**"), pursuant to which the Company is issuing to the Purchasers (i) the 10% senior secured 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**").

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) to issue shares of the 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 the 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 the Common Stock will contain a restrictive legend or legends, and the details of such legend(s), 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 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 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 registered in the names of such transferees, and such certificates shall not bear any legend restricting transfer of the Conversion Shares thereby and should not be subject to any stop-transfer restriction; provided, however, that if such Conversion 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 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 (1) 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 SUCH SECURITIES."

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

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 sww@gtbiopharma.com.

Very truly yours,

GT BIOPHARMA, INC.

By: _____
Name: Anthony Cataldo
Title: Chief Executive Officer

THE FOREGOING INSTRUCTIONS ARE
ACKNOWLEDGED AND AGREED TO
THIS ____ day of _____, 2019

COMPUTERSHARE TRUST COMPANY, N.A.

By: _____
Name:
Title:

Enclosures

NEITHER THIS SECURITY NOR THE SECURITIES INTO WHICH THIS SECURITY IS CONVERTIBLE HAVE BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION OR THE SECURITIES COMMISSION OF ANY STATE IN RELIANCE UPON AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD EXCEPT PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT OR PURSUANT TO AN AVAILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS AS EVIDENCED BY A LEGAL OPINION OF COUNSEL TO THE TRANSFEROR TO SUCH EFFECT, THE SUBSTANCE OF WHICH SHALL BE REASONABLY ACCEPTABLE TO BORROWER. THIS SECURITY AND THE SECURITIES ISSUABLE UPON CONVERSION OF THIS SECURITY MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT WITH A REGISTERED BROKER-DEALER OR OTHER LOAN WITH A FINANCIAL INSTITUTION THAT IS AN "ACCREDITED INVESTOR" AS DEFINED IN RULE 501(a) UNDER THE SECURITIES ACT OR OTHER LOAN SECURED BY SUCH SECURITIES.

Original Issue Date: ____, 2020

Principal Amount: \$ _____

Original Conversion Price (subject to adjustment herein): \$0.20

CONVERTIBLE NOTE
DUE _____, 2020

THIS CONVERTIBLE NOTE is one of a series of duly authorized and validly issued Notes of **GT BIOPHARMA, INC.**, a Delaware corporation, (the "Borrower"), having its principal place of business at 9350 Wilshire Blvd, Suite 203, Beverly Hills, CA 90212, due November 6, 2020 (this note, the "Note" and, collectively with the other notes of such series, the "Notes").

FOR VALUE RECEIVED, Borrower promises to pay to _____ or its registered assigns (the "Holder"), with an address at: _____, or shall have paid pursuant to the terms hereunder, the principal sum of _____ (\$ _____) on _____, 2020 (the "Maturity Date") or such earlier date as this Note is required or permitted to be repaid as provided hereunder, and to pay interest, if any, to the Holder on the aggregate unconverted and then outstanding principal amount of this Note in accordance with the provisions hereof.

This Note is subject to the following additional provisions:

Section 1. Definitions. For the purposes hereof, in addition to the terms defined elsewhere in this Note, (a) capitalized terms not otherwise defined herein shall have the meanings set forth in the Purchase Agreement and (b) the following terms shall have the following meanings:

"Alternate Consideration" shall have the meaning set forth in Section 5(f).

“Bankruptcy Event” means any of the following events: (a) Borrower or any Subsidiary thereof commences a case or other proceeding under any bankruptcy, reorganization, arrangement, adjustment of debt, relief of debtors, dissolution, insolvency or liquidation or similar law of any jurisdiction relating to Borrower or any Subsidiary thereof, (b) there is commenced against Borrower or any Subsidiary thereof any such case or proceeding that is not dismissed within 60 days after commencement, (c) Borrower or any Subsidiary thereof is adjudicated insolvent or bankrupt or any order of relief or other order approving any such case or proceeding is entered, (d) Borrower or any Subsidiary thereof suffers any appointment of any custodian or the like for it or any substantial part of its property that is not discharged or stayed within 60 calendar days after such appointment, (e) Borrower or any Subsidiary thereof makes a general assignment for the benefit of creditors, (f) Borrower or any Subsidiary thereof calls a meeting of its creditors with a view to arranging a composition, adjustment or restructuring of its debts or (g) Borrower or any Subsidiary thereof, by any act or failure to act, expressly indicates its consent to, approval of or acquiescence in any of the foregoing or takes any corporate or other action for the purpose of effecting any of the foregoing.

“Beneficial Ownership Limitation” shall have the meaning set forth in Section 4(e).

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

“Buy-In” shall have the meaning set forth in Section 4(d)(v).

“Change of Control Transaction” means, other than by means of conversion or exercise of the Notes and the Securities issued together with the Notes, the occurrence after the date hereof of any of (a) an acquisition after the date hereof by an individual or legal entity or “group” (as described in Rule 13d-5(b)(1) promulgated under the Exchange Act) of effective control (whether through legal or beneficial ownership of capital stock of Borrower, by contract or otherwise) of in excess of 50% of the voting securities of Borrower, (b) Borrower merges into or consolidates with any other Person, or any Person merges into or consolidates with Borrower and, after giving effect to such transaction, the stockholders of Borrower immediately prior to such transaction own less than 50% of the aggregate voting power of Borrower or the successor entity of such transaction, (c) Borrower sells or transfers all or substantially all of its assets to another Person and the stockholders of Borrower immediately prior to such transaction own less than 50% of the aggregate voting power of the acquiring entity immediately after the transaction, (d) a replacement at one time or within a three year period of more than one-half of the members of the Board of Directors which is not approved by a majority of those individuals who are members of the Board of Directors on the Original Issue Date (or by those individuals who are serving as members of the Board of Directors on any date whose nomination to the Board of Directors was approved by a majority of the members of the Board of Directors who are members on the date hereof), or (e) the execution by Borrower of an agreement to which Borrower is a party or by which it is bound, providing for any of the events set forth in clauses (a) through (d) above.

“Conversion” shall have the meaning ascribed to such term in Section 4.

“Conversion Date” shall have the meaning set forth in Section 4(a).

“Conversion Price” shall have the meaning set forth in Section 4(c).

“Conversion Shares” means, collectively, the shares of Common Stock issuable upon conversion of this Note in accordance with the terms hereof.

“Debentures” means those certain 10% Senior Convertible Debentures of the Borrower issued on August 2, 2018, September 7, 2018, September 24, 2018, December 19, 2019 and the Senior Convertible Notes issued on February 4, 2019.

“Dilutive Issuance” shall have the meaning set forth in Section 5(f).

“Equity Conditions” means, during the period in question, (a) Borrower shall have duly honored all conversions scheduled to occur or occurring by virtue of one or more Notices of Conversion of the applicable Holder on or prior to the dates so requested or required, if any, (b) Borrower shall have paid all liquidated damages and other amounts owing to the applicable Holder in respect of this Note and the other Transaction Documents, (c) all of the Underlying Shares (and shares issuable in lieu of cash payments of interest) may be resold by Persons other than Affiliates of the Borrower pursuant to Rule 144 without volume or manner-of-sale restrictions or current public information requirements as confirmed by counsel to Borrower in a written opinion letter to such effect, addressed and acceptable to the Borrower’s Transfer Agent and the affected Holders, (d) the Common Stock is listed or quoted for trading on a Trading Market (and Borrower believes, in good faith, that trading of the Common Stock on a Trading Market will continue uninterrupted for the foreseeable future), (e) there is a sufficient number of authorized, but unissued and otherwise unreserved, shares of Common Stock for the issuance of all of the shares then issuable pursuant to the Transaction Documents, (f) an Event of Default has not occurred, whether or not such Event of Default has been cured, (g) there is no existing event which, with the passage of time or the giving of notice, would constitute an Event of Default, (h) the issuance of the shares in question to the applicable Holder would not exceed the Beneficial Ownership Limitation, (i) there has been no public announcement of a pending or proposed Fundamental Transaction or Change of Control Transaction that has not been consummated, (j) the applicable Holder, if not an Affiliate of the Borrower is not in possession of any information provided by Borrower that constitutes, or may constitute, material non-public information, and (k) a Public Information Failure has not occurred.

“Event of Default” shall have the meaning set forth in Section 8(a).

“Fundamental Transaction” shall have the meaning set forth in Section 5(f).

“Interest Payment Date” shall have the meaning set forth in Section 2(1).

“Mandatory Default Amount” means the sum of (a) the greater of (i) the outstanding principal amount of this Note divided by the Conversion Price on the date the Mandatory Default Amount is either (A) demanded (if demand or notice is required to create an Event of Default) or otherwise due or (B) paid in full, whichever has a lower Conversion Price, multiplied by the VWAP on the date the Mandatory Default Amount is either (x) demanded (if demand or notice is required to create an Event of Default) or otherwise due or (y) paid in full, whichever has a higher VWAP, or (ii) 130% of the outstanding principal amount of this Note and (b) all other amounts, costs, expenses and liquidated damages due in respect of this Note.

“New York Courts” shall have the meaning set forth in Section 10(d).

“Note Register” shall have the meaning set forth in Section 2(c).

“Notice of Conversion” shall have the meaning set forth in Section 4(a).

“Original Issue Date” means the date of the first issuance of the Notes, regardless of any transfers of any Note and regardless of the number of instruments which may be issued to evidence such Notes.

“Other Holders” means holders of Other Notes.

“Other Notes” means Notes nearly identical to this Note issued to other Holders pursuant to the Purchase Agreement.

“Permitted Indebtedness” shall have the meaning provided in the Purchase Agreement.

“Permitted Lien” shall have the meaning provided in the Purchase Agreement.

“Purchase Agreement” means the Securities Purchase Agreement, dated as of May __, 2019 among Borrower and the original Holders, as amended, modified or supplemented from time to time in accordance with its terms.

“Registration Statement” shall have the meaning set forth in the Purchase Agreement and Registration Rights Agreement.

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

“Share Delivery Date” shall have the meaning set forth in Section 4(d)(ii).

“Successor Entity” shall have the meaning set forth in Section 5(f).

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

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

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg 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 any of the Nasdaq markets or exchanges is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the OTC Bulletin Board, (c) if the Common Stock is not then listed or quoted for trading on the OTC Bulletin Board and if prices for the Common Stock are then reported on the OTCQX, OTCQB or OTC Pink Marketplace maintained by the OTC Markets Group, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the volume weighted average price of the Common Stock on the first such facility (or a similar organization or agency succeeding to its functions of reporting prices), or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser, the fees and expenses of which shall be paid by Borrower.

Section 2. Interest and General Provisions.

a) Payment of Interest in Cash or Kind The Borrower shall pay interest to the Holder on the aggregate unconverted and then outstanding principal amount of this Note at the rate of 10% per annum, payable on each Conversion Date (as to that principal amount then being converted), and on the Maturity Date (each such date, an “Interest Payment Date”) (if any Interest Payment Date is not a Business Day, then the applicable payment shall be due on the next succeeding Business Day), in cash or, at the Holder’s option, in duly authorized, validly issued, fully paid and non-assessable shares of Common Stock based on the Conversion Price then in effect. Borrower may not pay any interest in shares of Common Stock in excess of the Beneficial Ownership Limitation when applicable, unless waived by Holder. Following the occurrence and during the continuance of an Event of Default, then from the first date of such occurrence, the annual interest rate on this Note shall be eighteen percent (18%). Such interest shall be due and payable on the Maturity Date, whether by acceleration or otherwise.

b) Payment Grace Period. Except as described in this Note, the Borrower shall not have any grace period to pay any monetary amounts due under this Note.

c) Conversion Privileges. The Conversion Rights set forth in Section 4 shall remain in full force and effect immediately from the date hereof and until the Note is paid in full regardless of the occurrence of an Event of Default. This Note shall be payable in full on the Maturity Date, unless previously converted into Common Stock in accordance with Section 4 hereof.

d) Application of Payments. Interest on this Note shall be calculated on the basis of a 360-day year and the actual number of days elapsed. Payments made in connection with this Note shall be applied first to amounts due hereunder other than principal and interest, thereafter to interest and finally to principal.

e) Pari Passu. Except as otherwise set forth herein, all payments made on this Note and the Other Notes and all actions taken by the Borrower with respect to this Note and the Other Notes, shall be made and taken *pari passu* with respect to this Note and the Other Notes. Notwithstanding anything to the contrary contained herein or in the Transaction Documents, it shall not be considered non-pari passu for a Holder or Other Holder to elect to receive interest paid in Common Stock or for Borrower to actually pay interest in Common Stock to such electing Holder or Other Holder.

f) Manner and Place of Payment. Principal and interest on this Note and other payments in connection with this Note shall be payable at the Holder's offices as designated above in lawful money of the United States of America in immediately available funds without set-off, deduction or counterclaim. Upon assignment of the interest of Holder in this Note, Borrower shall instead make its payment pursuant to the assignee's instructions upon receipt of written notice thereof. Except as set forth herein, this Note may not be prepaid or mandatorily converted without the consent of the Holder.

g) Prepayment. Except as otherwise set forth in this Note, the Borrower may not prepay any portion of the principal amount of this Note without the prior written consent of the Holder.

Section 3. Registration of Transfers and Exchanges.

a) Different Denominations. This Note is exchangeable for an equal aggregate principal amount of Notes of different authorized denominations, as requested by the Holder surrendering the same. No service charge will be payable for such registration of transfer or exchange.

b) Investment Representations. This Note has been issued subject to certain investment representations of the original Holder set forth in the Purchase Agreement and may be transferred or exchanged only in compliance with the Purchase Agreement and applicable federal and state securities laws and regulations.

c) Reliance on Note Register. Prior to due presentment for transfer to Borrower of this Note, Borrower and any agent of Borrower may treat the Person in whose name this Note is duly registered on the Note Register as the owner hereof for the purpose of receiving payment as herein provided and for all other purposes, whether or not this Note is overdue, and neither Borrower nor any such agent shall be affected by notice to the contrary.

Section 4. Conversion.

a) Voluntary Conversion. At any time after the Original Issue Date until this Note is no longer outstanding, this Note including interest accrued hereon shall be convertible, in whole or in part, into shares of Common Stock at the option of the Holder, at any time and from time to time (subject to the conversion limitations set forth in Section 4(e) hereof). The Holder shall effect conversions by delivering to Borrower a Notice of Conversion, the form of which is attached hereto as Annex A (each, a "Notice of Conversion"), specifying therein the principal amount of this Note and accrued interest, if any, to be converted and the date on which such conversion shall be effected (such date, the "Conversion Date"). If no Conversion Date is specified in a Notice of Conversion, the Conversion Date shall be the date that such Notice of Conversion is deemed delivered hereunder. To effect conversions hereunder, the Holder shall not be required to physically surrender this Note to Borrower unless the entire principal amount of this Note has been so converted. Conversions hereunder shall have the effect of lowering the outstanding principal amount of this Note in an amount equal to the applicable conversion. The Holder and Borrower shall maintain records showing the principal amount(s) converted and the date of such conversion(s). Borrower may deliver an objection to any Notice of Conversion within one (1) Business Day of delivery of such Notice of Conversion. In the event of any dispute or discrepancy, the records of the Holder shall be controlling and determinative in the absence of manifest error. **The Holder, and any assignee by acceptance of this Note, acknowledges and agrees that, by reason of the provisions of this paragraph, following conversion of a portion of this Note, the unpaid and unconverted principal amount of this Note may be less than the amount stated on the face hereof.**

b) Mandatory Conversion. In the event the Borrower is successful in obtaining the Second Raise as defined in Section 5.e), the Holder agrees to convert on the final closing date of the Second Raise (the "Second Raise Closing Date"), all money owed to the Borrower pursuant to this Note, whether in principal, interest or fees, into shares of the Borrower's Common Stock.

c) Conversion Price. The conversion price for the principal and interest, if any, in connection with voluntary conversions by the Holder shall be **\$0.20** per share of Common Stock, subject to adjustment herein (the "Conversion Price"). The conversion price for a mandatory conversion pursuant to Section 4.b) shall be the lesser of (i) the Conversion Price in effect on the Second Date Closing Date, or (ii) 75% of the lowest per share price at which Common Stock may be issued in connection with any conversion rights associated with the Second Raise.

d) Mechanics of Conversion.

i. Conversion Shares Issuable Upon Conversion of Principal Amount. The number of Conversion Shares issuable upon a conversion hereunder shall be determined by the quotient obtained by dividing (x) the outstanding principal amount of this Note to be converted plus interest, if any, elected by the Holder to be converted by (y) the Conversion Price.

ii. Delivery of Certificate Upon Conversion. In connection with sales of the Underlying Shares, not later than two (2) Trading Days after each Conversion Date (the "Share Delivery Date"), Borrower shall deliver, or cause to be delivered, to the Holder a certificate or certificates representing the Conversion Shares which, on or after the earlier of the one year or six month anniversary of the Original Issue Date in accordance with Rule 144, shall be free of restrictive legends and trading restrictions (other than those which may then be required by the Purchase Agreement) representing the number of Conversion Shares being acquired upon the conversion of this Note. Borrower shall use its best efforts to deliver any certificate or certificates required to be delivered by Borrower under this Section 4(d) electronically through the Depository Trust Company or another established clearing corporation performing similar functions.

iii. Failure to Deliver Certificates. If, in the case of any Notice of Conversion, such certificate or certificates are not delivered to or as directed by the applicable Holder by the Share Delivery Date, the Holder shall be entitled to elect by written notice to Borrower at any time on or before its receipt of such certificate or certificates, to rescind such Conversion, in which event Borrower shall promptly return to the Holder any original Note delivered to Borrower and the Holder shall promptly return to Borrower the Common Stock certificates issued to such Holder pursuant to the rescinded Conversion Notice.

iv. Obligation Absolute; Partial Liquidated Damages. Borrower's obligations to issue and deliver the Conversion Shares upon conversion of this Note in accordance with the terms hereof are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by the Holder or any other Person of any obligation to Borrower or any violation or alleged violation of law by the Holder or any other Person, and irrespective of any other circumstance which might otherwise limit such obligation of Borrower to the Holder in connection with the issuance of such Conversion Shares; provided, however, that such delivery shall not operate as a waiver by Borrower of any such action Borrower may have against the Holder. In the event the Holder of this Note shall elect to convert any or all of the outstanding principal amount hereof, Borrower may not refuse conversion based on any claim that the Holder or anyone associated or affiliated with the Holder has been engaged in any violation of law, agreement or for any other reason, unless an injunction from a court, on notice to Holder, restraining and or enjoining conversion of all or part of this Note shall have been sought and obtained, and Borrower posts a surety bond for the benefit of the Holder in the amount of 150% of the outstanding principal amount of this Note, which is subject to the injunction, which bond shall remain in effect until the completion of arbitration/litigation of the underlying dispute and the proceeds of which shall be payable to the Holder to the extent it obtains judgment. In the absence of such injunction, Borrower shall issue Conversion Shares or, if applicable, cash, upon a properly noticed conversion. If Borrower fails for any reason to deliver to the Holder such certificate or certificates pursuant to Section 4(d)(ii) by the Share Delivery Date, Borrower shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of principal amount being converted, \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth (5th) Trading Day after such liquidated damages being to accrue) for each Trading Day after such Share Delivery Date until such certificates are delivered or Holder rescinds such conversion. Nothing herein shall limit a Holder's right to pursue actual damages or declare an Event of Default pursuant to Section 8 hereof for Borrower's failure to deliver Conversion Shares within the period specified herein and the Holder shall have the right to pursue all remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief. The exercise of any such rights shall not prohibit the Holder from seeking to enforce damages pursuant to any other Section hereof or under applicable law.

v. Compensation for Buy-In on Failure to Timely Deliver Certificates Upon Conversion. In addition to any other rights available to the Holder, if Borrower fails for any reason to deliver to the Holder such certificate or certificates by the Share Delivery Date pursuant to Section 4(d)(ii), and if after such Share Delivery Date the Holder is required by its brokerage firm to purchase (in an open market transaction or otherwise), or the Holder or Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Conversion Shares which the Holder was entitled to receive upon the conversion relating to such Share Delivery Date (a "Buy-In"), then Borrower shall (A) pay in cash to the Holder (in addition to any other remedies available to or elected by the Holder) the amount, if any, by which (x) the Holder's total purchase price (including any brokerage commissions) for the Common Stock so purchased exceeds (y) the product of (1) the aggregate number of shares of Common Stock that the Holder was entitled to receive from the conversion at issue multiplied by (2) the actual sale price at which the sell order giving rise to such purchase obligation was executed (including any brokerage commissions) and (B) at the option of the Holder, either reissue (if surrendered) this Note in a principal amount equal to the principal amount of the attempted conversion (in which case such conversion shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued if Borrower had timely complied with its delivery requirements under Section 4(d)(ii). For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted conversion of this Note with respect to which the actual sale price of the Conversion Shares (including any brokerage commissions) giving rise to such purchase obligation was a total of \$10,000 under clause (A) of the immediately preceding sentence, Borrower shall be required to pay the Holder \$1,000. The Holder shall provide Borrower written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of Borrower, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to Borrower's failure to timely deliver certificates representing shares of Common Stock upon conversion of this Note as required pursuant to the terms hereof.

vi. Reservation of Shares Issuable Upon Conversion. Borrower covenants that it will at all times reserve and keep available out of its authorized and unissued shares of Common Stock for the sole purpose of issuance upon conversion of this Note as herein provided, free from preemptive rights or any other actual contingent purchase rights of Persons other than the Holder (and the other holders of the Notes), not less than 150% of the aggregate number of shares of the Common Stock as shall (subject to the terms and conditions set forth in the Purchase Agreement) be issuable (taking into account the adjustments and restrictions of Section 5) upon the conversion of the then outstanding principal amount of this Note and interest which has accrued and would accrue on such principal amount assuming such principal amount was not converted through the Maturity Date. Borrower covenants that all shares of Common Stock that shall be so issuable shall, upon issue, be duly authorized, validly issued, fully paid and nonassessable.

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

viii. Transfer Taxes and Expenses. The issuance of certificates for shares of the Common Stock on conversion of this Note shall be made without charge to the Holder hereof for any documentary stamp or similar taxes that may be payable in respect of the issue or delivery of such certificates, provided that, Borrower shall not be required to pay any tax that may be payable in respect of any transfer involved in the issuance and delivery of any such certificate upon conversion in a name other than that of the Holder of this Note so converted and Borrower shall not be required to issue or deliver such certificates unless or until the Person or Persons requesting the issuance thereof shall have paid to Borrower the amount of such tax or shall have established to the satisfaction of Borrower that such tax has been paid. Borrower shall pay all Transfer Agent fees required for same-day processing of any Notice of Conversion.

e) Holder's Conversion Limitations. Borrower shall not effect any conversion of this Note, and a Holder shall not have the right to convert any portion of this Note, to the extent that after giving effect to the conversion set forth on the applicable Notice of Conversion, the Holder (together with the Holder's Affiliates, and any Persons acting as a group together with the Holder or any of the Holder's Affiliates) would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates shall include the number of shares of Common Stock issuable upon conversion of this Note with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which are issuable upon (i) conversion of the remaining, unconverted principal amount of this Note beneficially owned by the Holder or any of its Affiliates and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of Borrower subject to a limitation on conversion or exercise analogous to the limitation contained herein (including, without limitation, any other Notes) beneficially owned by the Holder or any of its Affiliates. Except as set forth in the preceding sentence, for purposes of this Section 4.e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. To the extent that the limitation contained in this Section 4.e) applies, the determination of whether this Note is convertible (in relation to other securities owned by the Holder together with any Affiliates) and of which principal amount of this Note is convertible shall be in the sole discretion of the Holder, and the submission of a Notice of Conversion shall be deemed to be the Holder's determination of whether this Note may be converted (in relation to other securities owned by the Holder together with any Affiliates) and which principal amount of this Note is convertible, in each case subject to the Beneficial Ownership Limitation. To ensure compliance with this restriction, the Holder will be deemed to represent to Borrower each time it delivers a Notice of Conversion that such Notice of Conversion has not violated the restrictions set forth in this paragraph and Borrower shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 4.e), in determining the number of outstanding shares of Common Stock, the Holder may rely on the number of outstanding shares of Common Stock as stated in the most recent of the following: (i) Borrower's most recent periodic or annual report filed with the Commission, as the case may be, (ii) a more recent public announcement by Borrower, or (iii) a more recent written notice by Borrower or Borrower's transfer agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, Borrower shall within two Trading Days confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of Borrower, including this Note, by the Holder or its Affiliates since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon conversion of this Note held by the Holder. The Holder may decrease the Beneficial Ownership Limitation at any time upon not less than 61 days' prior notice to Borrower, and may increase the Beneficial Ownership Limitation provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon conversion of this Note held by the Holder and the Beneficial Ownership Limitation provisions of this Section 4.e) shall continue to apply. Any such increase will not be effective until the 61st day after such notice is delivered to Borrower. The Beneficial Ownership Limitation provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 4.e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation contained herein or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Note. The provisions of this Section 4.e) notwithstanding, in the event of a mandatory conversion pursuant to Section 4.b), the mandatory conversion shall be made into shares of Common Stock up to the Beneficial Ownership Limitation amount. The balance of the mandatory conversion shall be made into shares of preferred stock of the Borrower convertible into shares of the Common Stock on a share for share basis.

Section 5. Certain Adjustments.

a) Stock Dividends and Stock Splits. If Borrower, at any time while this Note is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions payable in shares of Common Stock on shares of Common Stock or any Common Stock Equivalents (which, for avoidance of doubt, shall not include any shares of Common Stock issued by Borrower upon conversion of the Notes), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of a reverse stock split) outstanding shares of Common Stock into a smaller number of shares or (iv) issues, in the event of a reclassification of shares of the Common Stock, any shares of capital stock of Borrower, then the Conversion Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding any treasury shares of Borrower) outstanding immediately before such event, and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to this Section shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

b) Subsequent Equity Sales. In addition to the reductions of the Conversion Price described in Section 4(c), if, at any time while this Note is outstanding, the Borrower or any Subsidiary, as applicable, sells or grants any option to purchase or sells or grants any right to reprice, or otherwise disposes of or issues (or announces any sale, grant or any option to purchase or other disposition), any Common Stock or Common Stock Equivalents entitling any Person to acquire Common Stock at an effective price per share that is lower than the then Conversion Price (such lower price, the “Base Conversion Price” and such issuances, collectively, a “Dilutive Issuance”) (if the holder of the Common Stock or Common Stock Equivalents so issued shall at any time, whether by operation of purchase price adjustments, reset provisions, floating conversion, exercise or exchange prices or otherwise, or due to warrants, options or rights per share which are issued in connection with such issuance, be entitled to receive Common Stock at an effective price per share that is lower than the Conversion Price, such issuance shall be deemed to have occurred for less than the Conversion Price on such date of the Dilutive Issuance), then the Conversion Price shall be reduced to equal the Base Conversion Price, subject to adjustment for reverse and forward stock splits and the like. Such adjustment shall be made whenever such Common Stock or Common Stock Equivalents are issued. Notwithstanding the foregoing, no adjustment will be made under this Section 5(b) in respect of an Exempt Issuance. If the Borrower enters into a Variable Rate Transaction, despite the prohibition set forth in the Purchase Agreement, the Borrower shall be deemed to have issued Common Stock or Common Stock Equivalents at the lowest possible conversion price at which such securities may be converted or exercised. The Borrower shall notify the Holder in writing, no later than the Trading Day following the issuance of any Common Stock or Common Stock Equivalents subject to this Section 5(b), indicating therein the applicable issuance price, or applicable reset price, exchange price, conversion price and other pricing terms (such notice, the “Dilutive Issuance Notice”). For purposes of clarification, whether or not the Borrower provides a Dilutive Issuance Notice pursuant to this Section 5(b), upon the occurrence of any Dilutive Issuance, the Holder is entitled to receive a number of Conversion Shares based upon the Base Conversion Price on or after the date of such Dilutive Issuance, regardless of whether the Holder accurately refers to the Base Conversion Price in the Notice of Conversion.

c) Subsequent Rights Offerings. In addition to any adjustments pursuant to Sections 5(a) and (b) above, if at any time Borrower grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the "Purchase Rights"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights 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 regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

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

e) Adjustment upon \$15,000,000 Raise. This Note is part of a financing that will be followed by a second financing in the amount of \$15,000,000 (the "Second Raise"). The Second Raise may consist of the sale of Common Stock, the sale of convertible debt, and/or the issuance of warrants. Upon the closing of the Second Raise, the Conversion Price of this Note will automatically be the lesser of: (i) the Conversion Price of this Note pursuant to the terms and conditions of this Note; (ii) the price of the Common Stock sold in the Second Raise discounted by 25%; (iii) the conversion price of debt sold in the Second Raise discounted by 25%; or (iv) the exercise price of warrants issued in connection with the Second Raise discounted by 25%.

f) Fundamental Transaction. If, at any time while this Note is outstanding, (i) Borrower, directly or indirectly, in one or more related transactions effects any merger or consolidation of Borrower with or into another Person, (ii) Borrower, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by Borrower or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) Borrower, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property, (v) Borrower, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person whereby such other Person acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or other business combination) (each a "Fundamental Transaction"), then, upon any subsequent conversion of this Note, the Holder shall have the right to receive, for each Conversion Share that would have been issuable upon such conversion immediately prior to the occurrence of such Fundamental Transaction (without regard to any limitation in Section 4(e) on the conversion of this Note), the number of shares of Common Stock of the successor or acquiring corporation or of Borrower, if it is the surviving corporation, and any additional consideration (the "Alternate Consideration") receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Note is convertible immediately prior to such Fundamental Transaction (without regard to any limitation in Section 4(e) on the conversion of this Note). For purposes of any such conversion, the determination of the Conversion Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one (1) share of Common Stock in such Fundamental Transaction, and Borrower shall apportion the Conversion Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any conversion of this Note following such Fundamental Transaction. Borrower shall cause any successor entity in a Fundamental Transaction in which Borrower is not the survivor (the "Successor Entity") to assume in writing all of the obligations of Borrower under this Note and the other Transaction Documents (as defined in the Purchase Agreement) in accordance with the provisions of this Section 5(f) pursuant to written agreements in form prior to such Fundamental Transaction and shall, at the option of the holder of this Note, deliver to the Holder in exchange for this Note a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Note which is convertible for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon conversion of this Note (without regard to any limitations on the conversion of this Note) prior to such Fundamental Transaction, and with a conversion price which applies the conversion price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such conversion price being for the purpose of protecting the economic value of this Note immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Note and the other Transaction Documents referring to the "Borrower" shall refer instead to the Successor Entity), and may exercise every right and power of Borrower and shall assume all of the obligations of Borrower under this Note and the other Transaction Documents with the same effect as if such Successor Entity had been named as Borrower herein.

g) Calculations. All calculations under this Section 5 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 5, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding any treasury shares of Borrower) issued and outstanding.

h) Notice to the Holder.

i . Adjustment to Conversion Price. Whenever the Conversion Price is adjusted pursuant to any provision of this Section 5, Borrower shall promptly deliver to each Holder a notice setting forth the Conversion Price after such adjustment and setting forth a brief statement of the facts requiring such adjustment.

ii. Notice to Allow Conversion by Holder. If (A) Borrower shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) Borrower shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) Borrower shall authorize the granting to all holders of the Common Stock of rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of Borrower shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which Borrower is a party, any sale or transfer of all or substantially all of the assets of Borrower, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property or (E) Borrower shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of Borrower, then, in each case, Borrower shall cause to be filed at each office or agency maintained for the purpose of conversion of this Note, and shall cause to be delivered to the Holder at its last address as it shall appear upon the Note Register, at least twenty (20) calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange, provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided hereunder constitutes, or contains, material, non-public information regarding Borrower or any of the Subsidiaries, Borrower shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to convert this Note during the 20-day period commencing on the date of such notice through the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

i) Reset. Provided the Holder has acquired from the Borrower a Note in the principal amount of not less than \$200,000, then for so long as this Note is outstanding, if from and after the Issue Date of this Note the Holder converts any or all of a Debenture, then with respect to an aggregate amount of such conversions of the Debenture not exceeding the initial Principal Amount of this Note, upon the occurrence of a Dilutive Issuance (as defined in the Debenture), Borrower shall issue to Holder additional shares of Common Stock (the "Additional Shares") for no additional consideration, so that the average price per share of the shares of Common Stock issued and issuable upon the afordescribed conversion of the Debenture when added to the Additional Shares shall be equal to the Base Conversion Price (as defined in the Debenture).

Section 6. Registration Rights. The Company shall file a registration statement pursuant to the terms of the Purchase Agreement and Registration Rights Agreement.

Section 7. Negative Covenants. As long as any portion of this Note remains outstanding, Borrower shall not directly or indirectly:

a) other than Permitted Indebtedness, enter into, create, incur, assume, guarantee or suffer to exist any indebtedness for borrowed money of any kind, including, but not limited to, a guarantee, on or with respect to any of its property or assets now owned or hereafter acquired or any interest therein or any income or profits therefrom;

b) other than Permitted Liens, enter into, create, incur, assume or suffer to exist any Liens of any kind, on or with respect to any of its property or assets now owned or hereafter acquired or any interest therein or any income or profits therefrom;

c) amend its charter documents, including, without limitation, its certificate of incorporation and bylaws, in any manner that materially and adversely affects any rights of the Holder, provided however, except in connection with an increase in the authorized shares by the Company;

d) repay, repurchase or offer to repay, repurchase or otherwise acquire any shares of its Common Stock or Common Stock Equivalents other than as to the Conversion Shares as permitted or required under the Transaction Documents;

e) 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 Permitted Indebtedness or the Notes if on a pro-rata basis), whether by way of payment in respect of principal of (or premium, if any) or interest on, such Indebtedness, the foregoing restriction shall also apply to Permitted Indebtedness from and after the occurrence of an Event of Default;

f) declare or make any dividend or other distribution of its assets or rights to acquire its assets to holders of shares of Common Stock, by way of return of capital or otherwise including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, liquidation, distribution, preferential payments in connection with any securities or debt issuances, corporate rearrangement, scheme of arrangement or other similar transaction;

g) issue any Common Stock or Common Stock Equivalents in violation of the terms of the Purchase Agreement;

h) enter into any transaction with any Affiliate of Borrower which would be required to be disclosed by a company subject to the reporting requirements of Section 12(g) of the Exchange Act in any public filing with the Commission, unless such transaction is made on reasonable commercial terms and expressly approved by either (i) a majority of the disinterested directors of Borrower (even if less than a quorum otherwise required for board approval) or (ii) all of the directors; or

- i) enter into any agreement with respect to any of the foregoing

Section 8. Events of Default.

a) “Event of Default” means, wherever used herein, any of the following events (whatever the reason for such event and whether such event shall be voluntary or involuntary or effected by operation of law or pursuant to any judgment, decree or order of any court, or any order, rule or regulation of any administrative or governmental body):

- i. any default in the payment of (A) the principal amount of this Note, or (B) interest, liquidated damages and other amounts owing to a Holder on any Note, as and when the same shall become due and payable (whether on a Conversion Date or the Maturity Date or by acceleration or otherwise) which default, solely in the case of a default under clause (B) above, is not cured within 3 Trading Days after Borrower has become aware of such default;

- ii. Borrower shall fail to observe or perform any other material covenant or agreement contained in the Notes (other than a breach by Borrower of its obligations to deliver shares of Common Stock to the Holder upon conversion, which breach is addressed in clause (ix) below) which failure is not cured, if possible to cure, within the earlier to occur of (A) 5 Trading Days after notice of such failure sent by the Holder or by any Other Holder to Borrower and (B) 10 Trading Days after Borrower has become aware of such failure;

- iii. a material default or event of default (subject to any grace or cure period provided in the applicable agreement, document or instrument) shall occur under (A) any of the Transaction Documents, including but not limited to failure to strictly comply with the material provisions of the Transaction Documents, or (B) any other material agreement, lease, document or instrument to which Borrower or any Subsidiary is obligated (and not covered by clause (vi) below), which in the case of subsection (B) would reasonably be expected to have a Material Adverse Effect;

- iv. any material representation or warranty made in this Note, any other Transaction Documents, any written statement pursuant hereto or thereto or any other report, financial statement or certificate made or delivered to the Holder or any Other Holder shall be untrue or incorrect in any material respect as of the date when made or deemed made;

- v. Borrower or any Subsidiary shall be subject to a Bankruptcy Event;

- vi. Borrower or any Subsidiary shall default on any of its obligations under any mortgage, credit agreement or other facility, indenture agreement, factoring agreement or other instrument under which there may be issued, or by which there may be secured or evidenced, any indebtedness for borrowed money or money due under any long term leasing or factoring arrangement that (a) involves an obligation greater than \$50,000, whether such indebtedness now exists or shall hereafter be created, and (b) results in such indebtedness becoming or being declared due and payable prior to the date on which it would otherwise become due and payable;

- vii. Borrower shall be a party to any Change of Control Transaction or Fundamental Transaction or disposition of all or in excess of 30% of its assets in one transaction or a series of related transactions (whether or not such sale would constitute a Change of Control Transaction);
- viii. Borrower does not meet the current public information requirements under Rule 144;
- ix. Borrower shall fail for any reason to deliver certificates to a Holder prior to the fifth Trading Day after a Conversion Date pursuant to Section 4(d) or Borrower shall provide at any time notice to the Holder, including by way of public announcement, of Borrower's intention to not honor requests for conversions of any Notes in accordance with the terms hereof;
- x. any Person shall materially breach any agreement delivered to the initial Holders pursuant to Section 2.2 of the Purchase Agreement, which breach is not cured within any allowed cure period;
- xi. any monetary judgment, writ or similar final process shall be entered or filed against Borrower, or any of its respective property or other assets for more than \$50,000, and such judgment, writ or similar final process shall remain unvacated, unbonded or unstayed for a period of 90 calendar days;
- xii. any dissolution, liquidation or winding up by Borrower, of a substantial portion of their business;
- xiii. cessation of operations by Borrower;
- xiv. the failure by Borrower or any material Subsidiary to maintain any material intellectual property rights, personal, real property, equipment, leases or other assets which are necessary to conduct its business (whether now or in the future) and such breach is not cured with twenty (20) days after written notice to the Borrower from the Holder;
- xv. the occurrence of a Listing Default;
- xvi. a Commission or judicial stop trade order or suspension from the Borrower's Principal Trading Market;
- xvii. the restatement after the date hereof of any financial statements filed by the Borrower with the Commission for any date or period from the Original Issue Date and until this Note is no longer outstanding, if the result of such restatement would, by comparison to the unrestated financial statements, have constituted a Material Adverse Effect. For the avoidance of doubt, any restatement related to new accounting pronouncements shall not constitute a default under this Section;
- xviii. the Borrower effectuates a reverse split of its Common Stock without five (5) days prior written notice to the Holder;

xix. a failure by Borrower to notify Holder of any material event of which Borrower is obligated to notify Holder pursuant to the terms of this Note or any other Transaction Document;

xx. a default by the Borrower of a material term, covenant, warranty or undertaking of any other agreement to which the Borrower and Holder are parties, or the occurrence of an event of default under any such other agreement to which Borrower and Holder are parties which is not cured after any required notice and/or cure period;

xxi. the occurrence of an Event of Default under any Other Note;

xxii. any material provision of any Transaction Document shall at any time for any reason (other than pursuant to the express terms thereof) cease to be valid and binding on or enforceable against the Borrower, or the validity or enforceability thereof shall be contested by Borrower, or a proceeding shall be commenced by Borrower or any governmental authority having jurisdiction over Borrower or Holder, seeking to establish the invalidity or unenforceability thereof, or Borrower shall deny in writing that it has any liability or obligation purported to be created under any Transaction Document; or

xxiii. any default under the Registration Rights Agreement including but not limited to the timely compliance with all filing and effectiveness deadlines.

In the event more than one grace, cure or notice period is applicable to an Event of Default, then the shortest grace, cure or notice period shall be applicable thereto.

b) Remedies Upon Event of Default, Fundamental Transaction and Change of Control Transaction If any Event of Default or a Fundamental Transaction or a Change of Control Transaction occurs, the outstanding principal amount of this Note, liquidated damages and other amounts owing in respect thereof through the date of acceleration, shall become, at the Holder's election, immediately due and payable in cash at the Mandatory Default Amount. Commencing on the Maturity Date and also five (5) days after the occurrence of any Event of Default interest on this Note shall accrue at an interest rate equal to the lesser of 18% per annum or the maximum rate permitted under applicable law. Upon the payment in full of the Mandatory Default Amount, the Holder shall promptly surrender this Note to or as directed by Borrower. In connection with such acceleration described herein, the Holder need not provide, and Borrower hereby waives, any presentment, demand, protest or other notice of any kind, and the Holder may immediately and without expiration of any grace period enforce any and all of its rights and remedies hereunder and all other remedies available to it under applicable law. Such acceleration may be rescinded and annulled by Holder at any time prior to payment hereunder and the Holder shall have all rights as a holder of the Note until such time, if any, as the Holder receives full payment pursuant to this Section 8(b). No such rescission or annulment shall affect any subsequent Event of Default or impair any right consequent thereon.

Section 9. Miscellaneous.

a) Notices. All notices, demands, requests, consents, approvals, and other communications required or permitted hereunder shall be in writing and, unless otherwise specified herein, shall be (i) personally served, (ii) deposited in the mail, registered or certified, return receipt requested, postage prepaid, (iii) delivered by reputable air courier service with charges prepaid, or (iv) transmitted by hand delivery, telegram, facsimile, or electronic mail, addressed as set forth below or to such other address as such party shall have specified most recently by written notice. Any notice or other communication required or permitted to be given hereunder shall be deemed effective (a) upon hand delivery or delivery by facsimile, with accurate confirmation generated by the transmitting facsimile machine, at the address or number designated below (if delivered on a business day during normal business hours where such notice is to be received), or the first business day following such delivery (if delivered other than on a business day during normal business hours where such notice is to be received), or (b) upon receipt, when sent by electronic mail (provided confirmation of transmission is electronically generated and kept on file by the sending party), or (c) on the second business day following the date of mailing by express courier service, fully prepaid, addressed to such address, or upon actual receipt of such mailing, whichever shall first occur. The addresses for such communications shall be: (i) if to Borrower, to: GT Biopharma, Inc., 9350 Wilshire Blvd, Suite 203, Beverly Hills, CA 90212, Attn: Chief Executive Officer, with a copy to (which shall not constitute notice): Gary R. Henrie, Esq., P.O. Box 3448, Alpine, WY 83128, email: grhlaw@hotmail.com, and (ii) if to the Holder, to: the address and fax number indicated on the front page of this Note.

b) Absolute Obligation. Except as expressly provided herein, no provision of this Note shall alter or impair the obligation of Borrower, which is absolute and unconditional, to pay the principal of, liquidated damages and accrued interest, as applicable, on this Note at the time, place, and rate, and in the coin or currency, herein prescribed. This Note is a direct debt obligation of Borrower. This Note ranks pari passu with all other Notes now or hereafter issued under the terms set forth herein.

c) Lost or Mutilated Note. If this Note shall be mutilated, lost, stolen or destroyed, Borrower shall execute and deliver, in exchange and substitution for and upon cancellation of a mutilated Note, or in lieu of or in substitution for a lost, stolen or destroyed Note, a new Note for the principal amount of this Note so mutilated, lost, stolen or destroyed, but only upon receipt of evidence of such loss, theft or destruction of such Note, and of the ownership hereof, reasonably satisfactory to Borrower.

d) Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Note shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflict of laws thereof. Each party agrees that all legal proceedings concerning the interpretation, enforcement and defense of the transactions contemplated by any of the Transaction Documents (whether brought against a party hereto or its respective Affiliates, directors, officers, shareholders, employees or agents) shall be commenced in the state and federal courts sitting in the City of New York, Borough of Manhattan (the "New York Courts"). Each party hereto hereby irrevocably submits to the exclusive jurisdiction of the New York Courts for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein (including with respect to the enforcement of any of the Transaction Documents), and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of such New York Courts, or such New York Courts are improper or inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Note and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by applicable law. Each party hereto hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Note or the transactions contemplated hereby. If any party shall commence an action or proceeding to enforce any provisions of this Note, then the prevailing party in such action or proceeding shall be reimbursed by the other party for its attorneys fees and other costs and expenses incurred in the investigation, preparation and prosecution of such action or proceeding. **This Note shall be deemed an unconditional obligation of Borrower for the payment of money and, without limitation to any other remedies of Holder, may be enforced against Borrower by summary proceeding pursuant to New York Civil Procedure Law and Rules Section 3213 or any similar rule or statute in the jurisdiction where enforcement is sought. For purposes of such rule or statute, any other document or agreement to which Holder and Borrower are parties or which Borrower delivered to Holder, which may be convenient or necessary to determine Holder's rights hereunder or Borrower's obligations to Holder are deemed a part of this Note, whether or not such other document or agreement was delivered together herewith or was executed apart from this Note.**

e) Waiver. Any waiver by Borrower or the Holder of a breach of any provision of this Note shall not operate as or be construed to be a waiver of any other breach of such provision or of any breach of any other provision of this Note. The failure of Borrower or the Holder to insist upon strict adherence to any term of this Note on one or more occasions shall not be considered a waiver or deprive that party of the right thereafter to insist upon strict adherence to that term or any other term of this Note on any other occasion. Any waiver by Borrower or the Holder must be in writing.

f) Severability. If any provision of this Note is invalid, illegal or unenforceable, the balance of this Note shall remain in effect, and if any provision is inapplicable to any Person or circumstance, it shall nevertheless remain applicable to all other Persons and circumstances.

g) Usury. If it shall be found that any interest or other amount deemed interest due hereunder violates the applicable law governing usury, the applicable rate of interest due hereunder shall automatically be lowered to equal the maximum rate of interest permitted under applicable law. Borrower covenants (to the extent that it may lawfully do so) that it shall not at any time insist upon, plead, or in any manner whatsoever claim or take the benefit or advantage of, any stay, extension or usury law or other law which would prohibit or forgive Borrower from paying all or any portion of the principal of or interest on this Note as contemplated herein, wherever enacted, now or at any time hereafter in force, or which may affect the covenants or the performance of this Note, and Borrower (to the extent it may lawfully do so) hereby expressly waives all benefits or advantage of any such law, and covenants that it will not, by resort to any such law, hinder, delay or impede the execution of any power herein granted to the Holder, but will suffer and permit the execution of every such as though no such law has been enacted.

h) Next Business Day. Whenever any payment or other obligation hereunder shall be due on a day other than a Business Day, such payment shall be made on the next succeeding Business Day.

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

j) Amendment. This Note may be amended and any provisions hereof may be waived by written consent of Borrower.

k) Facsimile Signature. In the event that the Borrower's signature is delivered by facsimile transmission, PDF, electronic signature or other similar electronic means, such signature shall create a valid and binding obligation of the Borrower with the same force and effect as if such signature page were an original thereof.

(Signature Pages Follow)

IN WITNESS WHEREOF, Borrower has caused this Note to be signed in its name by an authorized officer as of _____ 2020.

GT BIOPHARMA, INC.

By: _____

Name: Steven Weldon

Title: Chief Financial Officer

ANNEX A

NOTICE OF CONVERSION

The undersigned hereby elects to convert principal under the Convertible Note Due November 6, 2020 of GT Biopharma, Inc., a Delaware corporation (the "Company"), into shares of common stock (the "Common Stock"), of Borrower according to the conditions hereof, as of the date written below. If shares of Common Stock are to be issued in the name of a person other than the undersigned, the undersigned will pay all transfer taxes payable with respect thereto and is delivering herewith such certificates and opinions as reasonably requested by Borrower in accordance therewith. No fee will be charged to the holder for any conversion, except for such transfer taxes, if any.

By the delivery of this Notice of Conversion the undersigned represents and warrants to Borrower that its ownership of the Common Stock does not exceed the amounts specified under Section 4 of this Note, as determined in accordance with Section 13(d) of the Exchange Act.

The undersigned agrees to comply with the prospectus delivery requirements under the applicable securities laws in connection with any transfer of the aforesaid shares of Common Stock.

Conversion calculations:

Date to Effect Conversion: _____

Principal Amount of Note to be Converted: \$ _____

Accrued Interest to be Converted, if any: \$ _____

Conversion Price: \$ _____

Number of shares of Common Stock to be issued: _____

Signature: _____

Name: _____

Address for Delivery of Common Stock Certificates: _____

Or

DWAC Instructions: _____

Broker No: _____

Account No: _____

Clinical Trial Agreement

This Clinical Trial Agreement (“Agreement”) is made as of this ____ day of September 2019 (the “Effective Date”) by and between **Regents of the University of Minnesota**, a non-profit, educational, and research (“Institution”) with an address at Sponsored Projects Administration, 450 McNamara Alumni Center, 200 Oak Street S.E., Minneapolis, MN 55455 and **GT Biopharma, Inc.**, a Delaware corporation having its principal place of business 9350 Wilshire Blvd., Suite 203, Beverly Hills, CA 90212 (“Sponsor”). Sponsor and Institution are herein referred to collectively as “Parties.” Individually, each of Sponsor and Institution is a “Party”.

WHEREAS, Sponsor is a for-profit organization that intends to fund a single center clinical trial, in accordance with Sponsor’s FDA authorized investigational new drug application (“IND”) number 136205 and further described in Section 1.1 below, involving the use of certain diagnostic(s), drug(s), device(s), or biologic(s);

WHEREAS, the Institution has appropriate facilities and personnel with the qualification, training, knowledge, and experience necessary to conduct such a clinical trial; and

WHEREAS, the Study contemplated by this Agreement is of mutual interest and benefit to Institution and Sponsor, and will further the instructional and research objectives of Institution in a manner consistent with its status as a nonprofit educational, research and health care institution;

NOW, THEREFORE, in consideration for the mutual promises made in this Agreement and for valid consideration, the Parties agree as follows:

1. Scope of Agreement

- 1.1. Institution will undertake a sponsored single center clinical trial (“Study”) in accordance with Sponsor’s FDA authorized IND No. 136205 and described in the protocol HM2015-39 (CPRC # 2015LS167) (“Protocol”) entitled, “CD16/IL-15/CD33 (161533) Tri-Specific Killer Engagers (TriKEs) for the Treatment of High Risk Myelodysplastic Syndromes, Refractory/Relapsed Acute Myeloid Leukemia and Advanced Systemic Mastocytosis” incorporated herein as **Exhibit A**. Institution will only recruit subjects in accordance with the Protocol. The Study will be conducted at the Institution under the direction of Erica Warlick, MD, an employee of Institution (“Principal Investigator”).
- 1.2. In the event of any conflict between the terms and conditions of this Agreement and the Protocol or between this Agreement and any of its Exhibits, the terms and conditions of the Protocol shall control with respect to matters of the clinical conduct of the Study, and the terms of this Agreement shall control with respect to all other matters.
- 1.3. Institution agrees to provide all reasonable personnel, facilities, and resources, as required, to perform responsibilities under the Study. University shall manufacture and provide the required quantities of properly-labeled drug(s) (“Study Drug”) under the terms of a separate agreement between the parties. Receipt, storage, and handling of Study Drug will be in compliance with all applicable laws and regulations and the Protocol.

- 1.4. Sponsor and Institution shall comply with and conduct all aspects of the Study in compliance with all applicable federal, state, and local laws and regulations, including generally accepted standards of good clinical practice as adopted by current FDA regulations and statutes and regulations of the U.S. Government relating to exportation of technical data, computer software, laboratory prototypes, and other commodities as applicable to academic institutions. Institution will only allow individuals who are appropriately trained and qualified to assist in the conduct of the Study.
- 1.5. Institution shall obtain Institutional Review Board ("IRB") approval for this Study and proof thereof shall be provided to Sponsor. Initiation of the Protocol and Institution's obligation to conduct the Study shall not begin until IRB approval is obtained. Institution shall obtain from each subject, prior to the subject's participation in the Study, a signed informed consent and necessary authorization to disclose health information to Sponsor in a form approved in writing by the IRB or a waiver of consent as directed by the IRB and further provided that the informed consent is consistent with Institution's policies.
- 1.6. Sponsor agrees to provide Institution with all data and safety monitoring reports related to the Study to the extent such information is made available to Sponsor by the PI and Institution, and Institution agrees to submit such information to the IRB as required. During the Study and for at least two (2) years following the completion of the Study, Sponsor shall promptly provide Institution and Principal Investigator with the written report of any findings, including Study results and any routine monitoring findings in site monitoring reports, and data safety monitoring committee reports including, but not limited to, data and safety analyses, and any Study information that may (i) affect the safety and welfare of current or former Study subjects, or (ii) influence the conduct of the Study. Institution and/or Principal Investigator will communicate findings to the IRB and Study subjects, as appropriate.
- 1.7. Institution and the Principal Investigator shall promptly inform Sponsor of any urgent safety measures as instructed in the Protocol or breaches of the Protocol of which Institution or Principal Investigator becomes aware.

2. Payments

- 2.1 Sponsor agrees to pay Institution in accordance with the budget attached as **Exhibit B** ("Budget") on a fixed-fee prorated basis, according to the actual work completed and any non-cancelable obligated expenses, for subjects who are enrolled into the Study. Sponsor acknowledges and agrees that some expenses on Exhibit B may represent costs incurred by Institution prior to the Effective Date of this Agreement. Such costs shall be limited to those related directly to the Study, and specifically described in Exhibit B. The Parties acknowledge that the Budget amounts represent an equitable exchange for the conduct of the Study in light of the professional time and expenses required for the performance of the Study.

- 2.2 In addition to other necessary routing information detailed in Exhibit B, each payment shall clearly reference the: Study Protocol Number and PI name. The Institution's tax identification number is: 41-6007513.

3. Confidentiality

- 3.1 It is anticipated that in the performance of this Agreement, Sponsor or Institution may need to disclose ("Disclosing Party") to the other party ("Receiving Party") information which is considered confidential. The rights and obligations of the Parties with respect to such information are as follows:

"Confidential Information" refers to information of any kind which is disclosed by the Disclosing Party to the Receiving Party for purposes of conducting the Study or Data (as defined below in Section 4) which:

- a) by appropriate marking, is identified as confidential and proprietary at the time of disclosure;
- b) if disclosed orally, is identified in a marked writing within thirty (30) days as being confidential; or
- c) is of such a nature that a reasonable person familiar with the Study would consider it to be confidential or proprietary from the context or circumstances of disclosure.

Each party agrees, for a period of five (5) years following the termination or expiration of this Agreement, to use reasonable efforts, no less than the protection given their own confidential information, to use Confidential Information received from the other party in accordance with this Section.

Receiving Party agrees to use Disclosing Party's Confidential Information solely as allowed under the terms of this Agreement, and for the purpose of conducting the Study. Receiving Party agrees to make Disclosing Party's Confidential Information available only to their and their affiliate's respective employees, personnel, agents, consultants, and vendors, and approved subcontractors, as applicable, who require access to such Confidential Information in the performance of this Study, and are subject to similar terms of confidentiality.

- 3.2 The obligation of nondisclosure does not apply with respect to any of the Confidential Information that:

- a) is or becomes public knowledge through no breach of this Agreement by Receiving Party;
- b) is disclosed to Receiving Party by a third party entitled to disclose such information without known obligation of confidentiality;
- c) is already known or is independently developed by Receiving Party without use of the other party's Confidential Information as shown by Receiving Party's contemporaneous written records;
- d) is necessary to obtain IRB approval of Study or required to be included in the written information summary provided to Study subject(s) and/or informed consent form;
- e) is released with the prior written consent of the Disclosing Party; or
- f) is required to support the medical care of a Study Subject.

- 3.3. Receiving Party may disclose Confidential Information to the extent that it is required to be produced pursuant to a requirement of applicable law, IRB, government agency, an order of a court of competent jurisdiction, or a facially valid administrative, Congressional, or other subpoena, provided that Receiving Party, subject to the requirement, order, or subpoena, promptly notifies Disclosing Party. Disclosing Party may seek to limit the scope of such disclosure and/or seek to obtain a protective order. Receiving Party will disclose only the minimum amount of Confidential Information necessary to comply with law or court order as advised by legal counsel.
- 3.4. No license or other right is created or granted hereby, except the specific right to conduct the Study as set forth by Protocol and under terms of this Agreement, nor shall any license or other right with respect to the subject matter hereof be created or granted except by the prior written agreement of the Parties duly signed by their authorized representatives.
- 3.5. Upon Disclosing Party's written request, Receiving Party agrees to return all Confidential Information supplied to it by Disclosing Party at Disclosing Party's expense pursuant to this Agreement except that Receiving Party may retain one (1) copy of any such Confidential Information in a secure location for purposes of identifying and satisfying its obligations and exercising its rights under this Agreement.
- 3.6. Institution and Sponsor may each disclose the existence of this Agreement and any additional information necessary to ensure compliance with applicable Federal, State and Institutional policies, regulations, and laws.

4. Data Use and Ownership

- 4.1. "Data" shall mean all data and information generated by Institution as a result of conducting the Study in accordance with the IRB approved Protocol.
- 4.2. Sponsor shall own and have the right to use the Data in accordance with the signed informed patient consent and authorization form, applicable laws, and the terms of this Agreement.
- 4.3. Data does not include original Study subject or patient medical records, research notebooks, source documents, or other routine internal documents kept in the Institution's ordinary course of business operations, which shall remain the sole and exclusive property of the Institution or medical provider.

- 4.4 Notwithstanding any licenses or other rights granted to Sponsor herein, but in accordance with the confidentiality and publication sections herein, Institution shall retain the right to use the Data and results for its publication, IRB, regulatory, legal, clinical, educational, and research purposes. The foregoing is not intended to grant to the University any right to use the following Sequence:

NWVNVISDLKKIEDLIQSMHIDATLYTESDVHPSCKVTAMKCFLELQVISLES GDASIHTVTENLILANDSLSSNGNVTESGCKECEEELEEKNIKEFLQSFVHIVQMFINTS

("Altor Sequence") to which Altor Biosciences and its owner, ImmunityBio, Inc. claims ownership for any purpose other than to perform the Study.

5. HIPAA/HIPAA Privacy

- 5.1. Institution shall comply with applicable laws and regulations, as amended from time to time, including without limitation, the Health Insurance Portability and Accountability Act of 1996 and its implementing regulations (HIPAA) with respect to the collection, use, storage, and disclosure of Protected Health Information (PHI) as defined in HIPAA. Sponsor shall collect, use, store, access, and disclose PHI collected from Study subjects only as permitted by the IRB approved informed consent form or HIPAA authorization form obtained from a Study subject. Sponsor will collect, use, store, and disclose any Subject Material, defined in Section 15, it receives only in accordance with the informed consent form and, in any event, will not collect, use, store, or disclose any PHI attached to or contained within the Subject Material in any manner that would violate this Section of the Agreement.

Institution acknowledges that, pursuant to Section 111 of the Medicare, Medicaid, and SCHIP Extension Act of 2007 ("MMSEA"), Sponsor has an obligation to submit certain reports to the Centers for Medicare & Medicaid Services with respect to Medicare beneficiaries who participate in the Study and experience a research injury for which diagnosis or treatment costs are incurred. Sponsor recognizes that Institution and Sponsor are subject to laws and regulations protecting the confidentiality of research subject information. Accordingly: (1) Institution agrees upon prior written request to provide to Sponsor, or a third-party vendor as designated by Sponsor, certain identifiable patient information required by MMSEA for Study subjects who are Medicare beneficiaries and incur medical costs in association with a research injury and whose costs are reimbursed by Sponsor pursuant to this Agreement; and (2) Institution further agrees to otherwise cooperate with Sponsor (and any third-party vendors as designated by Sponsor) to the extent necessary for Sponsor to meet its MMSEA reporting obligations.

- 5.2. Sponsor's ability to review the Study subjects' Study-related information contained in the Study subject's medical record shall be subject to reasonable safeguards for the protection of Study subject confidentiality and the Study subjects' informed consent form or HIPAA authorization form.
- 5.3. Sponsor shall not attempt to identify, or contact, any Study subject unless permitted by the informed consent form.

6. Record Retention

As applicable by law, Institution shall retain and preserve a copy of the Study records for the longer of:

- a) two (2) years after a marketing authorization for Study Drug, or Study Device has been approved for the indication for which it was investigated or Sponsor has discontinued research on the Study Drug or Study Device;
- b) such longer period as required by federal regulatory requirements;
or
- c) as requested by Sponsor at Sponsor's reasonable storage expense.

7. Monitoring and Auditing

- 7.1. Site visits by Sponsor and/or its authorized designee (e.g., Study monitor) will be scheduled in advance for times mutually acceptable to the Parties during normal business hours. Sponsor's and/or authorized designee's access is subject to reasonable safeguards to ensure confidentiality of medical records and systems.
- 7.2. Upon becoming aware of an audit or investigation by a regulatory agency with jurisdiction over the Study, Institution agrees to provide Sponsor with prompt notice of the auditor investigation. If legally permissible or allowable by the regulatory agency and permissible in accordance with the Institution's policy, Sponsor may be available or request to be present with approval from auditor during such audit, but Sponsor agrees not to alter or interfere with any documentation or practice of Institution. Institution shall be free to respond to any regulatory agency inquiries and will provide Sponsor with a copy of any formal response or documentation to the regulatory agency regarding the Study.

8. Inventions, Discoveries and Patents

- 8.1. It is recognized and understood that certain existing inventions and technologies, and those arising outside of the research conducted under this Agreement, are the separate property of Sponsor or Institution and are not affected by this Agreement, and neither Party shall have any claims to or rights in such separate inventions and technologies.
- 8.2. Any new patentable inventions, developments, or discoveries made during and in the performance of the Study ("Inventions") shall be promptly disclosed to Sponsor. Title to Inventions shall reside with Sponsor if Sponsor personnel are the sole inventors, with Institution if Institution personnel are the sole inventors, and shall be held jointly if both Institution and Sponsor personnel are inventors. The foregoing is not intended to grant to either party any invention that necessarily uses or incorporates the Altor Sequence.
- 8.3. To the extent that Institution owns sole or joint title in any Inventions, Sponsor is hereby granted, without option fee other than consideration of the Study sponsored herein, (i) a non-exclusive, perpetual, irrevocable, fully-paid up, royalty-free, worldwide license for all purposes; and (ii) an exclusive option to obtain an exclusive license to such Inventions for all purposes, whereby upon Sponsor's exercise of the option within twelve (12) months of Institution's notifying Sponsor of such Inventions, and payment of \$15,000 license fee to Institution, Institution's rights in such Inventions will be added to and become a "Licensed Patent" under the Exclusive License Agreement with Sponsor as Licensee, dated July 18, 2016, a copy of which is attached to this Clinical Trial Agreement.

- 8.4. Nothing contained in this Agreement shall be deemed to grant either directly by implication, estoppel, or otherwise any license under any patents, patent applications, or other proprietary interest to any other inventions, discovery or improvement of either Party.
- 8.5. The Parties agree that the provisions of this Agreement are intended to be interpreted and implemented so as to comply with all applicable federal laws, rules, and regulations, including without limitation the requirements of Rev. Proc. 2007-47; provided, however, if it is determined by the Internal Revenue Service or any other federal agency or instrumentality (the "Government") that the provisions of this Agreement are not in such compliance, then the Parties agree to modify the provisions and the implementation of this Agreement so as to be in compliance with all applicable federal laws, rules, and regulations as determined by the Government.
- 8.6. The Institution retains on behalf of itself and all other non-profit research institutions, to practice the Licensed Patent for any non-profit purpose, including research, teaching, and educational purposes. Licensee agrees that, notwithstanding any other provision of this Agreement, it has no right to enforce the Licensed Patent against any such institution using the Licensed Patent for non-profit purposes. The foregoing is not intended to grant to University any rights with respect to the Altor Sequence, except to perform the Study.

9. Publication

- 9.1. Institution can publish and present Data and results arising out of its performance of the Protocol (individually, a "Publication"). At least 30 days prior to submission for Publication, Institution shall submit to Sponsor for review and comment any proposed oral or written Publication ("Review Period"). Institution shall consider any such Sponsor comments in Good Faith. "Good Faith" in this context means that the Institution's researcher will consider Sponsor's comments in light of the researcher's academic and scientific understanding, and determine based on that understanding whether the proposed publication should be revised to reflect the Sponsor's comments. If during the Review Period, one party notifies the other party in writing that it desires patent applications to be filed on any inventions disclosed or contained in the disclosures, the parties shall assist each other and will defer Publication for a period not to exceed 60 days to permit the party's respective patent counsels sufficient time to evaluate patentability, prepare and file any desired patent applications. If the Publication contains Sponsor's Confidential Information as defined in Section 3 and Sponsor requests Institution in writing to delete such Sponsor's Confidential Information, the Institution agrees to delete such Sponsor's Confidential Information (with the exception of Data and results).

10. Use of Name

- 10.1. Neither Institution nor Sponsor may use the name, trademark, logo, symbol, or other image or trade name of the other Party or its employees and agents in any advertisement, promotion, or other form of publicity or news release or that in any way implies endorsement without the prior written consent of an authorized representative of the Party whose name is being used. Such approval will not be unreasonably withheld.

- 10.2. The Parties understand that the amount of any payment made hereunder may be disclosed and made public by a Party as required by law or regulation, including the Patient Protection and Affordable Care Act of 2010, provided that the disclosure clearly designates the payment as having been made to Institution for research and not to the physician.
- 10.3. Institution may acknowledge the Sponsor's support, including but not limited to financial support as may be required by academic journals, professional societies, funding agencies, and applicable regulations. Notwithstanding anything to the contrary in this Agreement, Sponsor agrees to allow publicly registered information about the Study to appear on Institution's clinical trials directory/website. Additionally, notwithstanding anything herein to the contrary, Institution shall have the right to post Sponsor's name, the Study title, and the Study period, and funding amount, on Institution publicly accessible lists of research conducted by the Institution.

11. Indemnification and Limitation of Liability

- 11.1 Sponsor agrees to defend, indemnify, and hold harmless the Institution and its medical affiliates and affiliated hospitals, and each of their trustees, officers, directors, governing bodies, subsidiaries, affiliates, investigators, employees, IRB members, agents, successors, heirs and assigns (collectively referred to as "Institution's Indemnitees"), from and against any third party claims, loss, damage, cost and expense of claims (including reasonable attorney's fees) and suits alleged to be caused by or arising from the conduct of the Study or use of the Study Drug or Study Device under this Agreement or from the use of the Study results ("Claims"), regardless of the legal theory asserted.
- 11.2. Sponsor shall have no obligation to provide such indemnification to the extent that such Claim is solely caused by Institution's Indemnitee(s): (1) failure to adhere to and comply with all material and substantive specifications and directions set forth in the Protocol (except to the extent such deviation is reasonable to protect the rights, safety and welfare of the Study subjects); (2) failure to comply with all applicable laws and regulations in the performance of the Study, or (3) if such claim is directly caused by the negligent acts or omissions of Institution's Indemnitees(s).
- 11.3. Subject to the limits and without waiving any immunities provided under applicable law (including constitutional provisions, statutes and case law) regarding the status, powers and authority of the Institution or the Institution's principal(s), Institution shall indemnify, hold harmless and defend Sponsor, its directors, officers, employees and agents, ("Sponsor's Indemnitees") from and against only those third party Claims to the extent directly attributable to Institution's negligence in its conduct of the Study. Notwithstanding the above, Institution shall have no obligation to indemnify Sponsor for any other Claims (including, but not limited to, infringement or product liability Claims).

- 11.4. The indemnified Party shall give notice to the indemnifying Party promptly upon receipt of written notice of a Claim for which indemnification may be sought under this Agreement, provided, however, that failure to provide such notice shall not relieve indemnifying Party of its indemnification obligations except to the extent that the indemnifying Party's ability to defend such Claim is materially, adversely affected by such failure. Indemnifying Party shall not make any settlement admitting fault or incur any liability on the part of the indemnified Party without indemnified Party's prior written consent, such consent not to be unreasonably withheld or delayed. The indemnified Party shall cooperate with indemnifying Party in all reasonable respects regarding the defense of any such Claim, at indemnifying Party's expense. The indemnified Party shall be entitled to retain counsel of its choice at its own expense. In the event a Claim falls under this indemnification clause, in no event shall the indemnified Party compromise, settle or otherwise admit any liability with respect to any Claim without the prior written consent of the indemnifying Party, and such consent not to be unreasonably withheld or delayed.
- 11.5. EXCEPT FOR THE PARTIES' OBLIGATIONS TO INDEMNIFY EACH OTHER PURSUANT TO THIS AGREEMENT, NEITHER PARTY SHALL BE LIABLE FOR SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT, EVEN IF ADVISED OF THE POSSIBILITY OF THE SAME.

12. Subject Injury

- 12.1. If a Study subject suffers an adverse reaction, illness, or injury which, in the reasonable judgment of the Principal Investigator, Sponsor's Chief Medical Officer and Institution, was directly caused by the Study Drug or Study Device or any properly performed procedures required by the Protocol, Sponsor shall reimburse Institution to the extent such costs are not reimbursed by Study subject's private insurance or Medicare/Medicaid insurance for all reasonable and necessary costs of diagnosis and treatment of any Study subject's injury, including hospitalization, but only to the extent such expenses are not attributable to (i) Institution's negligence or willful misconduct, or (ii) the natural progression of an underlying or pre-existing condition or events, unless exacerbated by participating in the Study.

13. Insurance

- 13.1. Institution shall, at its sole cost and expense maintain a policy or program of insurance or self-insurance at the level of at least \$1,000,000 per occurrence (or per claim) and \$3,000,000 annual aggregate to support its obligations assumed in this Agreement. However, if Institution is a public entity entitled to governmental immunity protections under applicable state law, then Institution may provide liability coverage in accordance with any limitations associated with the applicable law.

- 13.2. Sponsor shall, at its sole cost and expense, procure and maintain commercial general liability insurance, clinical trial insurance and products liability insurance or equivalent self-insurance, unless otherwise indicated in an attachment, in amounts not less than \$3,000,000 per occurrence and \$10,000,000 annual aggregate. Such commercial general liability insurance, clinical trial insurance and products liability insurance or equivalent self-insurance shall provide contractual liability coverage for Sponsor's indemnification obligations herein.
- 13.3. Upon written request, either Party will provide evidence of its insurance or self-insurance acceptable to the other Party. Either Party will provide the other Party with written notice of material change in its coverage which would affect such Party's ability to meet its obligations under this Agreement. A Party's inability to meet its insurance obligation constitutes material breach of this Agreement.

14. Term and Termination

- 14.1. This term of this Agreement shall commence upon the Effective Date and terminate upon the completion of the Parties' Study-related activities under the Agreement, unless terminated early as further described in this Section.
- 14.2. Sponsor has the right to terminate the Study upon thirty (30) days prior written notice to the Institution. This Study may be terminated immediately at any time for any reason by the Institution or Sponsor when, in their judgment or that of the Principal Investigator, the Institution's IRB, Scientific Review Committee, if applicable, or the Food and Drug Administration, it is determined to be inappropriate, impractical, or inadvisable to continue, in order to protect the Study subjects' rights, welfare, and safety, or the IRB otherwise disapproves the Study. If for any reason Principal Investigator becomes unavailable to direct the performance of the work under this Agreement, Institution shall notify Sponsor. If the Parties are unable to identify a mutually acceptable successor, this Agreement may be terminated by either Party upon thirty (30) days written notice.
- 14.3. Notwithstanding the above, any Party may, in addition to any other available remedies:
- a) immediately terminate this Agreement upon the other Party's material failure to adhere to the Protocol, except for deviation required to protect the rights, safety, and welfare of Study subjects; and/or
 - b) terminate this Agreement upon the other Party's material default or breach of this Agreement, provided that the defaulting/breaching Party fails to remedy such material default, breach, or failure to adhere to the Protocol within thirty (30) business days after written notice thereof.
- 14.4. In addition to any other available remedies, the Institution may immediately suspend enrollment of new subjects under this Agreement if Sponsor fails to make any payment under the terms of this Agreement or that certain payment plan in the letter, dated August 27, 2019 from the Institution and countersigned by Sponsor on August 28, 2019 by the due date indicated therein and attached hereto as Exhibit C.

14.4. In the event that this Agreement is terminated prior to completion of the Study, for any reason, Institution shall:

- a) notify the IRB that the Study has been terminated;
- b) cease enrolling subjects in the Study;
- c) cease treating Study subjects under the Protocol to the extent medically permissible and appropriate;
- d) terminate, as soon as practicable, all other Study activities; and
- e) furnish to Sponsor any required final report for the Study in the form reasonably acceptable to Sponsor.

Promptly following any such termination, Institution will provide to Sponsor copies of Data collected pursuant to the Study Protocol. Upon written request, the Parties shall return all Confidential Information of the other Party provided under this Agreement provided, however, that the Parties may retain one (1) copy of Confidential Information for record keeping purposes, monitoring its obligations, and exercising its rights hereunder, subject to its ongoing compliance with the confidentiality and non-use obligations set forth in this Agreement.

14.5. If this Study is terminated early by either Party, the Institution shall be reimbursed for all work completed, on a pro rata basis, and reasonable costs of bringing the Study to termination incurred through the date of termination, and for non-cancelable commitments properly incurred through that date. Upon receipt of notice of termination, Institution will use reasonable efforts to reduce or eliminate further costs and expenses and will cooperate with Sponsor to provide for an orderly wind-down of the Study.

14.6. Subsections 1.4, 1.6, and 14.6, and Sections 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 19 and 23, shall survive any termination or expiration of this Agreement, except that Section 3 shall survive for the period stated in Section 3.1. Any provision of this Agreement that by its nature and intent remains valid after termination will survive termination.

15. Subject Material

15.1. Subject Material means any biologic material of human origin including, without limitation, tissues, blood, plasma, urine, spinal fluid, or other fluids derived from the Study subjects in accordance with and pursuant to the Protocol ("Subject Material").

15.2. Institution agrees to make the Subject Material available to the Sponsor in accordance with the Protocol for the purposes of the Study. The Subject Material may be used by the Sponsor, central lab, or other contracted party only as allowed by the Study subject's informed consent form or pertinent institutional review board(s). Sponsor agrees that any use of Subject Materials, other than as allowed by the Study subject's informed consent form, will require additional IRB review and approval.

16. Subcontract

Institution has the right to subcontract to other sites to conduct the Study in accordance with the Protocol with terms consistent with this Agreement with written approval of the Sponsor, which approval shall not be unreasonably withheld. If Institution subcontracts any Study related duties, Institution shall contract with such subcontractors incorporating terms substantially similar to the terms herein. Such subcontracts may be provided to the Sponsor upon written request. The Sponsor has the right to subcontract to a third-party CRO or Academic Research Organization (ARO) and assign Study-related duties and rights to any Sponsor affiliate. If Sponsor subcontracts any Study-related duties and rights, Sponsor remains responsible for any of those duties and rights.

17. Notices

Any notice, authorization, approval, consent or other communication will be in writing and deemed given:

- a. Upon delivery in person;
- b. Upon delivery by courier;
- c. Upon delivery date by a nationally-recognized overnight delivery service such as FedEx.

If to Sponsor:

GT Biopharma, Inc.
9350 Wilshire Blvd., Suite 203
Beverly Hills, CA 90212
Attn: Anthony Cataldo
Chairman and Chief Executive Officer

With a Copy to:

Steven Weldon
Chief Financial Officer
GT Biopharma, Inc.
9350 Wilshire Blvd., Suite 203
Beverly Hills, CA 90212

If to Institution:

Regents of the University of Minnesota
Sponsored Projects Administration
450 McNamara Alumni Center
200 Oak Street S.E.
Minneapolis, MN 55455
Attn: Bridget Foss
Principal Grant and Contract Administrator

With a copy to Principal Investigator:

Erica Warlick, MD
University of Minnesota
Division of Hematology, Oncology and Transplantation
420 Delaware Street SE
MMC 480 Minneapolis, MN 55455

18. Independent Contractor

It is mutually understood and agreed that the relationship between Parties is that of independent contractors. Neither Party is the agent, employee, partner, joint venturer, or servant of the other. Except as specifically set forth herein, neither Party shall have nor exercise any control or direction over the methods by which the other Party performs work or obligations under this Agreement. Further, nothing in this Agreement is intended to create any partnership, joint ventures, lease, or equity relationship, expressly or by implication, between the Parties.

19. Clinical Trial Registry

Prior to enrollment of the first subject in the Study, Sponsor agrees to ensure that the Study is fully registered on www.clinicaltrials.gov in accordance with the requirements of the International Committee of Medical Journal Editors (ICMJE) and Public Law 110-85. Results of this Study will be reported in compliance with applicable laws.

20. Non-Referral/Anti-Corruption Language

- 20.1. The Parties agree that it is not their intent under this Agreement to induce or encourage the unlawful referral of subjects or business between the Parties, and there shall not be any requirement under this Agreement that either Party, its employees or affiliates, including its medical staff, engage in any unlawful referral of subjects to, or order or purchase products or services from, the other Party.
- 20.2. Each Party shall require that their employees, who are involved in the conduct of the Study, will not offer, pay, request or accept any bribe, inducement, kickback or facilitation payment, and shall not make or cause another to make any offer or payment to any individual or entity for the purpose of influencing a decision for the benefit of the other Party.

21. Force Majeure

If either Party hereto shall be delayed or hindered in, or prevented from, the performance of any act required hereunder for any reason beyond such Party's direct control, including but not limited to, strike, lockouts, labor troubles, governmental or judicial actions or orders, riots, insurrections, war, acts of God, inclement weather, or other reason beyond the Party's control (a "Disability") then such Party's performance shall be excused for the period of the Disability. Any Study timelines affected by a Disability shall be extended for a period equal to the delay and any affected Budget shall be adjusted to account for cost increases or decreases resulting from the Disability. The Party affected by the Disability shall notify the other Party of such Disability as provided for herein.

22. Counterparts

This Agreement may be executed in any number of counterparts, each of which shall be an original and all of which together shall constitute one and the same document, and is binding on all Parties notwithstanding that each of the Parties may have signed different counterparts. Facsimiles or scanned copies of signatures or electronic images of signatures shall be considered original signature unless prohibited by applicable law.

23. Debarment

The Institution certifies that to its knowledge neither it, nor any of its employees, agents or other persons performing the Study under its direction, is currently debarred, suspended, or excluded under the Federal Food, Drug and Cosmetic Act, as amended, or disqualified under the provisions of 21 CFR §312.70. In the event that the Principal Investigator or any Study personnel becomes debarred or disqualified during the term of this Agreement or within 1 year after termination of the Study, the Institution agrees to promptly notify Sponsor after learning of such event. Institution certifies that it is not excluded from a federal health care program, including Medicare and Medicaid. In the event an Institution becomes excluded during the term of this Agreement or within 1 year after termination of the Study, the Institution agrees to promptly notify Sponsor after learning of such event.

24. Choice of Law – Any action brought against the Institution shall only be brought in the courts of Hennepin County, Minnesota, USA, without regard to conflict of laws principles.

25. Entire Agreement

Section and clause headings are used herein solely for convenience of reference and are not intended as substantive parts of the Parties' agreement. This Agreement incorporates the Exhibits referenced herein. This written Agreement constitutes the entire agreement between the Parties concerning the subject matter, and supersedes all other or prior agreements or understandings, whether written or oral, with respect to that subject matter. Any changes made to the terms, conditions or amounts cited in this Agreement require the written approval of each Party's authorized representative.

[Remainder of page intentionally blank. Signatures begin on next page]

SIGNATURE PAGE

The authorized representatives of the Parties have signed this Agreement as set forth below:

REGENTS OF THE UNIVERSITY OF MINNESOTA

By: _____
Bridget Foss

Title: Principal Grant and Contract Administrator

Date: _____

GT BIOPHARMA, INC.

By: _____
Anthony Cataldo

Title: Chairman & Chief Executive Officer

Date: _____

READ AND ACKNOWLEDGED

By: _____
Erica Warlick, M.D.

Title: Principal Investigator

Date: _____

Attachments

Exhibit A – GTB-3550 Clinical Trial Protocol and Responsibilities

Exhibit B – Budget

Exhibit C – Payment Plan Letter Agreement

CERTIFICATIONS

I, Anthony Cataldo, certify that:

1. I have reviewed this quarterly report on Form 10-Q of GT Biopharma, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 15, 2020

/s/ Anthony Cataldo

 Anthony Cataldo
 Chief Executive Officer, Chairman, and Director

CERTIFICATIONS

I, Steven Weldon, certify that:

1. I have reviewed this quarterly report on Form 10-Q of GT Biopharma, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 05, 2020

/s/ Steven Weldon

 Steven Weldon
 CFO, Chief Accounting Officer, and Director

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report on Form 10-Q of GT Biopharma, Inc. (the "*Company*"), for the quarterly period ended March 31, 2020, as filed with the Securities and Exchange Commission on the date hereof (the "*Report*"), I, Anthony Cataldo, Chief Executive Officer of the Company, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, do hereby certify, to my knowledge that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 15 U.S.C. 78m(a) or 780(d)); and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 15, 2020

/s/ Anthony Cataldo

Anthony Cataldo
Chief Executive Officer, Chairman, and Director

A signed original of this written statement required by Section 906 has been provided to GT Biopharma, Inc. and will be retained by GT Biopharma, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report on Form 10-Q of GT Biopharma, Inc. (the "*Company*"), for the quarterly period ended March 31, 2020, as filed with the Securities and Exchange Commission on the date hereof (the "*Report*"), I, Steven Weldon, Chief Financial Officer of the Company, pursuant to 18 U.S.C. § 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, do hereby certify, to my knowledge that:

- (1) The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 15 U.S.C. 78m(a) or 780(d)); and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: May 15, 2020

/s/ Steven Weldon

Steven Weldon

CFO, Chief Accounting Officer, and Director

A signed original of this written statement required by Section 906 has been provided to GT Biopharma, Inc. and will be retained by GT Biopharma, Inc. and furnished to the Securities and Exchange Commission or its staff upon request.
