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

FORM 10-Q

(Mark One)

x QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended June 30, 2014

OR

o TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from to

Commission file number: 000-50549

GTx, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**62-1715807**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
175 Toyota Plaza **7th Floor** **Memphis, Tennessee**	**38103**
(Address of principal executive offices)	(Zip Code)

(901) 523-9700
(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 x No o

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate web site, if any, every Interactive Data File required to be submitted and posted 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 and post such files). Yes x No o

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 o	Accelerated filer x
Non-accelerated filer o	Smaller reporting company o
(Do not check if a smaller reporting company)	

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

As of August 1, 2014, 76,014,531 shares of the registrant's Common Stock were outstanding.

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FORM 10-Q FOR THE QUARTER ENDED JUNE 30, 2014
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PART I: FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

GTx, Inc.
CONDENSED BALANCE SHEETS
(in thousands, except share data)

	June 30, 2014 (unaudited)	December 31, 2013
ASSETS		
Current assets:		
Cash and cash equivalents	$ 11,178	$ 14,529
Short-term investments	6,080	200
Prepaid expenses and other current assets	1,194	442
Total current assets	18,452	15,171
Property and equipment, net	58	112
Intangible and other assets, net	625	322
Total assets	$ 19,135	$ 15,605
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 992	$ 808
Accrued expenses and other current liabilities	2,711	3,759
Total current liabilities	3,703	4,567
Other long-term liabilities	147	354
Commitments and contingencies		
Stockholders' equity:		
Common stock, $0.001 par value: 200,000,000 and 120,000,000 shares authorized at both June 30, 2014 and December 31, 2013, respectively; 76,014,531 and 63,185,389 shares issued and outstanding at June 30, 2014 and December 31, 2013, respectively	76	63
Additional paid-in capital	490,500	465,981
Accumulated deficit	(475,291)	(455,360)
Total stockholders' equity	15,285	10,684
Total liabilities and stockholders' equity	$ 19,135	$ 15,605

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

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GTx, Inc.
CONDENSED STATEMENTS OF OPERATIONS
(in thousands, except share and per share data)
(unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2014	2013	2014	2013
Expenses:				
Research and development expenses	$ 7,894	$ 10,139	$ 14,254	$ 19,753
General and administrative expenses	3,052	2,684	5,681	5,707
Total expenses	10,946	12,823	19,935	25,460
Loss from operations	(10,946)	(12,823)	(19,935)	(25,460)
Other income, net	2	21	4	76
Net loss	$ (10,944)	$ (12,802)	$ (19,931)	$ (25,384)
Net loss per share:				
Basic and diluted	$ (0.15)	$ (0.20)	$ (0.28)	$ (0.40)
Weighted average shares outstanding:				
Basic and diluted	75,433,302	62,994,771	70,997,330	62,929,816

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

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GTx, Inc.
CONDENSED STATEMENTS OF CASH FLOWS
(in thousands)
(unaudited)

	Six Months Ended June 30,	
	2014	2013
Cash flows from operating activities:		
Net loss	$ (19,931)	$ (25,384)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	65	262
Share-based compensation	3,951	1,496
Directors' deferred compensation	63	74
Changes in assets and liabilities:		
Prepaid expenses and other assets	(1,062)	(394)
Accounts payable	184	89
Accrued expenses and other liabilities	(1,253)	(1,423)
Net cash used in operating activities	(17,983)	(25,280)
Cash flows from investing activities:		
Purchase of property and equipment	(4)	(32)
Purchase of short-term investments, held to maturity	(9,265)	(1,225)
Proceeds from maturities of short-term investments, held to maturity	3,385	5,880
Net cash (used in) provided by investing activities	(5,884)	4,623
Cash flows from financing activities:		
Net proceeds from the issuance of common stock and warrants	21,135	—
Tax payments related to shares withheld for vested restricted stock units	(617)	—
Payments on capital lease and financed equipment obligations	(2)	(4)
Proceeds from exercise of employee stock options	—	869
Net cash provided by financing activities	20,516	865
Net decrease in cash and cash equivalents	(3,351)	(19,792)
Cash and cash equivalents, beginning of period	14,529	48,044
Cash and cash equivalents, end of period	$ 11,178	$ 28,252

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

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GTx, Inc.
NOTES TO THE CONDENSED FINANCIAL STATEMENTS

1. Business and Basis of Presentation

Business

GTx, Inc. ("GTx" or the "Company"), a Delaware corporation incorporated on September 24, 1997 and headquartered in Memphis, Tennessee, is a biopharmaceutical company dedicated to the discovery, development and commercialization of small molecules for the treatment of cancer, including treatments for breast and prostate cancer, cancer supportive care, including prevention and treatment of cancer-related muscle wasting, and other serious medical conditions.

The Company is developing selective androgen receptor modulators ("SARMs"), including its lead product candidate, enobosarm (GTx-024). SARMs are a new class of drugs with the potential to be used as a novel hormonal therapy for the treatment of metastatic breast cancer, as well as the potential to prevent and treat muscle wasting in patients with cancer and other musculoskeletal wasting or muscle loss conditions, including chronic sarcopenia (age related muscle loss). The Company announced during the second quarter of 2014 positive preliminary results from a Phase 2 proof-of-concept, open-label clinical trial evaluating enobosarm 9 mg for the treatment of patients with androgen receptor ("AR") positive and estrogen receptor ("ER") positive metastatic breast cancer who have previously responded to hormonal therapy. Based on the results of this clinical trial, the Company plans to advance clinical development of enobosarm 9 mg in patients with AR positive metastatic breast cancer, subject to the Company's ability to obtain additional funding.

The Company announced in August 2013 that its POWER 1 (platinum plus taxane chemotherapy) and POWER 2 (platinum plus non-taxane chemotherapy) Phase 3 clinical trials evaluating enobosarm 3 mg for the prevention and treatment of muscle wasting in patients with advanced non-small cell lung cancer ("NSCLC") failed to meet the primary statistical criterion for the co-primary endpoints of lean body mass and physical function that were assessed statistically using responder analyses as pre-specified for the United States Food and Drug Administration ("FDA"). The Company met with representatives from two member countries to the European Medicines Agency ("EMA") in January 2014 to review and discuss the results of the POWER trials to determine an appropriate path forward for submitting a marketing authorization application ("MAA") in the European Union ("EU") for enobosarm 3 mg for the prevention and treatment of muscle wasting in patients with advanced NSCLC. Following these meetings, the Company retained experts in both the U.S. and the EU to work with the Company's internal team to explore the option of submitting a MAA for enobosarm 3 mg in the more narrow indication of the prevention and treatment of muscle wasting in patients with advanced NSCLC treated with platinum plus taxane chemotherapy. The Company has completed the clinical conduct for all additional Phase 1 clinical studies typically required for submission purposes and is now reviewing the pharmacokinetic and safety data necessary to prepare the related clinical study reports. Further, the Company has submitted a pediatric investigational plan to the EMA, which is necessary for the submission of a MAA. Although the Company has performed these prerequisite activities for the submission of a MAA for enobosarm 3 mg for the prevention and treatment of muscle wasting in patients with advanced NSCLC treated with platinum plus taxane chemotherapy, the Company is continuing to evaluate the filing of a MAA to the EMA based on the sufficiency of the supporting data and the commercial prospects of the drug candidate in this more narrow indication. In any event, the Company does not currently expect that it will be able to submit a MAA to the EMA prior to the third quarter of 2015, if at all.

In the Company's meeting with the FDA in February 2014 to review and discuss the results of the POWER clinical trials, the Company learned that since data from the two POWER trials failed to meet the primary statistical criterion pre-specified for the co-primary endpoints of lean body mass and physical function, the FDA was not willing to accept a new drug application ("NDA") for enobosarm 3 mg. The Company is evaluating options for further development of enobosarm 3 mg. Any further development of enobosarm 3 mg would be subject to the Company's ability to obtain additional funding.

Additionally, the Company is developing GTx-758 (Capesaris®), an oral nonsteroidal selective estrogen receptor alpha agonist, for secondary hormonal therapy in men with castration resistant prostate cancer, and, potentially, as a secondary hormonal treatment for advanced prostate cancer used in combination with androgen deprivation therapy. The Company is presently conducting a Phase 2 clinical trial evaluating GTx-758 as secondary hormonal therapy in men with metastatic and non-metastatic castration resistant prostate cancer.

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In April 2014, the Company announced that Mitchell S. Steiner, its Chief Executive Officer ("CEO"), Vice Chairman of the Board of Directors and a co-founder of the Company, was leaving the Company to pursue other business interests. Dr. Steiner resigned from his roles as CEO and Vice Chairman of the Board of Directors at the Company effective April 3, 2014. In connection with Dr. Steiner's resignation, Marc S. Hanover was appointed as the Company's interim Chief Executive Officer and was elected to the Board to serve the remainder of Dr. Steiner's term on the Board until the 2015 annual meeting of the Company's stockholders. Also in connection with Dr. Steiner's resignation, the Company entered into a severance agreement with Dr. Steiner, pursuant to which Dr. Steiner received severance benefits of twelve months of base salary continuation payments and continued healthcare coverage through the earliest of December 31, 2014 or the date he ceases to be eligible for COBRA continuation coverage. As a result of these severance benefits, the Company recognized cash severance related expenses of $483 during the three months ended June 30, 2014. Additionally, all of Dr. Steiner's outstanding unvested stock options were vested and became immediately exercisable on April 13, 2014. The Company extended the post-termination exercise period of all of his stock options until the earlier to occur of (i) April 13, 2019 or (ii) the expiration of the term of a particular stock option grant. The Company recorded a one-time, noncash net compensation expense of $215 relating to these stock option modifications. See Note 2, *Share-Based Compensation*, for further information.

The Company has experienced significant recurring operating losses since its inception and has limited funds. The Company estimates that its current cash, cash equivalents and short-term investments, together with interest thereon, will be sufficient to meet its projected operating requirements into the second quarter of 2015. Accordingly, the Company needs to raise substantial additional capital in the near term in order to fund its operations through and beyond the second quarter of 2015 and to continue as a going concern.

Basis of Presentation

The accompanying unaudited condensed financial statements reflect, in the opinion of management, all adjustments (consisting of normal recurring adjustments) necessary for a fair presentation of GTx's financial position, results of operations and cash flows for each period presented in accordance with accounting principles generally accepted in the United States for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, information and footnote disclosures normally included in financial statements prepared in accordance with accounting principles generally accepted in the United States have been condensed or omitted from the accompanying condensed financial statements. These interim condensed financial statements should be read in conjunction with the audited financial statements and related notes thereto, which are included in the Company's Annual Report on Form 10-K for the year ended December 31, 2013. Operating results for the three and six months ended June 30, 2014 are not necessarily indicative of the results that may be expected for the entire fiscal year ending December 31, 2014.

Use of Estimates

The preparation of condensed financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the condensed financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual amounts and results could differ from those estimates.

Research and Development Expenses

Research and development expenses include, but are not limited to, the Company's expenses for personnel, supplies, and facilities associated with research activities, screening and identification of product candidates, formulation and synthesis activities, manufacturing, preclinical studies, toxicology studies, clinical trials, regulatory and medical affairs activities, quality assurance activities and license fees. The Company expenses these costs in the period in which they are incurred. The Company estimates its liabilities for research and development expenses in order to match the recognition of expenses to the period in which the actual services are received. As such, accrued liabilities related to third party research and development activities are recognized based upon the Company's estimate of services received and degree of completion of the services in accordance with the specific third party contract. As a result of the October 2013 reduction in its workforce, the Company is no longer conducting drug discovery activities and is focusing its research and development activities on the ongoing clinical development of

the Company's current product candidates.

Cash, Cash Equivalents and Short-term Investments

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

At June 30, 2014 and December 31, 2013, short-term investments consisted of Federal Deposit Insurance Corporation insured certificates of deposit with original maturities of greater than three months and less than one year. As the Company has the positive intent and ability to hold the certificates of deposit until maturity, these investments have been classified as held to maturity investments and are stated at cost, which approximates fair value. The Company considers these to be Level 2 investments as the fair values of these investments are determined using third-party pricing sources, which generally utilize observable inputs, such as interest rates and maturities of similar assets.

Income Taxes

The Company accounts for deferred taxes by recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the financial statements or tax returns. Under this method, deferred tax assets and liabilities are determined based on the difference between the financial statement and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. A valuation allowance is provided when it is more likely than not that some portion or all of the deferred tax assets will not be realized. Accordingly, at June 30, 2014 and December 31, 2013, net of the valuation allowance, the net deferred tax assets were reduced to zero. Income taxes are described more fully in Note 9 to the Company's financial statements included in the Company's Annual Report on Form 10-K for the year ended December 31, 2013.

Other Income, net

Other income, net consists of foreign currency transaction gains and losses associated with conducting clinical trials in foreign countries, interest earned on the Company's cash, cash equivalents and short-term investments, interest expense, and other non-operating income or expense.

FARESTON® Revenue Recognition

Although the Company sold its rights and certain assets related to FARESTON® effective September 30, 2012, the Company retained the liability for future product returns relating to sales of FARESTON® made by the Company prior to September 30, 2012. Therefore, the Company estimates an accrual for product returns based on factors which include historical product returns and estimated product in the distribution channel which is expected to exceed its expiration date. At June 30, 2014 and December 31, 2013, the Company's accrual for product returns, was $282 and $918, respectively. Of these amounts, $147 and $332 have been included in "Other long-term liabilities" in the condensed balance sheet at June 30, 2014 and December 31, 2013, respectively, and represents the portion of the Company's product returns accrual estimated to be payable after one year.

Subsequent Events

The Company has evaluated all events or transactions that occurred after June 30, 2014 up through the date the condensed financial statements were issued. There were no material recognizable or nonrecognizable subsequent events during the period evaluated.

Going Concern

The accompanying unaudited condensed financial statements have been prepared assuming the Company will continue as a going concern which contemplates the realization of assets and liabilities in the ordinary course of

GTx, Inc.
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(in thousands, except share and per share data)
(unaudited)

business. The Company has experienced significant recurring operating losses since its inception resulting in an accumulated deficit of $475,291 at June 30, 2014. At June 30, 2014, the Company had cash, cash equivalents and short-term investments of $17,258 compared to $14,729 at December 31, 2013. Currently, the Company has no ongoing collaborations for the development and commercialization of its product candidates and no source of revenue, nor does the Company expect to generate revenue for the foreseeable future. A substantial portion of the Company's efforts and expenditures has been devoted to enobosarm 3 mg, which was the subject of two Phase 3 clinical trials for the prevention and treatment of muscle wasting in patients with advanced NSCLC, and the Company has been substantially dependent on the successful development, regulatory approval and commercialization of enobosarm 3 mg. The failure of the enobosarm 3 mg Phase 3 clinical trials to meet the primary statistical criterion for the co-primary endpoints agreed upon with the FDA has significantly depressed the Company's stock price and has harmed its future prospects and ability to raise additional capital, and consequently, the Company's prospects as a going concern have been diminished. The Company estimates that its current cash, cash equivalents and short-term investments, together with interest thereon, will be sufficient to meet its projected operating requirements only into the second quarter of 2015. If the Company does not have sufficient funds to continue its operations, it would be required to, among other things, make further reductions in its workforce, eliminate ongoing clinical trials, discontinue the development of enobosarm and/or GTx-758, liquidate all or a portion of its assets, and/or seek protection under the provisions of the U.S. Bankruptcy Code. These factors raise substantial doubt about the Company's ability to continue as a going concern. The Company's financial statements do not include any adjustments that may result from the outcome of this uncertainty.

2. Share-Based Compensation

Share-based payments include stock option grants and restricted stock units ("RSUs") under the Company's stock option and equity incentive plans and deferred compensation arrangements for the Company's non-employee directors. The Company recognizes compensation expense for its share-based payments based on the fair value of the awards over the period during which an employee or non-employee director is required to provide service in exchange for the award. The Company's share-based compensation plans are described more fully in Note 3 to the Company's financial statements included in the Company's Annual Report on Form 10-K for the year ended December 31, 2013.

The following table summarizes share-based compensation expense included within the condensed statements of operations for the three and six months ended June 30, 2014 and 2013:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2014	2013	2014	2013
Research and development expenses	$ 950	$ 353	$ 2,330	$ 695
General and administrative expenses	817	361	1,684	875
Total share-based compensation	$ 1,767	$ 714	$ 4,014	$ 1,570

Share-based compensation expense recorded as general and administrative expense for the three months ended June 30, 2014 and 2013 included share-based compensation expense related to deferred compensation arrangements for the Company's non-employee directors of $31 and $32, respectively. Share-based compensation expense recorded as general and administrative expense for the six months ended June 30, 2014 and 2013 included share-based compensation expense related to deferred compensation arrangements for the Company's non-employee directors of $63 and $74, respectively. As a result of the modification of Dr. Steiner's options upon his resignation in April 2014, the Company recognized a one-time, noncash net compensation expense of $215, which was included in general and administrative expenses for the three and six months ended June 30, 2014. This amount reflects the net of the aggregate incremental fair value associated with the modifications of $359, partially offset by the reversal of $144 of previously recognized share-based compensation expense for Dr. Steiner's unvested options.

The Company uses the Black-Scholes-Merton option pricing valuation model ("Black-Scholes Model") to value stock options. The expected life of options is determined by calculating the average of the vesting term and the contractual term of the options. The expected price volatility is based on the Company's historical stock price volatility. The risk-free interest rate is determined using U.S. Treasury rates where the term is consistent with the

GTx, Inc.
NOTES TO THE CONDENSED FINANCIAL STATEMENTS
(in thousands, except share and per share data)
(unaudited)

expected life of the stock options. Expected dividend yield is not considered as the Company has not made any dividend payments and has no plans of doing so in the foreseeable future. The amount of share-based compensation expense recognized is reduced ratably over the vesting period by an estimate of the

(in thousands, except share and per share data)

percentage of options granted that are expected to be forfeited or canceled before becoming fully vested.

The Company estimated the fair value of RSUs using the closing price of its stock on the grant date. The fair value of RSUs was amortized on a straight-line basis over the requisite service period of the awards. At December 31, 2013, the Company had 1,225,000 unvested RSUs with a weighted average grant date fair value per share of $1.87. All of the Company's outstanding RSUs vested during the second quarter of 2014 and no RSUs were outstanding at June 30, 2014. The number of RSUs vested includes 371,906 shares that were withheld on behalf of the Company's employees to satisfy the statutory tax withholding requirements.

The fair value of options granted was estimated using the following assumptions for the periods presented:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2014	2013	2014	2013
Expected price volatility	86.5%	75.7%	86.5%	74.5%
Risk-free interest rate	2.3%	1.0%	2.3%	1.1%
Weighted average expected life in years	6.9 years	6.0 years	6.9 years	6.5 years

The following is a summary of stock option transactions for all of the Company's stock option and equity incentive plans since the Company's most recent fiscal year end:

	Number of Shares	Weighted Average Exercise Price Per Share
Options outstanding at December 31, 2013	6,445,342	$ 6.58
Options granted	2,912,500	1.37
Options forfeited or expired	(1,134,874)	9.39
Options exercised	—	—
Options outstanding at June 30, 2014	8,222,968	4.35

3. Basic and Diluted Net Loss Per Share

Basic and diluted net loss per share attributable to common stockholders is calculated based on the weighted average number of common shares outstanding during the period. Diluted net loss per share gives effect to the dilutive potential of common stock consisting of stock options, unvested restricted stock units and common stock warrants.

Weighted average potential shares of common stock of 17,695,578 and 6,488,055 for the three months ended June 30, 2014 and 2013, respectively, and 14,267,924 and 6,583,708 for the six months ended June 30, 2014 and 2013, respectively, were excluded from the calculations of diluted loss per share as inclusion of the potential shares would have had an anti-dilutive effect on the net loss per share for these periods.

4. Common Stock

On March 6, 2014, the Company completed a private placement of units consisting of an aggregate of 11,976,048 shares of common stock and warrants to purchase an aggregate of 10,179,642 shares of its common stock per unit for gross proceeds of $21,272. Pursuant to the terms of a registration rights agreement dated March 6, 2014 that the Company entered into with the investors, the Company agreed to file a registration statement under the Securities Act registering the resale of all 22,155,690 shares held by or issuable to the investors. No underwriting discounts or commissions or similar fees were payable in connection with the issuance.

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The warrants, which have a one year term expiring on March 6, 2015, have a per share exercise price of $1.67 that is payable only in cash. The Company assessed whether the warrants require accounting as derivatives. The Company determined that the warrants were indexed to the Company's own stock. As such, the Company has concluded the warrants meet the scope exception for determining whether the instruments require accounting as derivatives and are classified in stockholders' equity. The fair value of the warrants was estimated at $4,478 using the Black-Scholes Model with the following assumptions: expected volatility of 67%, risk free interest rate of 0.12%, expected life of one year and no dividends. The proceeds of the sale of the private placement were allocated to the common stock and warrants based upon their relative fair values.

5. University of Tennessee Research Foundation License Agreement

The Company and the University of Tennessee Research Foundation ("UTRF") are parties to a consolidated, amended and restated license agreement (the "SARM License Agreement") pursuant to which the Company was granted exclusive worldwide rights in all existing SARM technologies owned or controlled by UTRF, including all improvements thereto, and exclusive rights to future SARM technology that may be developed by certain scientists at the University of Tennessee or subsequently licensed to UTRF under certain existing inter-institutional agreements with The Ohio State University. Under the SARM License Agreement, the Company is obligated to pay UTRF annual license maintenance fees, low single-digit royalties on net sales of products and mid-single-digit royalties on sublicense revenues.

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ITEM 2. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion should be read in conjunction with the condensed financial statements and the notes thereto included in Part 1, Item 1 of this Quarterly Report on Form 10-Q.

Forward-Looking Information

This Quarterly Report on Form 10-Q contains forward-looking statements. The forward-looking statements are contained principally in the sections entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Risk Factors." These statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed or implied by the forward-looking statements. Forward-looking statements include statements about:

- the implementation of our business strategies, including our ability to preserve or realize any significant value from our enobosarm (GTx-024) and GTx-758 (Capesaris®) programs;
- the therapeutic and commercial potential of our product candidates;
- the timing of regulatory discussions and submissions, and the anticipated timing, scope and outcome of related regulatory actions or guidance;
- our ability to establish and maintain potential new collaborative, partnering or other strategic arrangements for the development and commercialization of our product candidates;
- the anticipated progress of our clinical programs, including whether our ongoing clinical trial of GTx-758 will achieve clinically relevant results;
- the timing, scope and anticipated initiation, enrollment and completion of our ongoing clinical trials and any other future clinical trials that we may conduct;
- our ability to obtain and maintain regulatory approvals of our product candidates and any related restrictions, limitations, and/or warnings in the label of an approved product candidate;
- our ability to market, commercialize and achieve market acceptance for our product candidates;
- our ability to protect our intellectual property and operate our business without infringing upon the intellectual property rights of others; and
- our estimates regarding the sufficiency of our cash resources and our ability to continue as a going concern and our expenses, capital requirements and need for additional financing, and our ability to obtain additional financing.

In some cases, you can identify forward-looking statements by terms such as "anticipates," "believes," "could," "estimates," "expects," "intends," "may," "plans," "potential," "predicts," "projects," "should," "will," "would" and similar expressions intended to identify forward-looking statements. Forward-looking statements reflect our current views with respect to future events, are based on assumptions and are subject to risks, uncertainties and other important factors. We discuss many of these risks in this Quarterly Report on Form 10-Q in greater detail in the section entitled "Risk Factors" under Part II, Item 1A below. Given these risks, uncertainties and other important factors, you should not place undue reliance on these forward-looking statements. Also, forward-looking statements represent our estimates and assumptions only as of the date of this Quarterly Report on Form 10-Q. You should read this Quarterly Report on Form 10-Q and the documents that we incorporate by reference in and have filed as

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exhibits to this Quarterly Report on Form 10-Q, completely and with the understanding that our actual future results may be materially different from what we expect. Except as required by law, we assume no obligation to update any forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in any forward-looking statements, even if new information becomes available in the future.

Overview

Business Overview

We are a biopharmaceutical company dedicated to the discovery, development and commercialization of small molecules for the treatment of cancer, including treatments for breast and prostate cancer, cancer supportive care, including prevention and treatment of cancer-related muscle wasting, and other serious medical conditions.

In April 2014, we announced that Mitchell S. Steiner, our Vice Chairman of the Board of Directors and Chief Executive Officer, or CEO, and a co-founder of the Company, was leaving the Company to pursue other business interests. Dr. Steiner resigned from his roles as CEO and Vice Chairman at the Company effective April 3, 2014. Marc S. Hanover, a co-founder of the Company, was named interim CEO by the Company's Board. Mr. Hanover was also elected by the Board to fill Dr. Steiner's remaining term as a Class II director until our 2015 annual meeting of stockholders. Mr. Hanover has served as President and Chief Operating Officer of GTx since our inception in September 1997. Also in April 2014, we announced that James T. Dalton, our Chief Scientific Officer, notified us of his decision to resign from GTx effective August 31, 2014. The Company has entered into a consulting agreement with Dr. Dalton effective upon his resignation from the Company.

Notwithstanding the recent changes in our management, we remain committed to the implementation of our strategy, which includes further development of enobosarm 9 mg for the treatment of patients with androgen receptor, or AR, positive metastatic breast cancer. We are continuing to evaluate the filing of a marketing authorization application, or MAA, to the European Medicines Agency, or EMA, based on the sufficiency of the supporting data from the two Phase 3 clinical trials evaluating enobosarm 3 mg for the prevention and treatment of muscle wasting in patients with advanced non-small cell lung cancer, or NSCLC, treated with platinum plus taxane chemotherapy and the commercial prospects of the drug candidate in this more narrow indication. We are also

evaluating options for further development of enobosarm 3 mg in the United States. Finally, we are continuing our Phase 2 clinical trial of GTx-758 as a secondary hormonal treatment for men with castration-resistant prostate cancer.

Business Highlights

We are developing selective androgen receptor modulators, or SARMs, a new class of drugs with the potential to be used as a hormonal therapy for the treatment of metastatic breast cancer, as well as the potential to prevent and treat muscle wasting in patients with cancer and other musculoskeletal wasting or muscle loss conditions, including chronic sarcopenia (age related muscle loss). Our lead SARM product candidate, enobosarm (GTx-024), has to date been evaluated in 21 completed or ongoing clinical trials enrolling approximately 1,554 subjects, including in three Phase 2 and two Phase 3 clinical trials. Enobosarm is the generic name given to the compound by the USAN Council and the World Health Organization and is the first compound to receive the SARM stem in its name, recognizing enobosarm as the first in this new class of compounds.

We announced during the second quarter of 2014 positive preliminary results from a Phase 2 proof-of-concept, open-label clinical trial evaluating enobosarm 9 mg for the treatment of patients with AR positive and estrogen receptor, or ER, positive metastatic breast cancer who have previously responded to hormonal therapy. We believe that SARMs have the potential to be used as a novel hormonal therapy for the treatment of metastatic breast cancer. Nonselective steroidal androgens have been used to treat breast cancer; however, the unwanted virilizing side effects have limited their widespread clinical use. Moreover, they may also be metabolized to estrogens that could stimulate tumor growth. We believe that enobosarm has the potential to provide clinical benefit to women whose metastatic breast cancer is progressing by treating their disease while minimizing the unwanted masculinizing side effects associated with steroidal androgens, and unlike steroidal androgens, cannot be converted into an estrogen. Additionally, women with metastatic breast cancer receiving treatment with enobosarm may

receive the benefit of increased lean body mass, reduction in fat mass and improvement in physical function. In our Phase 2 clinical trial in the U.S., we enrolled 22 postmenopausal women with metastatic breast cancer to assess clinical benefit response after six months of enobosarm 9 mg once daily treatment, which was defined as those women receiving treatment who have demonstrated (i) a complete response (disappearance of all targeted lesions), (ii) a partial response (at least a 30 percent decrease in the sum of the diameters of the targeted lesions), or (iii) stable disease (no disease progression from baseline).

Of the 22 patients enrolled in the study, a total of 20 patients had one or more scheduled assessments for determination of clinical benefit. The primary endpoint was assessed in 17 AR positive patients, with six patients demonstrating clinical benefit at six months, exceeding the pre-defined statistical threshold requiring that at least three of 14 patients with an AR positive metastatic lesion demonstrate clinical benefit. A total of seven patients achieved clinical benefit at six months, which includes one patient whose AR status could not be determined. The results also demonstrated that, after a median duration on study of 81 days, 41 percent of all patients (9/22) achieved clinical benefit as best response and also had increased prostate specific antigen, or PSA, which appears to be an indicator of AR activity. The seven patients achieving clinical benefit (which included six of the 17 patients with AR positive metastatic lesions, or 35 percent) had stable disease. No confirmed complete or partial responses have been observed in the study, although three patients currently remain on study past 270 days as their disease has continued to remain stable. Enobosarm 9 mg was well tolerated. The most common adverse events, or AEs, reported were pain, fatigue, nausea, hot flash/night sweats, and arthralgia. The majority of AEs were Grade 1. There were two serious adverse events, or SAEs, reported during the study. One of the SAEs, bone pain of the chest cage, was assessed as possibly related to enobosarm. Based on the results of this clinical trial, we are planning additional clinical development of enobosarm in patients with AR positive metastatic breast cancer, subject to our ability to obtain additional funding.

We announced in August 2013 that the POWER 1 (platinum plus taxane chemotherapy) and POWER 2 (platinum plus non-taxane chemotherapy) (Prevention and treatment Of muscle Wasting in patients with cancER) Phase 3 clinical trials evaluating enobosarm 3 mg for the prevention and treatment of muscle wasting in patients with advanced NSCLC failed to meet the primary statistical criterion for the co-primary endpoints of lean body mass and physical function that were assessed statistically using responder analyses as pre-specified for the FDA. However, efficacy data from the studies demonstrated enobosarm's consistent effect on maintaining or improving lean body mass compared to placebo. As for safety, enobosarm was generally well tolerated, with the occurrence of SAEs similar across the placebo and treated groups. A final analysis for survival was performed following 450 deaths in patients across both studies, which occurred in June 2014. As expected, enobosarm 3 mg did not adversely affect patient survival, as there were no statistical differences in survival between subjects in the placebo and enobosarm arms.

Enobosarm 3 mg demonstrated a statistically significant effect versus placebo on the primary endpoint of physical function through Day 84 in the POWER 1 clinical trial as assessed by continuous variable analysis, as pre-specified in our statistical analysis plan for the EMA. Therefore, we met with representatives from two member countries to the EMA in January 2014 to review and discuss the results of the POWER trials to determine an appropriate path forward for submitting a MAA in the EU for enobosarm 3 mg for the prevention and treatment of muscle wasting in patients with advanced NSCLC. Following these meetings, we retained experts in both the U.S. and the EU to work with our internal team to explore the option of submitting a MAA for enobosarm 3 mg in the more narrow indication of the prevention and treatment of muscle wasting in patients with advanced NSCLC treated with platinum plus taxane chemotherapy. We have completed the clinical conduct for all additional Phase 1 clinical studies typically required for submission purposes and are now reviewing the pharmacokinetic and safety data necessary to prepare the related clinical study reports. Further, the Company has submitted a pediatric investigational plan to the EMA, which is necessary for the submission of a MAA. Although we have performed these prerequisite activities for the submission of a MAA for enobosarm 3 mg for the prevention and treatment of muscle wasting in patients with advanced NSCLC treated with platinum plus taxane chemotherapy, we are continuing to evaluate the filing of a MAA to the EMA based on the sufficiency of the supporting data and the commercial prospects of the drug candidate in this more narrow indication. In any event, we do not currently expect that we will be able to submit a MAA to the EMA prior to the third quarter of 2015, if at all.

In our meeting with the United States Food and Drug Administration, or FDA, in February 2014 to review and discuss the results of the POWER clinical trials, we learned that since data from the two POWER trials failed to

meet the primary statistical criterion pre-specified for the co-primary endpoints of lean body mass and physical function, the FDA was not willing to accept a new drug application, or NDA, for enobosarm 3 mg. We are evaluating options for further development of enobosarm 3 mg in the U.S. Any further development of enobosarm 3 mg will be subject to our ability to obtain additional funding.

Additionally, we are developing GTx-758 (Capesaris®), an oral nonsteroidal selective estrogen receptor alpha agonist, for secondary hormonal therapy in men with metastatic and non-metastatic castration resistant prostate cancer, or CRPC, and, potentially, as a secondary hormonal treatment for advanced prostate cancer used in combination with androgen deprivation therapy, or ADT. We believe GTx-758 has the potential to reduce free testosterone without also causing certain estrogen deficiency side effects, such as bone loss and hot flashes, which are common with current androgen deprivation therapies for prostate cancer. We also believe that GTx-758 may be effective, in combination with ADT, as a secondary hormonal treatment of advanced prostate cancer by reducing free testosterone to levels lower than those attainable with ADT alone and potentially reducing the estrogen deficiency side effects caused by the use of ADT.

In May 2012, we announced that the FDA had removed its full clinical hold on our Investigational New Drug, or IND, application for GTx-758. The full clinical hold was placed on our three then ongoing Phase 2 clinical trials evaluating GTx-758 to treat men with advanced prostate cancer in February 2012 and resulted in the discontinuation of these trials. The full clinical hold followed our reports to the FDA of venous thromboembolic events (blood clots), or VTEs, in subjects treated with GTx-758 at the doses being studied in those trials (1000 mg and higher per day). Based upon feedback from the FDA in connection with the removal of the full clinical hold, we initiated in the third quarter of 2012 a Phase 2 clinical trial to evaluate the safety and efficacy of lower doses of GTx-758 as secondary hormonal therapy in men with metastatic CRPC.

We are currently conducting a Phase 2 open-label clinical trial in men who have developed metastatic or non-metastatic CRPC while on ADT. GTx-758 has previously demonstrated the ability to increase the production of a protein called sex hormone binding globulin, or SHBG, that binds testosterone and thereby reduces free testosterone. By reducing free testosterone, we believe serum prostate specific antigen, or PSA, will be reduced in men with CRPC. The primary endpoint of the current Phase 2 clinical trial is the proportion of subjects with a $\geq$ 50% decline from baseline in serum PSA by Day 90. Other key endpoints include serum SHBG and total and free testosterone levels, as well as prostate cancer progression, in the study subjects. In addition, the clinical trial is evaluating the ability of GTx-758 to treat certain estrogen deficiency side effects associated with luteinizing hormone releasing hormone agonists such as hot flashes and bone loss. The Phase 2 clinical trial allows us to assess the safety and tolerability of GTx-758 in these subjects, including the incidence of VTEs. The original trial design provided for 75 total subjects to be enrolled in three sequential dosing arms, with the first 25 subjects in the study being enrolled in the GTx-758 125 mg dosing arm. Assuming that an acceptable incidence of VTEs was observed when the last subject enrolled in the GTx-758 125 mg dosing arm completed one 30 day cycle of therapy, enrollment of the next 25 subjects would commence in the GTx-758 250 mg dosing arm. Similarly, the GTx-758 500 mg dosing arm was to have commenced enrollment of the final 25 subjects when the last subject enrolled in the 250 mg dose arm completed one 30 day cycle of therapy, assuming an acceptable incidence of VTEs has been observed in both of the lower dosage arms and management had decided to continue testing at the next higher dose. After reviewing data collected from the GTx-758 125 mg dosing arm indicating the ability of the drug to substantially increase SHBG and lower free testosterone without any unexpected side effects occurring, the clinical trial protocol was amended in the third quarter of 2013 to eliminate the 500 mg dosing arm and to increase the number of subjects to be enrolled in the 125 mg and the 250 mg dosing arms to 38 patients per arm. Enrollment in the 125 mg cohort has been completed without any occurrence of VTEs, and after a pre-specified safety review by the Independent Data Safety Monitoring Board, we are now enrolling subjects in the 250 mg arm. Based on the safety and efficacy data observed in the 125 mg cohort and there being no unexpected side effects observed in the first ten metastatic patients enrolled in the 250 mg cohort, enrollment of the 250 mg cohort was opened to individuals with metastatic or non-metastatic CRPC. The study is ongoing and, subject to meeting our current enrollment projections, data from all patients in the study is expected in the first quarter of 2015.

Financial Highlights

Our net loss for the three months ended June 30, 2014 was $10.9 million. We expect to incur significant operating losses for the foreseeable future as we continue our clinical development activities and potentially seek

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regulatory approval of our product candidates. We have funded our operations primarily through the sale of equity securities, collaboration and license agreements, and prior to September 2012, product revenue from sales of FARESTON®, the rights to which we sold to a third party in the third quarter of 2012. We currently have no ongoing collaborations for the development and commercialization of our product candidates and no source of revenue, nor do we expect to generate revenue for the foreseeable future. We do not expect to obtain FDA or EMA approval, or any other regulatory approvals, to market any of our product candidates, including enobosarm, for the foreseeable future, and it is possible that none of our product candidates will ever receive any regulatory approvals.

At June 30, 2014, we had cash, cash equivalents and short-term investments of $17.3 million compared to $14.7 million at December 31, 2013. On March 6, 2014, we completed a private placement of units consisting of 11,976,048 shares of common stock and warrants to purchase 10,179,642 shares of our common stock for gross proceeds of approximately $21.3 million. The warrants, which have a one year term expiring on March 6, 2015, have a per share exercise price of $1.67 that is payable only in cash. If exercised in full, the warrants could result in additional gross proceeds of approximately $17.0 million.

We estimate that our current cash, cash equivalents and short-term investments, together with interest thereon, will be sufficient to meet our projected operating requirements into the second quarter of 2015. Accordingly, we need to raise substantial additional capital in the near term in order to fund our operations through and beyond the second quarter of 2015 and to continue as a going concern. In addition, we have based our cash sufficiency estimates on our current business plan and our assumptions that may prove to be wrong. We could utilize our available capital resources sooner than we currently expect, and we could need additional funding to sustain our operations even sooner than currently anticipated. While we expect that our current cash resources, together with interest income thereon, will be sufficient to fund the remaining costs associated with our Phase 2 proof-of-concept clinical trial of enobosarm 9 mg and the completion of the Phase 2 clinical trial of GTx-758, as well as the continuation of our evaluation of a filing of a MAA to the EMA for enobosarm 3 mg for the prevention and treatment of muscle wasting in patients with advanced NSCLC treated with platinum plus taxane chemotherapy, we will need to raise substantial additional capital in the near term in order to:

- conduct any additional clinical development of our product candidates beyond the Phase 2 clinical trials we are currently conducting, including to advance the clinical development of enobosarm 9 mg or to seek approval from any regulatory authorities for enobosarm 3 mg;

- complete the activities that would be required to submit a MAA to the EMA, should we determine to proceed with a MAA submission; and

· fund our operations and to continue as a going concern.

If we are unable to raise additional funds in the near term to fund our operations through and beyond the second quarter of 2015 and to continue as a going concern, we would be required to, among other things, make further reductions in our workforce, eliminate our ongoing clinical trials, discontinue the development of enobosarm and/or GTx-758, liquidate all or a portion of our assets, and/or seek protection under the provisions of the U.S. Bankruptcy Code, all of which would have a material adverse effect on our business and stock price. In addition, the accompanying financial statements do not include any adjustments or charges that might be necessary should we be unable to continue as a going concern, such as charges related to impairment of our assets, the recoverability and classification of assets or the amounts and classification of liabilities or other similar adjustments.

While we have been able to fund our operations to date, we currently have no ongoing collaborations for the development and commercialization of our product candidates and no source of revenue, nor do we expect to generate revenue for the foreseeable future. We also do not have any commitments for future external funding. Accordingly, we are seeking to raise additional funding through potential collaboration, partnering or other strategic arrangements, as well as through public or private equity offerings or debt financings, or a combination of the foregoing. Our ability to raise additional funds and the terms upon which we are able to raise such funds have been severely harmed by the failure of the two enobosarm 3 mg Phase 3 clinical trials to meet both of the co-primary endpoints agreed upon with the FDA, and may in the future be adversely impacted by the uncertainty regarding our ability to obtain approval of enobosarm 3 mg in the EU in the absence of additional Phase 3 development of enobosarm 3 mg and the terms of any such approval. Our ability to raise additional funds and the terms upon which we are able to raise such funds may also be adversely affected by the uncertainties regarding our financial condition, the sufficiency of our capital resources, our ability to maintain the listing of our common stock on the NASDAQ

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Global Market and recent and potential future management turnover. As a result of these and other factors, we cannot be certain that additional funding will be available on acceptable terms, or at all.

Research and Development

Since our inception in 1997, we have been focused on drug discovery and development programs. Research and development expenses include, but are not limited to, our expenses for personnel, supplies, and facilities associated with our research activities, screening and identification of product candidates, formulation and synthesis activities, manufacturing, preclinical studies, toxicology studies, clinical trials, regulatory and medical affairs activities, quality assurance activities and license fees. As a result of the October 2013 reduction in our workforce, we are no longer conducting drug discovery activities and we are focusing our research and development activities on the ongoing clinical development of our current product candidates.

We expect that our research and development expenses for fiscal year 2014 will decrease as compared to fiscal year 2013 due to the completion of the POWER 1 and POWER 2 clinical trials in 2013 and will be primarily focused on our ongoing Phase 2 clinical trials, activities related to our evaluation of further development of enobosarm 9 mg for the treatment of women with AR positive metastatic breast cancer, and prerequisite activities related to a potential submission of a MAA in the EU for enobosarm 3 mg.

There is a risk that any drug discovery and development program may not produce revenue. Moreover, because of the uncertainties inherent in drug discovery and development, including those factors described in Part II, Item 1A “Risk Factors” of this Quarterly Report on Form 10-Q, we may not be able to successfully develop and commercialize any of our product candidates.

Product Candidates

The following table identifies the development phase and status for each of our clinical product candidates:

Product Candidate/ Proposed Indication	Program	Clinical Development Phase	Status
Enobosarm			
9 mg			
Treatment of women with androgen receptor positive metastatic breast cancer	SARM	Phase 2	Announced positive preliminary results from the Phase 2 proof-of-concept clinical trial in the second quarter of 2014. Subject to obtaining additional funding, plan to advance clinical development in patients with AR positive metastatic breast cancer.
Enobosarm			
3 mg			
Prevention and treatment of muscle wasting in patients with advanced NSCLC	SARM	Phase 3	Evaluating a potential MAA submission in the EU for the more narrow indication of advanced NSCLC patients treated with platinum plus taxane chemotherapy, and evaluating options for further development of this program in the U.S.
GTx-758			
Secondary hormonal therapy in men with metastatic or non-metastatic CRPC	Selective ER alpha agonist	Phase 2	Completed enrollment of the 125 mg cohort of the Phase 2 clinical trial for secondary hormonal therapy in men with metastatic CRPC and currently enrolling the 250 mg cohort in both metastatic and non-metastatic CRPC.

General and Administrative Expenses

Our general and administrative expenses consist primarily of salaries and other related costs for personnel serving executive, finance, legal, human resources, information technology, and investor relations functions. General and administrative expenses also include facility costs, insurance costs, and professional fees for legal, accounting, and public relation services.

Critical Accounting Policies and Significant Judgments and Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our condensed financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America for interim financial statements. The preparation of these financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the condensed financial statements as well as the reported revenues and expenses during the reporting periods. On an ongoing basis, we evaluate our estimates and judgments related to revenue recognition, income taxes, intangible assets, long-term service contracts and other contingencies. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

While our significant accounting policies are more fully described in Note 2 to our financial statements appearing in our Annual Report on Form 10-K for the year ended December 31, 2013 filed with the SEC, we believe that the following accounting policies are most critical to aid you in fully understanding and evaluating our reported financial results.

Research and Development Expenses

Research and development expenses include, but are not limited to, our expenses for personnel, supplies, and facilities associated with research activities, screening and identification of product candidates, formulation and synthesis activities, manufacturing, preclinical studies, toxicology studies, clinical trials, regulatory and medical affairs activities, quality assurance activities and license fees. We expense these costs in the period in which they are incurred. We estimate our liabilities for research and development expenses in order to match the recognition of expenses to the period in which the actual services are received. As such, accrued liabilities related to third party research and development activities are recognized based upon our estimate of services received and degree of completion of the services in accordance with the specific third party contract. As a result of the October 2013 reduction in our workforce, we are no longer conducting drug discovery activities and are focusing our research and development activities on the ongoing clinical development of our current product candidates.

Share-Based Compensation

We have stock option and equity incentive plans that provide for the purchase of our common stock by certain of our employees and non-employee directors. We recognize compensation expense for our share-based payments based on the fair value of the awards on the grant date and recognize the expense over the period during which an employee or non-employee director is required to provide service in exchange for the award.

The determination of the fair value of share-based payment awards on the date of grant include the expected life of the award, the expected stock price volatility over the expected life of the awards, and risk-free interest rate. We

estimate the expected life of options by calculating the average of the vesting term and contractual term of the options. We estimate the expected stock price volatility based on the historical volatility of our common stock. The risk-free interest rate is determined using U.S. Treasury rates where the term is consistent with the expected life of the stock options. Expected dividend yield is not considered as we have not made any dividend payments and have no plans of doing so in the foreseeable future. The amount of share-based compensation expense recognized is reduced ratably over the vesting period by an estimate of the percentage of options granted that are expected to be forfeited or canceled before becoming fully vested. This estimate is adjusted periodically based on the extent to which actual forfeitures differ, or are expected to differ, from the previous estimate.

Share-based compensation also includes, beginning October 2013, restricted stock units, or RSUs, granted to employees under our 2013 equity incentive plan. We estimated the fair value of RSUs using the closing price of our stock on the grant date. The fair value of RSUs was amortized on a straight-line basis over the requisite service period of the awards. All outstanding RSUs vested during the second quarter of 2014 and no RSUs were outstanding at June 30, 2014.

The following table summarizes share-based compensation expense included within the condensed statements of operations for the three and six months ended June 30, 2014 and 2013:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2014	2013	2014	2013
	(in thousands)		(in thousands)	
Research and development expenses	$ 950	$ 353	$ 2,330	$ 695
General and administrative expenses	817	361	1,684	875
Total share-based compensation	$ 1,767	$ 714	$ 4,014	$ 1,570

Share-based compensation expense recorded in the condensed statement of operations as general and administrative expense for the three months ended June 30, 2014 and 2013 included share-based compensation expense related to deferred compensation arrangements for our non-employee directors of $31,000 and $32,000, respectively. Share-based compensation expense recorded in the condensed statement of operations as general and administrative expense for the six months ended June 30, 2014 and 2013 included share-based compensation expense related to deferred compensation arrangements for our

non-employee directors of $63,000 and $74,000, respectively. At June 30, 2014, the total compensation cost related to non-vested awards not yet recognized was approximately $4.4 million with a weighted average expense recognition period of 4.45 years.

FARESTON® Revenue Recognition

Although we sold our rights and certain assets related to FARESTON® effective September 30, 2012, we retain the liability for future product returns relating to sales of FARESTON® by us prior to September 30, 2012. Therefore, we estimate an accrual for product returns based on factors which include historical product returns and estimated product in the distribution channel which is expected to exceed its expiration date. At June 30, 2014 and December 31, 2013, our accrual for product returns, was $282,000 and $918,000, respectively. The accrual for product returns decreased during the current period due to the closure of the return period for a portion of the previously sold inventory.

Results of Operations

Three and Six Months Ended June 30, 2014 and 2013

Research and Development Expenses

The following table identifies the research and development expenses for each of our clinical product candidates, as well as research and development expenses pertaining to our other research and development efforts, for each of the periods presented. Research and development spending for past periods is not indicative of spending

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in future periods.

Proposed Candidate / Proposed Indication	Program	Three Months Ended June 30,		Six Months Ended June 30,	
		2014	2013	2014	2013
		(in thousands)			
Enobosarm					
3 mg					
Prevention and treatment of muscle wasting in patients with advanced non-small cell lung cancer	**SARM**	$ 5,790	$ 6,445	$ 9,777	$ 12,423
Enobosarm					
9 mg					
Treatment of women with AR positive metastatic breast cancer	**SARM**	764	628	1,627	951
GTx-758					
Secondary hormonal therapy in men with metastatic and non-metastatic CRPC	**Selective ER alpha agonist**	1,227	1,368	2,689	3,082
Other research and development		113	1,698	161	3,297
Total research and development expenses		$ 7,894	$ 10,139	$ 14,254	$ 19,753

Research and development expenses decreased to $7.9 million for the three months ended June 30, 2014 from $10.1 million for the three months ended June 30, 2013. Research and development expenses decreased to $14.3 million for the six months ended June 30, 2014 from $19.8 million for the six months ended June 30, 2013.

Research and development expenses for enobosarm 3 mg decreased for both periods as the last patients completed the POWER 1 and POWER 2 Phase 3 clinical trials for enobosarm 3 mg in May 2013. This was partially offset by increased activities related to a potential MAA submission for enobosarm 3 mg, including conducting seven Phase 1 clinical trials. Research and development expenses for enobosarm 9 mg increased for both periods as we initiated in the second quarter of 2013 a Phase 2 clinical trial evaluating enobosarm 9 mg for the treatment of AR positive and ER positive metastatic breast cancer in women who have previously responded to hormonal therapy. Research and development expenses related to GTx-758 decreased for both periods related to the ongoing Phase 2 clinical trial to evaluate GTx-758 as secondary hormonal therapy in men with metastatic CRPC due to the timing of patient activities and related management expenses as this trial was initiated in the third quarter of 2012.

"Other research and development" expenses include the cost of personnel, supplies and facilities associated with preclinical and discovery research and development activities and has decreased from the prior year comparable period as we are no longer conducting drug discovery activities and are focusing our research and development activities on the ongoing clinical development of our current product candidates.

General and Administrative Expenses

General and administrative expenses increased 14% to $3.1 million for the three months ended June 30, 2014 from $2.7 million for the three months ended June 30, 2013. General and administrative expenses decreased slightly for the six months ended June 30, 2014 from the six months ended June 30, 2013. The increase for the three months ended June 30, 2014 from the prior period comparable quarter was due to expenses related to cash retention bonuses, stock options modifications, and stock option and RSU grants made to employees as part of our efforts to

retain essential employees needed for us to continue our business operations following the October 2013 workforce reduction, as well as severance and stock option modifications related to the resignation of our CEO during the second quarter of 2014. These increases were partially offset by decreases in legal expenses and other costs saving measures we implemented related to the workforce reduction. The decrease for the six months ended June 30, 2014 from the prior comparable period was due to a reduction in personnel costs as a result of the workforce reduction implemented in October 2013, decreased legal fees, and a decrease in the accrual for product returns due to the closure of the return period for a portion of the previously sold inventory. These decreases were significantly offset by increases related to cash retention bonuses, stock options modifications, and stock option and RSU grants made to employees as part of our efforts to retain essential employees needed for us to continue our business operations following the October 2013 workforce reduction and severance and stock option modifications related to the resignation of our CEO during the second quarter of 2014.

Liquidity and Capital Resources

At June 30, 2014, we had cash, cash equivalents and short-term investments of $17.3 million, compared to $14.7 million at December 31, 2013. Net cash used in operating activities was $18.0 million and $25.3 million for the six months ended June 30, 2014 and 2013, respectively.

Net cash used in investing activities was $5.9 million for the six months ended June 30, 2014 and resulted primarily from the purchase of short-term investments of $9.3 million offset by the maturities of short-term investments of $3.4 million. Net cash provided by investing activities was $4.6 million for the six months ended June 30, 2013 and resulted primarily from the maturities of short-term investments of $5.9 million offset by the purchase of short-term investments of $1.2 million.

Net cash provided by financing activities was $20.5 million for the six months ended June 30, 2014 and reflects proceeds from the issuance of common stock and warrants, partially offset by $617,000 of tax payments related to shares withheld for vested RSUs and payments of $2,000 on capital lease obligations. Net cash provided by financing activities was $865,000 for the six months ended June 30, 2013 and was provided primarily from proceeds from the exercise of employee stock options of $869,000 partially offset by payments on capital lease and financed equipment obligations of $4,000.

We estimate that our current cash, cash equivalents and short-term investments, together with interest thereon, will be sufficient to meet our projected operating requirements into the second quarter of 2015. Accordingly, we need to raise substantial additional capital in the near term in order to fund our operations through and beyond the second quarter of 2015 and to continue as a going concern. In addition, we have based our cash sufficiency estimates on our current business plan and our assumptions that may prove to be wrong. We could utilize our available capital resources sooner than we currently expect, and we could need additional funding to sustain our operations even sooner than currently anticipated.

In addition, while we expect that our current cash resources, together with interest income thereon, will be sufficient to fund the remaining costs associated with our Phase 2 proof-of-concept clinical trial of enobosarm 9 mg and the completion of the Phase 2 clinical trial of GTx-758, as well as the continuation of our evaluation of a filing of a MAA to the EMA for enobosarm 3 mg for the prevention and treatment of muscle wasting in patients with advanced NSCLC treated with platinum plus taxane chemotherapy, we will need to raise substantial additional capital in the near term in order to:

- conduct any additional clinical development of our product candidates beyond the Phase 2 clinical trials we are currently conducting, including to advance the clinical development of enobosarm 9 mg or to seek approval from any regulatory authorities for enobosarm 3 mg;
- complete the activities that would be required to submit a MAA to the EMA, should we determine to proceed with a MAA submission; and
- fund our operations and to continue as a going concern.

Our estimates of the period of time through which our financial resources will be adequate to support our projected operating requirements and related development activities are forward-looking statements and involve

risks and uncertainties, and actual results could vary as a result of a number of factors, including the factors discussed under Part II, Item 1A “Risk Factors” section of this Quarterly Report on Form 10-Q. In addition, because of the numerous risks and uncertainties associated with the development of our product candidates and other research and development activities, we are unable to estimate with certainty the amounts of increased capital outlays and operating expenditures associated with our anticipated future clinical trials and other research and development activities. Our future funding requirements will depend on many factors, including:

- the scope, rate of progress and cost of our clinical development programs, including our ongoing and any future clinical trials of enobosarm and GTx-758;
- the terms and timing of any potential collaborative, licensing and other strategic arrangements that we may establish;
- the amount and timing of any licensing fees, milestone payments and royalty payments from potential collaborators, if any;
- future clinical trial results, if any;
- the cost and timing of regulatory filings and/or approvals to commercialize our product candidates and any related restrictions, limitations, and/or warnings in the label of an approved product candidate;
- the effect of competing technological and market developments; and
- the cost of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights, and the cost of defending any other litigation claims.

While we have been able to fund our operations to date, we currently have no ongoing collaborations for the development and commercialization of our product candidates and no source of revenue, nor do we expect to generate revenue for the foreseeable future. We also do not have any commitments for future external funding. Accordingly, we are seeking to raise additional funding through potential collaboration, partnering or other strategic arrangements, as well as through public or private equity offerings or debt financings, or a combination of the foregoing. In October 2013, following our announcement that the POWER trials failed to achieve the results required by the FDA for us to file a new drug application, or NDA, for enobosarm 3 mg, we announced a workforce reduction of approximately 60%. If we are unable to raise additional funds in the near term to fund our operations through and beyond the second quarter of 2015 and to continue as a going concern, we would be required to, among other things, make further reductions in our workforce, eliminate our ongoing clinical trials, discontinue the development of enobosarm and/or GTx-758, liquidate all or a portion of our assets, and/or seek protection under the provisions of the U.S. Bankruptcy Code, all of which would have a material adverse effect on our business and stock price. In addition, the accompanying financial statements do not include any adjustments or charges that might be necessary should we be unable to continue as a going concern, such as charges related to impairment of our assets, the recoverability and classification of assets or the amounts and classification of liabilities or other similar adjustments.

To the extent that we raise additional funds through potential collaboration, partnering or other strategic arrangements, it may be necessary to relinquish rights to some of our technologies or product candidates, or grant licenses on terms that are not favorable to us, any of which could result in the stockholders of GTx having little or no continuing interest in our enobosarm and/or GTx-758 programs as stockholders or otherwise. To the extent we raise additional funds by issuing equity securities, our stockholders may experience significant dilution, particularly given our currently depressed stock price, and debt financing, if available, may involve restrictive covenants. For example, we announced in March 2014 that we completed a private placement of common stock and warrants to purchase additional common stock for gross proceeds of approximately $21.3 million, which financing was substantially dilutive, and our stockholders may experience additional, perhaps substantial, dilution should we again raise additional funds by issuing equity securities. Any debt financing or additional equity that we raise may contain terms that are not favorable to us or our stockholders. Our ability to raise additional funds and the terms upon which we are able to raise such funds have been severely harmed by the failure of the two enobosarm 3 mg Phase 3 clinical trials to meet both of the co-primary endpoints agreed upon with the FDA, and may in the future be adversely impacted by the uncertainty regarding whether we will submit a MAA to the EMA for enobosarm 3 mg and even if submitted, our ability to obtain approval of enobosarm 3 mg in the EU in the absence of additional Phase 3 development of enobosarm 3 mg and the terms of any such approval. Our ability to raise additional funds and the

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terms upon which we are able to raise such funds may also be adversely affected by the uncertainties regarding our financial condition, the sufficiency of our capital resources, our ability to maintain the listing of our common stock on the NASDAQ Global Market and recent and potential future management turnover. As a result of these and other factors, we cannot be certain that additional funding will be available on acceptable terms, or at all.

ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

During the six months ended June 30, 2014, there were no material changes to our market risk disclosures as set forth in Part II, Item 7A of our Annual Report on Form 10-K for the year ended December 31, 2013.

ITEM 4. CONTROLS AND PROCEDURES

We maintain disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Securities and Exchange Act of 1934, as amended (the "Exchange Act")) that are designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms and that such information is accumulated and communicated to our management, including our Principal Executive Officer and Principal Financial Officer, as appropriate, to allow for timely decisions regarding required disclosures.

We have carried out an evaluation, under the supervision and with the participation of our management, including our Principal Executive Officer and Principal Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of the end of the period covered by this report. Based on the evaluation of these disclosure controls and procedures, our Principal Executive Officer and Principal Financial Officer have concluded that our disclosure controls and procedures were effective.

There were no changes in our internal control over financial reporting during the second quarter of 2014 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting. Effective April 3, 2014, our then Chief Executive Officer resigned from GTx. We do not believe that this change materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II: OTHER INFORMATION

ITEM 1A. RISK FACTORS

We have identified the following additional risks and uncertainties that may have a material adverse effect on our business, financial condition or results of operations. Investors should carefully consider the risks described below before making an investment decision. Our business faces significant risks, and the risks described below may not be the only risks we face. Additional risks not presently known to us or that we currently believe are immaterial may also significantly impair our business operations. If any of these risks occur, our business, results of operations or financial condition could suffer, the market price of our common stock could decline and you could lose all or part of your investment in our common stock.

We have marked with an asterisk (*) those risks described below that reflect substantive changes from the risks described under Part I, Item 1A "Risk Factors" included in our Annual Report on Form 10-K filed with the Securities and Exchange Commission on March 12, 2014.

Risks Related to Our Financial Condition and Need for Additional Financing

We have incurred losses since inception, and we anticipate that we will incur continued losses for the foreseeable future.*

As of June 30, 2014, we had an accumulated deficit of $475.3 million. Our net loss for the six months ended June 30, 2014 was $19.9 million. We expect to incur significant operating losses for the foreseeable future as we continue our clinical development activities and potentially seek regulatory approval of our product candidates. These losses, among other things, have had and will continue to have an adverse effect on our stockholders' equity and working capital.

Our current product candidates, enobosarm (GTx-024) and GTx-758 (Capesaris®), will require significant additional clinical development and financial resources in order to obtain necessary regulatory approvals for these product candidates and to develop them into commercially viable products. A substantial portion of our efforts and expenditures have been devoted to enobosarm 3 mg, which was the subject of our POWER 1 and POWER 2 Phase 3 clinical trials for the prevention and treatment of muscle wasting in patients with advanced non-small cell lung cancer, or NSCLC, and we have been substantially dependent on the successful development, regulatory approval and commercialization of enobosarm 3 mg. The failure of the POWER trials to meet the primary statistical criterion for the co-primary endpoints agreed upon with the FDA significantly depressed our stock price and has harmed our future prospects and ability to raise additional capital, and consequently, our prospects as a going concern have been diminished. Although we are evaluating the submission of a marketing authorization application, or MAA, to the European Medicines Agency, or EMA, seeking marketing approval of enobosarm 3 mg in the European Union, or EU, for the more narrow indication of the prevention and treatment of muscle wasting in patients with advanced NSCLC treated with platinum plus taxane chemotherapy, the EMA must determine that the safety and efficacy data from the POWER 1 trial are sufficient to support the submission and approval of a MAA. However, we or the EMA may determine that the safety and efficacy data from the POWER 1 trial, as supported by data from the POWER 2 trial, are insufficient to support the submission of a MAA to the EMA seeking marketing authorization for enobosarm 3 mg and that one or more additional Phase 3 clinical trials of enobosarm 3 mg would be required to be successfully conducted by us in order to submit a MAA or to support approval of a MAA submission. If we are required to successfully conduct and complete any additional Phase 3 clinical trials of enobosarm 3 mg in order to support potential approval of enobosarm 3 mg in the EU, we could potentially abandon our plans to pursue the submission of a MAA. We are also evaluating options for further development of enobosarm 3 mg in the United States. We would be required to obtain substantial additional capital in order to conduct any Phase 3 clinical trials of enobosarm 3 mg to support potential approval in the United States and there can be no assurances that we would be successful in obtaining the additional funding necessary to support additional Phase 3 clinical trials of enobosarm 3 mg. A decision to abandon our plans to pursue the submission of a MAA and/or our inability to raise sufficient additional capital in order to conduct any Phase 3 clinical trials of enobosarm 3 mg to support potential approval in the United States, could require us to cease further development of our enobosarm 3 mg program and to forego any return on our investment from our enobosarm 3 mg program, which could make it more difficult for us to obtain, or may prevent us from obtaining, the additional capital that we need to allow us to continue as a going concern, and we could be required to cease operations.

Because of the numerous risks and uncertainties associated with developing and commercializing small molecule drugs, we are unable to predict the extent of any future losses or when we will become profitable, if at all. In addition, we do not expect to obtain FDA or EMA approval, or any other regulatory approvals, to market any of our product candidates, including enobosarm, for the foreseeable future, and it is possible that none of our product candidates will ever receive any regulatory approvals.

We have funded our operations primarily through public offerings and private placement of our common stock, as well as payments from our former collaborators. We also previously recognized product revenue from the sale of FARESTON®, the rights to which we sold to a third party in the third quarter of 2012. Currently, we have no ongoing collaborations for the development and commercialization of our product candidates, and as a result of the sale of our rights and certain assets related to FARESTON®, we also currently have no sources of revenue.

If we are unable to raise substantial additional capital in the near term to fund our operations through and beyond the second quarter of 2015 and to continue as a going concern, if we and/or any potential collaborators are unable to develop and commercialize enobosarm or GTx-758, if development is further delayed or is eliminated, or if sales revenue from enobosarm or GTx-758 upon receiving marketing approval, if ever, is insufficient, we may never become profitable and we will not be successful.

We need to raise substantial additional capital in the near term and may be unable to raise capital when needed, which would force us to delay, reduce or eliminate our product development programs and could cause

us to discontinue our operations. We cannot be certain that additional capital will be available to us and, if substantial additional capital is not available, we may not be able to continue as a going concern which may result in actions that could adversely impact our stockholders.*

At June 30, 2014, we had cash, cash equivalents and short-term investments of $17.3 million. We estimate that our current cash, cash equivalents and short-term investments, together with interest thereon, will be sufficient to meet our projected operating requirements only into the second quarter of 2015. Accordingly, we need to raise substantial additional capital in the near term in order to fund our operations through and beyond the second quarter of 2015 and to continue as a going concern. In addition, we have based our cash sufficiency estimates on our current business plan and our assumptions that may prove to be wrong. We could utilize our available capital resources sooner than we currently expect, and we could need additional funding to sustain our operations even sooner than currently anticipated.

In addition, while we expect that our current cash resources, together with interest income thereon, will be sufficient to fund the remaining costs associated with our Phase 2 proof-of-concept clinical trial of enobosarm 9 mg and the completion of the Phase 2 clinical trial of GTx-758, as well as the continuation of our evaluation of a filing of a MAA to the EMA for enobosarm 3 mg for the prevention and treatment of muscle wasting in patients with advanced NSCLC treated with platinum plus taxane chemotherapy, we will need to raise substantial additional capital in the near term in order to:

- conduct any additional clinical development of our product candidates beyond the Phase 2 clinical trials we are currently conducting, including to advance the clinical development of enobosarm 9 mg or to seek approval from any regulatory authorities for enobosarm 3 mg;
- complete the activities that would be required to submit a MAA to the EMA, should we determine to proceed with a MAA submission; and
- fund our operations and to continue as a going concern.

In any event, our future funding requirements will depend on many factors, including:

- the scope, rate of progress and cost of our clinical development programs, including our ongoing and any future clinical trials of enobosarm and GTx-758;
- the terms and timing of any potential collaborative, licensing and other strategic arrangements that we may establish;
- the amount and timing of any licensing fees, milestone payments and royalty payments from potential collaborators, if any;
- future clinical trial results, if any;
- the cost and timing of regulatory filings and/or approvals to commercialize our product candidates and any related restrictions, limitations, and/or warnings in the label of an approved product candidate;
- the effect of competing technological and market developments; and
- the cost of filing, prosecuting, defending and enforcing any patent claims and other intellectual property rights, and the cost of defending any other litigation claims.

While we have been able to fund our operations to date, we currently have no ongoing collaborations for the development and commercialization of our product candidates and no source of revenue, nor do we expect to generate revenue for the foreseeable future. We also do not have any commitments for future external funding. Accordingly, we are seeking to raise additional funding through potential collaboration, partnering or other strategic arrangements, as well as through public or private equity offerings or debt financings, or a combination of the foregoing. In October 2013, following our announcement that the POWER trials failed to achieve the results required by the FDA for us to file a new drug application, or NDA, for enobosarm 3 mg, we announced a workforce reduction of approximately 60%. If we are unable to raise additional funds in the near term to fund our operations through and beyond the second quarter of 2015 and to continue as a going concern, we would be required to, among other things, make further reductions in our workforce, eliminate our ongoing clinical trials, discontinue the development of enobosarm and/or GTx-758, liquidate all or a portion of our assets, and/or seek protection under the

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provisions of the U.S. Bankruptcy Code, all of which would have a material adverse effect on our business and stock price. In addition, the accompanying financial statements do not include any adjustments or charges that might be necessary should we be unable to continue as a going concern, such as charges related to impairment of our assets, the recoverability and classification of assets or the amounts and classification of liabilities or other similar adjustments.

To the extent that we raise additional funds through potential collaboration, partnering or other strategic arrangements, it may be necessary to relinquish rights to some of our technologies or product candidates, or grant licenses on terms that are not favorable to us, any of which could result in the stockholders of GTx having little or no continuing interest in our enobosarm and/or GTx-758 programs as stockholders or otherwise. To the extent we raise additional funds by issuing equity securities, our stockholders may experience significant dilution, particularly given our currently depressed stock price, and debt financing, if available, may involve restrictive covenants. For example, we announced in March 2014 that we completed a private placement of common stock and warrants to purchase additional common stock for gross proceeds of approximately $21.3 million, which financing was substantially dilutive, and our stockholders may experience additional, perhaps substantial, dilution should we again raise additional funds by issuing equity securities. Any debt financing or additional equity that we raise may contain terms that are not favorable to us or our stockholders. Our ability to raise additional funds and the terms upon which we are able to raise such funds have been severely harmed by the failure of the two enobosarm 3 mg Phase 3 clinical trials to meet both of the co-primary endpoints agreed upon with the FDA, and may in the future be adversely impacted by the uncertainty regarding whether we will submit a MAA to the EMA for enobosarm 3 mg and even if submitted, our ability to obtain approval of enobosarm 3 mg in the EU in the absence of additional Phase 3 development of enobosarm 3 mg and the terms of any such approval. Our ability to raise additional funds and the terms upon which we are able to raise such funds may also be adversely affected by the uncertainties regarding our financial condition, the sufficiency of our capital resources, our ability to maintain the listing of our common stock on the NASDAQ Global Market and recent and potential future management turnover. As a result of these and other factors, we cannot be certain that additional funding will be available on acceptable terms, or at all.

Risks Related to Development of Product Candidates

We are substantially dependent on the success of enobosarm and our failure to advance the development of enobosarm or to obtain regulatory approval of enobosarm from the EMA or FDA may significantly harm our prospects.*

A substantial portion of our efforts and expenditures have been devoted to enobosarm 3 mg, which was the subject of our POWER 1 and POWER 2 Phase 3 clinical trials evaluating enobosarm 3 mg for the prevention and treatment of muscle wasting in patients with advanced NSCLC, and we have been substantially dependent on the successful development, regulatory approval and commercialization of enobosarm 3 mg. We announced in August 2013 that these two Phase 3 clinical trials failed to meet the co-primary endpoints of lean body mass and physical function that were assessed statistically using responder analyses as required by the FDA. The failure of the POWER trials to meet the primary statistical criterion for the co-primary endpoints agreed upon with the FDA significantly depressed our stock price and has harmed our future prospects and ability to raise additional capital, and consequently, our prospects as a going concern have been diminished. Although we are evaluating the submission of a MAA to the EMA seeking marketing approval of enobosarm 3 mg in the EU for the more narrow indication of the prevention and treatment of muscle wasting in patients with advanced NSCLC treated with platinum plus taxane chemotherapy, the EMA must determine that the safety and efficacy data from the POWER 1 trial are sufficient to support approval of a MAA. However, we or the EMA may determine that the safety and efficacy data from the POWER 1 trial, as supported by data from the POWER 2 trial, are insufficient to support the submission of a MAA to the EMA seeking marketing authorization for enobosarm 3 mg and that one or more additional Phase 3 clinical trials of enobosarm 3 mg would be required to be successfully conducted by us in order to submit a MAA or to support approval of a MAA submission. If we are required to successfully conduct and complete any additional Phase 3 clinical trials of enobosarm 3 mg in order to support potential approval of enobosarm 3 mg in the EU, we could potentially abandon our plans to pursue the submission of a MAA. We are also evaluating options for further development of enobosarm 3 mg in the United States. We would be required to obtain substantial additional capital in order to conduct any Phase 3 clinical trials of enobosarm 3 mg to support potential approval in the United States. Given the uncertainties inherent in the clinical development process, there can be no assurances that we would be successful in obtaining the additional funding necessary to support additional

Phase 3 clinical trials of enobosarm 3 mg. A decision to abandon our plans to pursue the submission of a MAA and/or our inability to raise sufficient additional capital in order to conduct any Phase 3 clinical trials of enobosarm 3 mg to support potential approval in the United States, could require us to cease further development of our enobosarm 3 mg program and to forego any return on our investment from our enobosarm 3 mg program, which could make it more difficult for us to obtain, or may prevent us from obtaining, the additional capital that we need to allow us to continue as a going concern, and we could be required to cease operations.

We and any potential collaborators will not be able to commercialize our product candidates if our preclinical studies do not produce successful results or if our clinical trials do not adequately demonstrate safety and efficacy in humans.*

Significant additional clinical development and financial resources will be required to obtain necessary regulatory approvals for our product candidates and to develop them into commercially viable products. Preclinical and clinical testing is expensive, can take many years to complete and has an uncertain outcome. Success in preclinical testing and early clinical trials does not ensure that later clinical trials will be successful, and interim results of a clinical trial do not necessarily predict final results. Typically, the failure rate for development candidates is high. If a product candidate fails at any stage of development, we will not have the anticipated revenues from that product candidate to fund our operations, and we will not receive any return on our investment in that product candidate. For example, we announced in August 2013 that our POWER 1 and POWER 2 Phase 3 clinical trials evaluating enobosarm 3 mg for the prevention and treatment of muscle wasting in patients with advanced NSCLC failed to meet the co-primary endpoints of lean body mass and physical function that were assessed statistically using responder analyses as agreed upon with the FDA. Although we are evaluating the submission of a MAA to the EMA seeking marketing approval of enobosarm 3 mg in the EU for the more narrow indication of the prevention and treatment of muscle wasting in patients with advanced NSCLC treated with platinum plus taxane chemotherapy, the EMA must determine that the safety and efficacy data from the POWER 1 trial are sufficient to support approval of a MAA. However, we or the EMA may determine that the safety and efficacy data from the POWER 1 trial, as supported by data from the POWER 2 trial, are insufficient to support the submission of a MAA to the EMA seeking marketing authorization for enobosarm 3 mg and that one or more additional Phase 3 clinical trials of enobosarm 3 mg would be required to be successfully conducted by us in order to submit a MAA or to support approval of a MAA submission. If we are required to successfully conduct and complete any additional Phase 3 clinical trials of enobosarm 3 mg in order to support potential approval of enobosarm 3 mg in the EU, we could potentially abandon our plans to pursue the submission of a MAA. Also, we are evaluating options for further development of enobosarm 3 mg in the United States. There can be no assurance that we and the FDA would agree on any further development of enobosarm 3 mg and additional funding for such further development may not be available to us in any event, which could result in our ceasing further development of our enobosarm program. Even if we are successful in obtaining additional funding and we reach agreement with the FDA to conduct additional Phase 3 clinical trials of enobosarm 3 mg and we believe the results from any trial we conduct to be positive, the efficacy and/or safety results from the trials still may be found to be insufficient to support the submission of a NDA to the FDA or if submitted, the approval of the NDA by the FDA. For example, we received a Complete Response Letter in October 2009 from the FDA regarding our NDA for toremifene 80 mg to reduce fractures in men with prostate cancer on androgen deprivation therapy, or ADT, notifying us that the FDA would not approve the NDA. We have since discontinued our toremifene development programs.

Significant delays in clinical testing could materially impact our product development costs. We do not know whether potential clinical trials will begin on time, or whether ongoing clinical trials will need to be restructured or will be completed on schedule, if at all. We or any potential collaborators may experience numerous unforeseen and/or adverse events during, or as a result of, preclinical testing and the clinical trial process that could delay or prevent our or our potential collaborators' ability to commercialize our product candidates, including:

- regulators or institutional review boards may not authorize us or any potential collaborators to commence a clinical trial or conduct a clinical trial at a prospective trial site, or we may experience substantial delays in obtaining these authorizations;
- preclinical or clinical trials may produce negative or inconclusive results, which may require us or any potential collaborators to conduct additional preclinical or clinical testing or to abandon projects that we expect to be promising;

- even if preclinical or clinical trial results are positive, the FDA or foreign regulatory authorities could nonetheless require us to conduct unanticipated additional clinical trials;
- registration or enrollment in clinical trials may be slower than we anticipate, resulting in significant delays or study terminations;
- we or any potential collaborators may suspend or terminate clinical trials if the participating patients are being exposed to unacceptable health risks;
- regulators or institutional review boards may suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements; and
- our product candidates may not have the desired effects or may include undesirable side effects.

If any of these events were to occur and, as a result, we or any potential collaborators have significant delays in or termination of clinical trials, our costs could increase and our ability to generate revenue could be impaired, which would materially and adversely impact our business, financial condition and growth prospects.

If we or any potential collaborators observe serious or other adverse events during the time our product candidates are in development or after our products are approved and on the market, we or any potential collaborators may be required to perform lengthy additional clinical trials, may be required to cease further development of such product candidates, may be denied regulatory approval of such products, may be forced to change the labeling of such products or may be required to withdraw any such products from the market, any of which would hinder or preclude our ability to generate revenues.*

In three Phase 2 clinical trials of GTx-758, which we discontinued in February 2012, we observed venous thromboembolic events, or blood clots, in subjects treated with GTx-758 at the doses then being studied in these clinical trials (1000 mg and higher per day) and reported those events to the FDA. There were two deaths in subjects treated with GTx-758 and two deaths in subjects treated with Lupron Depot®. In February 2012, the FDA placed all of our then ongoing clinical studies of GTx-758 on full clinical hold, and we suspended further enrollment into these studies and notified clinical sites to discontinue treatment of subjects with GTx-758. In May 2012, the FDA notified us that it had removed the full clinical hold on GTx-758. In the third quarter of 2012, we initiated a Phase 2 clinical trial to evaluate GTx-758, at doses lower than those which were previously being tested in our discontinued Phase 2 clinical trials, as secondary hormonal therapy in men with metastatic castration resistant prostate cancer, or CRPC. Although our current Phase 2 clinical trial is evaluating GTx-758 at doses lower than those which were previously being tested in our discontinued Phase 2 clinical trials, we cannot be confident that we will not observe an unacceptable incidence of venous thromboembolic events or other adverse events in the current Phase 2 clinical trial. Our ability to develop GTx-758 as an effective secondary hormonal therapy for men with metastatic CRPC or, potentially, as a secondary hormonal treatment for advanced prostate cancer used in combination with ADT, is dependent on both our ability to obtain additional funding and our ability to find an appropriate dose that is both effective and safe for these patient populations. If an unacceptable incidence of venous thromboembolic events or other adverse events are observed in our current Phase 2 clinical trial of GTx-758, we may be required to abandon our development of GTx-758, in which case, we would not receive any return on our investment in that product candidate.

In our Phase 2 clinical trials for enobosarm for the treatment of muscle wasting in patients with cancer and healthy older males and postmenopausal females, we observed mild elevations of hepatic enzymes, which in certain circumstances may lead to liver failure, in a few patients in both the placebo and enobosarm treated groups. Reductions in high-density lipoproteins have also been observed in subjects treated with enobosarm. Lower levels of high-density lipoproteins could lead to increased risk of adverse cardiovascular events. In addition, in our Phase 2 proof-of-concept, open-label clinical trial evaluating enobosarm 9 mg for the treatment of patients with androgen receptor, or AR, positive and estrogen receptor, or ER, positive metastatic breast cancer who have previously responded to hormonal therapy, a serious adverse event, bone pain of the chest cage, was assessed as possibly related to enobosarm. Alternations of bone health, including those potentially caused by hormonal therapies such as enobosarm, could lead to a skeletal-related event which is associated with multiple complications, could negatively affect quality of life and could reduce survival. Complications potentially associated with skeletal-related events include, but are not limited to, pathologic fractures and spinal cord compression, and surgery or radiation for palliation and treatment.

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If the incidence of serious or other adverse events related to our product candidates increases in number or severity, if a regulatory authority believes that these or other events constitute an adverse effect caused by the drug, or if other effects are identified during clinical trials that we or any potential collaborators may conduct in the future or after any of our product candidates are approved and marketed:

- we or any potential collaborators may be required to conduct additional preclinical or clinical trials, make changes in the labeling of any such approved products, reformulate any such products, or implement changes to or obtain new approvals of our contractors' manufacturing facilities;
- regulatory authorities may be unwilling to approve our product candidates or may withdraw approval of our products;
- we may experience a significant drop in the sales of the affected products;
- our reputation in the marketplace may suffer; and
- we may become the target of lawsuits, including class action suits.

Any of these events could prevent approval or harm sales of the affected product candidates or products, or could substantially increase the costs and expenses of commercializing and marketing any such products.

Risks Related to Our Dependence on Third Parties

If we do not establish collaborations for our product candidates or otherwise raise substantial additional capital, we will likely need to alter, delay or abandon our development and any commercialization plans.*

Our strategy includes selectively partnering or collaborating with leading pharmaceutical and biotechnology companies to assist us in furthering development and potential commercialization of our product candidates. We face significant competition in seeking appropriate collaborators, and collaborations are complex and time consuming to negotiate and document. We may not be successful in entering into new collaborations with third parties on acceptable terms, or at all. In addition, we are unable to predict when, if ever, we will enter into any additional collaborative arrangements because of the numerous risks and uncertainties associated with establishing such arrangements. If we are unable to negotiate new collaborations, we may have to curtail the development of a particular product candidate, reduce, delay, or terminate its development or one or more of our other development programs, delay its potential commercialization or reduce the scope of our sales or marketing activities or increase our expenditures and undertake development or commercialization activities at our own expense. For example, we may have to cease further development of our enobosarm program if we are unable to raise sufficient funding for any additional clinical development of enobosarm through a new partnership, collaboration or financing. In this regard, we do not have sufficient funds to conduct any additional clinical development of our product candidates beyond the Phase 2 clinical trials that we are currently conducting, and any additional Phase 3 clinical trials we may have to conduct to seek approval from any regulatory authority for enobosarm 3 mg, as well as any additional clinical development of enobosarm 9 mg, is subject to our ability to raise substantial additional funds. There can be no assurances that we will be successful in obtaining additional funding in any event. If we are not able to raise substantial additional capital in the near term, we will not be able to advance the development of enobosarm or GTx-758 or otherwise bring our product candidates to market and generate product revenues.

Any collaborative arrangements that we establish in the future may not be successful or we may otherwise not realize the anticipated benefits from these collaborations. In addition, any future collaboration arrangements may place the development and commercialization of our product candidates outside our control, may require us to relinquish important rights or may otherwise be on terms unfavorable to us.

We have in the past established and intend to continue to establish collaborations with third parties to develop and commercialize some of our current and future product candidates, and these collaborations may not be successful or we may otherwise not realize the anticipated benefits from these collaborations. For example, in March 2011, we and Ipsen Biopharm Limited, or Ipsen, mutually agreed to terminate our collaboration for the development and commercialization of our toremifene-based product candidate, and, as a result, we will not receive any additional milestone payments from Ipsen on account

of our collaboration with Ipsen. As of the date of this report, we have no ongoing collaborations for the development and commercialization of our product candidates. We may

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not be able to locate third-party collaborators to develop and market our product candidates, and we lack the capital and resources necessary to develop our product candidates alone.

Dependence on collaborative arrangements subjects us to a number of risks, including:

- we may not be able to control the amount and timing of resources that our potential collaborators may devote to our product candidates;
- potential collaborations may experience financial difficulties or changes in business focus;
- we may be required to relinquish important rights such as marketing and distribution rights;
- should a collaborator fail to develop or commercialize one of our compounds or product candidates, we may not receive any future milestone payments and will not receive any royalties for the compound or product candidate;
- business combinations or significant changes in a collaborator's business strategy may also adversely affect a collaborator's willingness or ability to complete its obligations under any arrangement;
- under certain circumstances, a collaborator could move forward with a competing product candidate developed either independently or in collaboration with others, including our competitors; and
- collaborative arrangements are often terminated or allowed to expire, which could delay the development and may increase the cost of developing our product candidates.

If third parties do not manufacture our product candidates in sufficient quantities, in the required timeframe, at an acceptable cost, and with appropriate quality control, clinical development and commercialization of our product candidates would be delayed.

We do not currently own or operate manufacturing facilities, and we rely, and expect to continue to rely, on third parties for the production of clinical and commercial quantities of our product candidates. Our current and anticipated future dependence upon others for the manufacture of our product candidates may adversely affect our future profit margins, if any, and our ability to develop product candidates and commercialize any product candidates on a timely and competitive basis.

We rely on third-party vendors for the manufacture of enobosarm drug substance. If the contract manufacturers that we are currently utilizing to meet our supply needs for enobosarm or any future SARM product candidates prove incapable or unwilling to continue to meet our supply needs, we could experience a delay in conducting any additional clinical trials of enobosarm or any future SARM product candidates. In addition, we rely on third-party contractors for the manufacture of GTx-758 drug substance. We may not be able to maintain or renew our existing or any other third-party manufacturing arrangements on acceptable terms, if at all. If our suppliers fail to meet our requirements for GTx-758, enobosarm or any future product candidates for any reason, we would be required to obtain alternate suppliers. Any inability to obtain alternate suppliers, including an inability to obtain approval from the FDA of an alternate supplier, would delay or prevent the clinical development and commercialization of these product candidates.

Use of third-party manufacturers may increase the risk that we will not have adequate supplies of our product candidates or products.

Reliance on third-party manufacturers entails risks, to which we would not be subject if we manufactured product candidates or products ourselves, including:

- reliance on the third party for regulatory compliance and quality assurance;
- the possible breach of the manufacturing agreement by the third party because of factors beyond our control;
- the possible termination or non-renewal of the agreement by the third party, based on its own business priorities, at a time that is costly or inconvenient for us; and
- drug product supplies not meeting the requisite requirements for clinical trial use.

If we are not able to obtain adequate supplies of our product candidates, it will be more difficult for us to

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develop our product candidates and compete effectively. Our product candidates and any products that we and/or our potential collaborators may develop may compete with other product candidates and products for access to manufacturing facilities.

Our present or future manufacturing partners may not be able to comply with FDA-mandated current Good Manufacturing Practice regulations, other FDA regulatory requirements or similar regulatory requirements outside the United States. Failure of our third-party manufacturers or us to comply with applicable regulations could result in sanctions being imposed on us, including fines, injunctions, civil penalties, failure of regulatory authorities to grant marketing approval of our product candidates, delays, suspension or withdrawal of approvals, license revocation, seizures or recalls of product candidates or products, operating restrictions and criminal prosecutions, any of which could significantly and adversely affect supplies of our product candidates.

If third parties on whom we rely do not perform as contractually required or expected, we may not be able to obtain regulatory approval for or successfully commercialize our product candidates.

We do not have the ability to independently conduct clinical trials for our product candidates, and we must rely on third parties, such as contract research organizations, medical institutions, clinical investigators and contract laboratories to conduct our clinical trials. In addition, we rely on third parties to assist with our preclinical development of product candidates. If these third parties do not successfully carry out their contractual duties or regulatory obligations or meet expected deadlines, if the third parties need to be replaced, or if the quality or accuracy of the data they obtain is compromised due to the failure to adhere to our clinical protocols or regulatory requirements or for other reasons, our preclinical development activities or clinical trials may be extended, delayed, suspended or terminated, and we may not be able to obtain regulatory approval for or successfully commercialize our product candidates.

Risks Related to Our Intellectual Property

If we lose our license from the University of Tennessee Research Foundation, or UTRF, we may be unable to continue a substantial part of our business.

We have licensed intellectual property rights and technology from UTRF used in a substantial part of our business. This license agreement, under which we were granted rights to SARM compounds and technologies, including enobosarm, may be terminated by UTRF if we are in breach of our obligations under, or fail to perform any terms of, the agreement and fail to cure that breach. If this agreement is terminated, then we may lose our rights to utilize the SARM technology and intellectual property covered by that agreement to market, distribute and sell licensed products, including enobosarm, which may prevent us from continuing a substantial part of our business and may result in a material and serious adverse effect on our financial condition, results of operations and any prospects for growth.

If some or all of our or our licensors' patents expire or are invalidated or are found to be unenforceable, or if some or all of our patent applications do not result in issued patents or result in patents with narrow, overbroad, or unenforceable claims, or claims that are not supported in regard to written description or enablement by the specification, or if we are prevented from asserting that the claims of an issued patent cover a product of a third party, we may be subject to competition from third parties with products in the same class of products as our product candidates or products with the same active pharmaceutical ingredients as our product candidates, including in those jurisdictions in which we have no patent protection.

Our commercial success will depend in part on obtaining and maintaining patent and trade secret protection for our product candidates, as well as the methods for treating patients in the product indications using these product candidates. We will be able to protect our product candidates and the methods for treating patients in the product indications using these product candidates from unauthorized use by third parties only to the extent that we or our exclusive licensors own or control such valid and enforceable patents or trade secrets.

Our rights to certain patents and patent applications relating to SARM compounds that we have licensed from UTRF are subject to the terms of UTRF's inter-institutional agreements with The Ohio State University, or OSU, and our rights to future related improvements in some instances are subject to UTRF's exercise of exclusive options under its agreements with OSU for such improvements.

Even if our product candidates and the methods for treating patients for prescribed indications using these

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product candidates are covered by valid and enforceable patents and have claims with sufficient scope, disclosure and support in the specification, the patents will provide protection only for a limited amount of time. Our and our licensors' ability to obtain patents can be highly uncertain and involve complex and in some cases unsettled legal issues and factual questions. Furthermore, different countries have different procedures for obtaining patents, and patents issued in different countries provide different degrees of protection against the use of a patented invention by others. Therefore, if the issuance to us or our licensors, in a given country, of a patent covering an invention is not followed by the issuance, in other countries, of patents covering the same invention, or if any judicial interpretation of the validity, enforceability, or scope of the claims in, or the written description or enablement in, a patent issued in one country is not similar to the interpretation given to the corresponding patent issued in another country, our ability to protect our intellectual property in those countries may be limited. Changes in either patent laws or in interpretations of patent laws in the United States and other countries may materially diminish the value of our intellectual property or narrow the scope of our patent protection.

We may be subject to competition from third parties with products in the same class of products as our product candidates or products with the same active pharmaceutical ingredients as our product candidates in those jurisdictions in which we have no patent protection. Even if patents are issued to us or our licensors regarding our product candidates or methods of using them, those patents can be challenged by our competitors who can argue such patents are invalid or unenforceable, lack of utility, lack sufficient written description or enablement, or that the claims of the issued patents should be limited or narrowly construed. Patents also will not protect our product candidates if competitors devise ways of making or using these product candidates without legally infringing our patents. The Federal Food, Drug, and Cosmetic Act and FDA regulations and policies create a regulatory environment that encourages companies to challenge branded drug patents or to create non-infringing versions of a patented product in order to facilitate the approval of abbreviated new drug applications for generic substitutes. These same types of incentives encourage competitors to submit new drug applications that rely on literature and clinical data not prepared for or by the drug sponsor, providing another less burdensome pathway to approval.

We also rely on trade secrets to protect our technology, especially where we do not believe that patent protection is appropriate or obtainable. However, trade secrets are difficult to protect. Our employees, consultants, contractors, outside scientific collaborators and other advisors may unintentionally or willfully disclose our confidential information to competitors, and confidentiality agreements may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. Enforcing a claim that a third party illegally obtained and is using our trade secrets is expensive and time-consuming, and the outcome is unpredictable. Moreover, our competitors may independently develop equivalent knowledge, methods and know-how. Failure to obtain or maintain trade secret protection could adversely affect our competitive business position.

If we infringe intellectual property rights of third parties, it may increase our costs or prevent us from being able to commercialize our product candidates.

There is a risk that we are infringing the proprietary rights of third parties because numerous United States and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields that are the focus of our development and manufacturing efforts. Others might have been the first to make the inventions covered by each of our or our licensors' pending patent applications and issued patents and/or might have been the first to file patent applications for these inventions. In addition, because patent applications can take many years to issue, there may be currently pending applications, unknown to us or our licensors, which may later result in issued patents that cover the production, manufacture, synthesis, commercialization, formulation or use of our product candidates. In addition, the production, manufacture, synthesis, commercialization, formulation or use of our product candidates may infringe existing patents of which we are not aware. Defending ourselves against third-party claims, including litigation in particular, would be costly and time consuming and would divert management's attention from our business, which could lead to delays in our development or commercialization efforts. If third parties are successful in their claims, we might have to pay substantial damages or take other actions that are adverse to our business.

As a result of intellectual property infringement claims, or to avoid potential claims, we might:

- be prohibited from selling or licensing any product that we and/or any potential collaborators may develop unless the patent holder licenses the patent to us, which the patent holder is not required to do;

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- be required to pay substantial royalties or other amounts, or grant a cross license to our patents to another patent holder; or

- be required to redesign the formulation of a product candidate so that it does not infringe, which may not be possible or could require substantial funds and time.

Risks Related to Regulatory Approval of Our Product Candidates

If we or any potential collaborators are not able to obtain required regulatory approvals, we or such collaborators will not be able to commercialize our product candidates, and our ability to generate revenue will be materially impaired.*

Our product candidates and the activities associated with their development and commercialization are subject to comprehensive regulation by the FDA, other regulatory agencies in the United States and by comparable authorities in other countries, including the EMA. Failure to obtain regulatory approval for a product candidate will prevent us or any potential collaborator from commercializing the product candidate. We have not received regulatory approval to market any of our product candidates in any jurisdiction, and we do not expect to obtain FDA, EMA or any other regulatory approvals to market any of our product candidates for the foreseeable future, if at all. The process of obtaining regulatory approvals is expensive, often takes many years, if approval is obtained at all, and can vary substantially based upon the type, complexity and novelty of the product candidates involved.

Changes in the regulatory approval policy during the development period, changes in or the enactment of additional regulations or statutes, or changes in regulatory review for each submitted product application may cause delays in the approval or rejection of an application. Even if the FDA or the EMA approves a product candidate, the approval may impose significant restrictions on the indicated uses, conditions for use, labeling, advertising, promotion, marketing and/or production of such product, and may impose ongoing requirements for post-approval studies, including additional research and development and clinical trials. Any FDA approval may also impose risk evaluation mitigation strategies, or REMS, on a product if the FDA believes there is a reason to monitor the safety of the drug in the market place. REMS may include requirements for additional training for health care professionals, safety communication efforts and limits on channels of distribution, among other things. The sponsor would be required to evaluate and monitor the various REMS activities and adjust them if need be. The FDA and EMA also may impose various civil or criminal sanctions for failure to comply with regulatory requirements, including withdrawal of product approval.

Furthermore, the approval procedure and the time required to obtain approval varies among countries and can involve additional testing beyond that required by the FDA. Approval by one regulatory authority does not ensure approval by regulatory authorities in other jurisdictions.

The FDA, the EMA and other foreign regulatory authorities have substantial discretion in the approval process and may refuse to accept any application or may decide that our data are insufficient for approval and require additional preclinical, clinical or other studies. For example, in October 2009, we received a Complete Response Letter from the FDA regarding our NDA for toremifene 80 mg to reduce fractures in men with prostate cancer on ADT notifying us that the FDA would not approve our NDA as a result of certain clinical deficiencies identified in the Complete Response Letter. We have since discontinued our toremifene 80 mg development program, as well as our other toremifene-based products and terminated our license and supply agreement with Orion for toremifene products. Although we are evaluating the submission of a MAA to the EMA seeking marketing approval of enobosarm 3 mg in the EU for the more narrow indication of the prevention and treatment of muscle wasting in patients with advanced NSCLC treated with platinum plus taxane chemotherapy, the EMA must determine that the safety and efficacy data from the POWER 1 trial are sufficient to support approval of a MAA. However, we or the EMA may determine that the safety and efficacy data from the POWER 1 trial, as supported by data from the POWER 2 trial, are insufficient to support the submission of a MAA to the EMA seeking marketing authorization for enobosarm 3 mg and that one or more additional Phase 3 clinical trials of enobosarm 3 mg would be required to be successfully conducted by us in order to submit a MAA or to support approval of a MAA submission. If we are required to successfully conduct and complete any additional Phase 3 clinical trials of enobosarm 3 mg in order to support potential approval of enobosarm 3 mg in the EU, we could potentially abandon our plans to pursue the submission of a MAA. Also, we are evaluating options for further development of enobosarm 3 mg in the United States. There can be no assurance that we and the FDA would agree on any further development of enobosarm 3 mg and additional funding for such further development may not be available to us in any event, which could result in

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our ceasing further development of our enobosarm program. Additionally, there can be no assurance that the FDA will determine that the data from our ongoing clinical trial or future clinical trials of enobosarm 9 mg or GTx-758 will be sufficient for approval of these product candidates in any indications. For example, we may observe an unacceptable incidence of adverse events in our ongoing, planned or potential clinical trials of enobosarm or GTx-758, which could require us to abandon the development of the affected product candidate.

In addition, varying interpretations of the data obtained from preclinical and clinical testing could delay, limit, or prevent regulatory approval of a product candidate. Even if we submit an application to the FDA, the EMA and other foreign regulatory authorities for marketing approval of a product candidate, it may not result in any marketing approvals.

We do not expect to receive regulatory approval for the commercial sale of any of our product candidates that are in development for the foreseeable future, if at all. The inability to obtain approval from the FDA, the EMA and other foreign regulatory authorities for our product candidates would prevent us or any potential collaborators from commercializing these product candidates in the United States, the EU, or other countries. See the section entitled "Business — Government Regulation" under Part 1, Item 1 of our Annual Report on Form 10-K, filed with the SEC on March 12, 2014, for additional information regarding risks associated with marketing approval, as well as risks related to potential post-approval requirements.

Risks Related to Commercialization

The commercial success of any products that we and/or any potential collaborators may develop will depend upon the market and the degree of market acceptance among physicians, patients, health care payors and the medical community.

If we submit a MAA to the EMA for the marketing approval of enobosarm 3 mg in the EU for the more narrow indication of the prevention and treatment of muscle wasting in patients with advanced NSCLC treated with platinum plus taxane chemotherapy and marketing approval is obtained, we anticipate that the commercial prospects for enobosarm 3 mg could be diminished as a result of this more limited product indication. Additionally, any products that we and/or any potential collaborators may develop, including enobosarm 3 mg, may not gain market acceptance for its stated indication among physicians, patients, health care payors and the medical community. If these products do not achieve an adequate level of acceptance, we may not generate material product revenues or receive royalties to the extent we currently anticipate, and we may not become profitable. The degree of market acceptance of our product candidates, if approved for commercial sale, will depend on a number of factors, including:

- efficacy and safety results in clinical trials;
- the prevalence and severity of any side effects;
- potential advantages over alternative treatments;
- whether the products we commercialize remain a preferred course of treatment;
- the ability to offer our product candidates for sale at competitive prices;
- relative convenience and ease of administration;
- the strength of marketing and distribution support; and
- sufficient third-party coverage or reimbursement.

If we are unable to establish sales and marketing capabilities or establish and maintain agreements with third parties to market and sell our product candidates, we may be unable to generate product revenue from such candidates.

We have limited experience as a company in the sales, marketing and distribution of pharmaceutical products. In the event one of our product candidates is approved, we will need to establish sales and marketing capabilities or establish and maintain agreements with third parties to market and sell our product candidates. We may be unable to build our own sales and marketing capabilities, and there are risks involved with entering into arrangements with

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third parties to perform these services, which could delay the commercialization of any of our product candidates if approved for commercial sale. In addition, to the extent that we enter into arrangements with third parties to perform sales, marketing and distribution services, our product revenues are likely to be lower than if we market and sell any products that we develop ourselves.

If we and/or any potential collaborators are unable to obtain reimbursement or experience a reduction in reimbursement from third-party payors for products we sell, our revenues and prospects for profitability will suffer.

Sales of products developed by us and/or any potential collaborators are dependent on the availability and extent of reimbursement from third-party payors. Changes in the reimbursement policies of these third-party payors that reduce reimbursements for any products that we and/or any potential collaborators may develop and sell could negatively impact our future operating and financial results.

Medicare coverage and reimbursement of prescription drugs exists under Medicare Part D for oral drug products capable of self-administration by patients. Our oral drug product candidates would likely be covered by Medicare Part D (if covered by Medicare at all). In March 2010, the United States Congress enacted the Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act. This health care reform legislation will increase the number of individuals who receive health insurance coverage and will close a gap in drug coverage under Medicare Part D. The legislation, however, also implemented cost containment and other measures that could adversely affect revenues from sales of product candidates, including an increase in drug rebates manufacturers must pay under Medicaid for brand name prescription drugs and extension of these rebates to Medicaid managed care.

Pharmaceutical manufacturers and importers of brand name prescription drugs are assessed a fee based on our proportionate share of sales of brand name prescription drugs to certain government programs, including Medicare and Medicaid, made in the preceding year if such sales exceed a defined threshold. Since 2011, manufacturers have been required to provide a 50% discount on brand name prescription drugs sold to beneficiaries who fall within a gap that exists in the Medicare Part D prescription drug program (commonly known as the "donut hole").

The health care reform legislation has been subject to political and judicial challenge. In 2012, the Supreme Court considered the constitutionality of certain provisions of the law. The court upheld as constitutional the mandate for individuals to obtain health insurance but held that the provision allowing

the federal government to withhold certain Medicaid funds to states that do not expand state Medicaid programs was unconstitutional. The impact of the court's ruling remains uncertain. Political and judicial challenges to the law may continue in the wake of the court's ruling.

Economic pressure on state budgets may result in states increasingly seeking to achieve budget savings through mechanisms that limit coverage or payment for drugs. State Medicaid programs are increasingly requesting manufacturers to pay supplemental rebates and requiring prior authorization for use of drugs where supplemental rebates are not provided. Private health insurers and managed care plans are likely to continue challenging the prices charged for medical products and services, and many of these third-party payors may limit reimbursement for newly-approved health care products. In particular, third-party payors may limit the indications for which they will reimburse patients who use any products that we and/or any potential collaborators may develop or sell. These cost-control initiatives could decrease the price we might establish for products that we or any potential collaborators may develop or sell, which would result in lower product revenues or royalties payable to us.

Similar cost containment initiatives exist in countries outside of the United States, particularly in the countries of the EU, where the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can extend well beyond the receipt of regulatory marketing approval for a product and may require us or any potential collaborators to conduct a clinical trial that compares the cost effectiveness of our product candidates or products to other available therapies. The conduct of such a clinical trial could be expensive and result in delays in our or a potential collaborators' commercialization efforts. Third-party payors are challenging the prices charged for medical products and services, and many third-party payors limit reimbursement for newly-approved health care products. Recently budgetary pressures in many EU countries are also causing governments to consider or implement various cost-containment measures, such as price freezes, increased price cuts and rebates. If budget pressures continue, governments may implement additional cost containment measures. Cost-control initiatives could decrease the price we might establish for products that we or any potential collaborators may develop or sell, which would result in lower product revenues or royalties payable to

us.

Another development that could affect the pricing of drugs would be if the Secretary of Health and Human Services allowed drug reimportation into the United States. The Medicare Prescription Drug, Improvement and Modernization Act of 2003 gives discretion to the Secretary of Health and Human Services to allow drug reimportation into the United States under some circumstances from foreign countries, including from countries where the drugs are sold at a lower price than in the United States. If the circumstances were met and the Secretary exercised the discretion to allow for the direct reimportation of drugs, it could decrease the price we or any potential collaborators receive for any products that we and/or any potential collaborators may develop, negatively affecting our revenues and prospects for profitability.

Health care reform measures could hinder or prevent our product candidates' commercial success.

Among policy makers and payors in the United States and elsewhere, there is significant interest in promoting health care reform, as evidenced by the enactment in the United States of the Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act in 2010. Federal and state legislatures within the United States and foreign governments will likely continue to consider changes to existing health care legislation. These changes adopted by governments may adversely impact our business by lowering the price of health care products in the United States and elsewhere.

We operate in a highly regulated industry and new laws, regulations or judicial decisions, or new interpretations of existing laws, regulations or decisions, related to health care availability, method of delivery or payment for health care products and services, or sales, marketing and pricing practices could negatively impact our business, operations and financial condition.

If product liability lawsuits are brought against us, we may incur substantial liabilities and may be required to limit commercialization of any products that we may develop.

We face an inherent risk of product liability exposure related to our prior commercial sales of FARESTON® and the testing of our product candidates in human clinical trials, and we will face an even greater risk if we commercially sell any product that we may develop. If we cannot successfully defend ourselves against claims that our product candidates or products caused injuries, we will incur substantial liabilities. Regardless of merit or eventual outcome, liability claims may result in:

- decreased demand for any product candidates or products;
- injury to our reputation;
- withdrawal of clinical trial participants;
- costs to defend the related litigation;
- substantial monetary awards to trial participants or patients;
- loss of revenue; and
- the inability to commercialize any products for which we obtain or hold marketing approvals.

We have product liability insurance that covers our clinical trials and any commercial products up to a $20 million annual aggregate limit. Insurance coverage is increasingly expensive. We may not be able to maintain insurance coverage at a reasonable cost, and we may not be able to obtain insurance coverage that will be adequate to satisfy any liability that may arise.

If our competitors are better able to develop and market products than any products that we and/or any potential collaborators may develop, our commercial opportunity will be reduced or eliminated.*

We face competition from commercial pharmaceutical and biotechnology enterprises, as well as from academic institutions, government agencies and private and public research institutions. Our commercial opportunities will be reduced or eliminated if our competitors develop and commercialize products that are safer, more effective, have fewer side effects or are less expensive than any products that we and/or any potential collaborators may develop. Competition could result in reduced sales and pricing pressure on our product candidates, if approved, which in turn would reduce our ability to generate meaningful revenue and have a negative impact on our results of operations. In

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addition, significant delays in the development of our product candidates could allow our competitors to bring products to market before us and impair any ability to commercialize our product candidates.

Various products are currently marketed or used off-label for some of the diseases and conditions that we are targeting in our pipeline, and a number of companies are or may be developing new treatments. These product uses, as well as promotional efforts by competitors and/or clinical trial results of competitive products, could significantly diminish any ability to market and sell any products that we and/or any potential collaborators may develop.

With respect to our SARM program, there are other SARM product candidates in development that may compete with enobosarm and any future SARM product candidates, if approved for commercial sale. Competition for enobosarm 3 mg, which is being developed for the prevention and treatment of muscle wasting in patients with advanced NSCLC, includes SARMs in development by Ligand Pharmaceuticals Inc. and GlaxoSmithKline plc. Pfizer Inc., Eli Lilly and Company and Amgen Inc. have myostatin inhibitors in development that may compete with enobosarm 3 mg if approved for commercial sale. In addition, Cytokinetics, Inc. is developing a troponin activator with a muscle specific mechanism in Phase 2 studies, with a focus on neurological muscle diseases (amyotrophic lateral sclerosis and myasthenia gravis) and Novartis AG is developing a human monoclonal antibody for various muscle indications. Moreover, there are other categories of drugs in development, including ghrelin receptor agonists, growth hormone, secretagogues, inflammatory modulators and other agents, that may have some muscle activity. Helsinn Group is developing anamorelin, a ghrelin receptor agonist, in Phase 3 clinical trials for treatment of cancer cachexia in patients with NSCLC. Appetite stimulants such as Megace® (megestrol acetate) and dronabinol are used off-label for the treatment of weight loss and the treatment of loss of appetite in patients with cancer.

We also plan, subject to our obtaining additional funding, to advance the development of enobosarm 9 mg for the treatment of patients with AR positive metastatic breast cancer who have previously responded to hormonal therapy. No other SARMs are currently in development for this indication; however, SARMs in development for muscle wasting and cachexia could enter into a breast cancer program in the future. A number of other compounds are targeting the androgen axis in breast cancer that could compete with enobosarm 9 mg if approved for commercial sale. These compounds fall into two categories, androgen synthesis inhibitors, or ASIs, and androgen receptor antagonists, or ARAs. ASIs in development include orteronel being developed by Takeda Pharmaceuticals and Zytiga® being developed by Janssen Pharmaceuticals. ARAs in development include Xtandi® being developed by Astellas/Medivation and generic bicalutamide. Agents targeting pathways outside of the androgen axis also may compete with enobosarm 9 mg as they are directed towards similar patient populations that may benefit from enobosarm.

We are developing GTx-758 for secondary hormonal therapy in men with metastatic and non-metastatic CRPC, and, potentially, as a secondary hormonal treatment for advanced prostate cancer used in combination with androgen deprivation therapy. There are various products approved or under clinical development to treat men with advanced prostate cancer who have metastatic CRPC which may compete with GTx-758. Dendreon Corporation markets and sells Provenge®, an autologous cellular immunotherapy, for the treatment of asymptomatic or minimally symptomatic metastatic castrate resistant prostate cancer. Medivation, Inc. has received approval for Xtandi®, an oral androgen receptor antagonist, for the treatment of metastatic castration-resistant prostate cancer in men previously treated with docetaxel. Medivation continues to develop Xtandi® for men with metastatic CRPC prior to receiving chemotherapy. Zytiga®, sold by Johnson & Johnson, has been approved for the treatment of metastatic CRPC prior in patients who have received prior chemotherapy and recently received approval for the treatment of metastatic castrate resistant prostate cancer prior to chemotherapy. Johnson & Johnson acquired Aragon Pharmaceuticals, Inc., which developed a second generation anti-androgen (ARN-509) that is currently being evaluated in Phase 2 studies in men with progressive, advanced prostate cancer. Millennium: The Takeda Oncology Company is developing TAK-700 for the treatment of men with metastatic castrate resistant prostate cancer prior to chemotherapy. GTx-758 is being developed as a treatment for this same patient population prior to the initiation of chemotherapy.

Many of our competitors have significantly greater financial resources and expertise in research and development, manufacturing, preclinical testing, conducting clinical trials, obtaining regulatory approvals and marketing approved products than we do. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies. These third parties compete with us in recruiting and retaining qualified scientific and management personnel, establishing

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clinical trial sites and patient registration for clinical trials, as well as in acquiring technologies and technology licenses complementary to our programs or advantageous to our business.

Risks Related to Employees and Growth

Management transition creates uncertainties and could harm our business.*

We have recently had significant changes in executive leadership, and more could occur. Effective December 31, 2013, Mark Mosteller resigned as our Chief Financial Officer. In connection with Mr. Mosteller's resignation, Marc S. Hanover, who was then serving as our President and Chief Operating Officer, was appointed as our acting principal financial officer and Jason T. Shackelford, who was then serving as our Corporate Controller and Director of Accounting, was appointed as our principal accounting officer. On April 3, 2014, Mitchell S. Steiner resigned as our Vice Chairman and Chief Executive Officer. On April 3, 2014, Mr. Hanover was appointed as our interim Chief Executive Officer. Upon the appointment of Mr. Hanover as interim Chief Executive Officer, Mr. Hanover ceased to perform the duties of our principal financial officer, which duties were assigned to Mr. Shackelford. Additionally, James T. Dalton, who notified us that he is resigning as our Chief Scientific Officer, will terminate his employment with us effective August 31, 2014.

As a result of the recent changes in our management team, Messrs. Hanover and Shackelford have taken on substantially more responsibility for the management of our business and of our financial reporting which has resulted in greater workload demands and could divert their attention away from certain key areas of our business. For instance, Mr. Hanover has taken on the role of interim Chief Executive Officer in addition to his role as our President and Chief Operating Officer, positions that were previously occupied by two persons. In addition, because Messrs. Hanover and Shackelford are serving as interim Chief Executive Officer and acting principal financial and accounting officer, respectively, it is possible that they could be replaced in those positions when permanent replacements are identified by the Board, and any transition period could create additional diversions for us and our employees, including for Messrs. Hanover and Shackelford. Also, while we will retain Dr. Dalton as a consultant to GTx following his employment end date, we will no longer have regular access to Dr. Dalton's key scientific expertise, which could materially and adversely impact our product candidate development efforts. Disruption to our organization as a result of executive management transition may have a detrimental impact on our ability to implement our strategy and could have a material adverse effect on our business, financial condition and results of operations.

Changes to company strategy, which can often times occur with the appointment of new executives, can create uncertainty, may negatively impact our ability to execute quickly and effectively, and may ultimately be unsuccessful. In addition, executive leadership transition periods are often difficult as the new executives gain detailed knowledge of our operations, and friction can result from changes in strategy and management style. Management transition inherently causes some loss of institutional knowledge, which can negatively affect strategy and execution. Until we integrate new personnel, and unless they are able to succeed in their positions, we may be unable to successfully manage and grow our business, and our results of operations and financial condition could suffer as a result.

If we fail to attract and keep senior management and key scientific personnel, we may be unable to successfully develop or commercialize our product candidates.*

Our success depends on our continued ability to attract, retain and motivate highly qualified management, clinical and scientific personnel and on our ability to develop and maintain important relationships with leading academic institutions, clinicians and scientists. If we are not able to attract and keep senior management and key scientific personnel, we may not be able to successfully develop or commercialize our product candidates. All of our employees are at-will employees and can terminate their employment at any time.

In October 2013, we announced a reduction of approximately 60% of our workforce following our announcement that our POWER trials failed to achieve the results required by the FDA to file a NDA for enobosarm 3 mg for the prevention and treatment of muscle wasting in patients with advanced NSCLC. In addition, since our October 2013 workforce reduction, our former Chief Executive Officer, former Chief Financial Officer and current Chief Scientific Officer have either resigned or notified us of their intent to resign. Primarily as a result of our October 2013 workforce reduction, only 27 employees remained as employees of GTx as of June 30, 2014. Accordingly, we have been and are operating with a shortage of resources and may not be able to effectively

conduct our operations with this limited number of employees. In addition, we announced past workforce reductions in each of December 2009 and June 2011, and our history of implementing workforce reductions, along with the potential for future workforce reductions, may negatively affect our ability to retain or attract talented employees. Further, to the extent we experience additional management transition, competition for top management is high and it may take many months to find a candidate that meets our requirements. If we are unable to attract and retain qualified management personnel, our business could suffer.

If we are able to raise sufficient additional funds necessary to continue as a going concern and to pursue the development of our product candidates, we will need to hire additional employees in order to grow our business. Any inability to manage future growth could harm our ability to develop and commercialize our product candidates, increase our costs and adversely impact our ability to compete effectively.*

If we are able to raise sufficient additional funds necessary to continue as a going concern and to pursue the development of our product candidates, we will need to hire experienced personnel to develop and commercialize our product candidates and to otherwise grow our business, and we will need to expand the number of our managerial, operational, financial and other employees to support that growth. Competition exists for qualified personnel in the biotechnology field. As of June 30, 2014, we had only 27 employees.

Future growth, if any, will impose significant added responsibilities on members of management, including the need to identify, recruit, maintain and integrate additional employees. Our future financial performance and our ability to develop and commercialize our product candidates and to compete effectively will depend, in part, on our ability to manage any future growth effectively.

Risks Related to Our Common Stock

Market volatility may cause our stock price and the value of your investment to decline.*

The market prices for securities of biotechnology companies in general have been highly volatile and may continue to be so in the future. The following factors, in addition to other risk factors described in this section, may have a significant impact on the market price of our common stock:

- announcements regarding any plans, or the abandoning of any plans, to submit a MAA to the EMA seeking marketing approval for enobosarm 3 mg for the prevention and treatment of muscle wasting in patients with advanced NSCLC treated with platinum plus taxane chemotherapy;
- announcements regarding our ability to determine, in consultation with the FDA, a feasible pathway forward to seek marketing approval for enobosarm 3 mg for the prevention and treatment of muscle wasting or cachexia in patients with NSCLC;
- our ability to raise additional capital to carry through with our clinical development plans and current and future operations and the terms of any related financing arrangements;
- delays in the initiation, enrollment and/or completion of our ongoing and any future clinical trials of enobosarm and GTx-758, or negative, inconclusive or mixed results reported in any of our ongoing and any future clinical trials of enobosarm and GTx-758;

- reports of unacceptable incidences of adverse events observed in any of our ongoing clinical trials of enobosarm and GTx-758;
- announcements regarding further cost-cutting initiatives or restructurings;
- uncertainties created by our recent and potential future management turnover;
- our ability to enter into new collaborative, licensing or other strategic arrangements with respect to our product candidates;
- the terms and timing of any future collaborative, licensing or other arrangements that we may establish;
- the timing of achievement of, or failure to achieve, our and any potential collaborators' clinical, regulatory and other milestones, such as the commencement of clinical development, the completion of a clinical trial or the receipt of regulatory approval;

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- announcement of FDA approval or non-approval of our product candidates or delays in or adverse events during the FDA review process;
- actions taken by regulatory agencies with respect to our product candidates or products, our clinical trials or our sales and marketing activities, including regulatory actions requiring or leading to restrictions, limitations and/or warnings in the label of an approved product candidate;
- the commercial success of any product approved by the FDA or its foreign counterparts;
- introductions or announcements of technological innovations or new products by us, our potential collaborators, or our competitors, and the timing of these introductions or announcements;
- market conditions for equity investments in general, or the biotechnology or pharmaceutical industries in particular;
- announcements regarding our ability to comply with the minimum listing requirements of The NASDAQ Stock Market LLC;
- regulatory developments in the United States and foreign countries;
- changes in the structure or reimbursement policies of health care payment systems;
- any intellectual property infringement lawsuit involving us;
- actual or anticipated fluctuations in our results of operations;
- changes in financial estimates or recommendations by securities analysts;
- hedging or arbitrage trading activity that may develop regarding our common stock;
- sales of large blocks of our common stock;
- sales of our common stock by our executive officers, directors and significant stockholders;
- changes in accounting principles; and
- the loss of any of our key scientific or management personnel.

The stock markets in general, and the markets for biotechnology stocks in particular, have experienced significant volatility that has often been unrelated to the operating performance of particular companies. The financial markets continue to face significant uncertainty, resulting in a decline in investor confidence and concerns about the proper functioning of the securities markets, which decline in general investor confidence has resulted in depressed stock prices for many companies notwithstanding the lack of a fundamental change in their underlying business models or prospects. These broad market fluctuations may adversely affect the trading price of our common stock.

In the past, class action litigation has often been instituted against companies whose securities have experienced periods of volatility in market price. Any such litigation brought against us could result in substantial costs, which would hurt our financial condition and results of operations and divert management's attention and resources, which could result in delays of our clinical trials or commercialization efforts.

Our executive officers, directors and largest stockholders have the ability to control all matters submitted to stockholders for approval.*

As of June 30, 2014, our executive officers, directors and holders of 5% or more of our outstanding common stock, including their affiliated or associated entities, held approximately 57.6% of our outstanding common stock, and our executive officers and directors alone, including their affiliated or associated entities, held approximately 33.3% of our outstanding common stock. As a result, these stockholders, acting together, have the ability to control all matters requiring approval by our stockholders, including the election of directors and the approval of mergers or other business combination transactions. The interests of this group of stockholders may not always coincide with our interests or the interests of other stockholders.

If we fail to meet continued listing standards of The NASDAQ Stock Market LLC, our common stock may be delisted. Delisting could adversely affect the liquidity of our common stock and the market price of our common

stock could decrease, and our ability to obtain sufficient additional capital to fund our operations and to continue as a going concern would be substantially impaired.*

Our common stock is currently listed on The NASDAQ Global Market. The NASDAQ Stock Market LLC, or NASDAQ, has minimum requirements that a company must meet in order to remain listed on The NASDAQ Global Market. These requirements include maintaining a minimum closing bid price of $1.00 per share, and the closing bid price of our common stock on August 1, 2014 was $1.21 share. If the closing bid price of our common stock were to fall below $1.00 per share for 30 consecutive trading days or we do not meet other applicable listing requirements, including maintaining minimum levels of stockholders' equity or market values of our common stock, we would fail to be in compliance with NASDAQ's listing standards. There can be no assurance that we will continue to meet the minimum bid price requirement, or any other NASDAQ continued listing requirement, in the future. If we fail to meet these requirements, including the minimum bid price requirement, NASDAQ may notify us that we have failed to meet the minimum listing requirements and initiate the delisting process. If our common stock is delisted, the liquidity of our common stock would be adversely affected and the market price of our common stock could decrease, and our ability to obtain sufficient additional capital to fund our operations and to continue as a going concern would be substantially impaired.

Our ability to use our net operating loss carryforwards and certain other tax attributes may be limited.

Under Section 382 of the Internal Revenue Code of 1986, as amended, if a corporation undergoes an "ownership change," generally defined as a greater than 50% change (by value) in its equity ownership over a three-year period, the corporation's ability to use its pre-change net operating loss carryforwards and other pre-change tax attributes (such as research tax credits) to offset its post-change taxable income or taxes may be limited. Although we have recently completed a study to determine whether any Section 382 limitations existed through December 31, 2013 and we do not believe that any Section 382 limitations existed at that time, Section 382 of the Internal Revenue Code is an extremely complex provision with respect to which there are many uncertainties and we have not established whether the IRS agrees with our determination. In any event, changes in our stock ownership, some of which are outside of our control, could in the future result in an ownership change and an accompanying Section 382 limitation. If a limitation were to apply, utilization of a portion of our domestic net operating loss and tax credit carryforwards could be limited in future periods and a portion of the carryforwards could expire before being available to reduce future income tax liabilities.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us, which may be beneficial to our stockholders, more difficult and may prevent attempts by our stockholders to replace or remove our current management.

Provisions in our certificate of incorporation and our bylaws may delay or prevent an acquisition of us or a change in our management. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our Board of Directors. Because our Board of Directors is responsible for appointing the members of our management team, these provisions could in turn affect any attempt by our stockholders to replace current members of our management team. These provisions include:

- a classified Board of Directors;
- a prohibition on actions by our stockholders by written consent;
- the ability of our Board of Directors to issue preferred stock without stockholder approval, which could be used to institute a "poison pill" that would work to dilute the stock ownership of a potential hostile acquirer, effectively preventing acquisitions that have not been approved by our Board of Directors; and
- limitations on the removal of directors.

Moreover, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law, which prohibits a person who owns in excess of 15% of our outstanding voting stock from merging or combining with us for a period of three years after the date of the transaction in which the person acquired in excess of 15% of our outstanding voting stock, unless the merger or combination is approved in a prescribed manner. Finally, these provisions establish advance notice requirements for nominations for election to our Board of Directors or for proposing matters that can be acted upon at stockholder meetings. These provisions

would apply even if the offer may be considered beneficial by some stockholders.

If there are substantial sales of our common stock, the market price of our common stock could drop substantially, even if our business is doing well.*

For the 12-month period ended June 30, 2014, the average daily trading volume of our common stock on The NASDAQ Global Market was 861,169 shares. As a result, future sales of a substantial number of shares of our common stock in the public market, or the perception that such sales may occur, could adversely affect the then-prevailing market price of our common stock. As of June 30, 2014, we had 76,014,531 shares of common stock outstanding.

In March 2014, we completed a private placement of 11,976,048 shares of our common stock and warrants to purchase 10,179,642 shares of our common stock. Pursuant to the terms of a registration rights agreement we entered into in connection with the private placement, we agreed to file a registration statement under the Securities Act registering the resale of the 11,976,048 shares of common stock we issued to the investors in the private placement, which include J.R. Hyde, III, our largest stockholder, as well as the 10,179,642 shares of common stock underlying the warrants we issued to those investors. In addition, if we propose to register any of our securities under the Securities Act, either for our own account or for the account of others, the investors in the private placement are entitled to notice of the registration and are entitled to include, at our expense, their shares of common stock in the registration and any related underwriting, provided, among other conditions, that the underwriters may limit the number of shares to be included in the registration. Moreover, J.R. Hyde, III and certain of his affiliates, have rights under a separate registration rights agreement with us to require us to file resale registration statements covering an additional 7.9 million shares of common stock held in the aggregate or to include these shares in registration statements that we may file for

ourselves or other stockholders. If Mr. Hyde or his affiliates or any of our other significant stockholders, including the other investor in our March 2014 private placement, were to sell large blocks of shares in a short period of time, the market price of our common stock could drop substantially.

ITEM 5. OTHER INFORMATION

As previously disclosed, on March 6, 2014, we completed a private placement of units consisting of an aggregate of 11,976,048 shares of our common stock and warrants to purchase an aggregate of 10,179,642 shares of our common stock. In connection with the closing of the private placement, we entered into a registration rights agreement dated March 6, 2014 (the "Rights Agreement") with the investors in the private placement, pursuant to which we granted to the investors certain rights with respect to the registration for resale of shares our common stock held by (or issuable to) such investors. On August 4, 2014, we entered into an amended and restated registration rights agreement (the "Amended Agreement") with the investors in the private placement to, among other things, provide that the foregoing registration rights apply solely to the shares of our common stock issued or issuable to these investors in the private placement or upon exercise of the warrants issued in the private placement, to provide that all such registration rights fully terminate on the earlier to occur of March 6, 2016 or the date on which such shares are publicly resold or available for resale without restriction under Rule 144 under the Securities Act, and to make certain other changes to the Rights Agreement. The foregoing is only a brief description of the amendments to the Rights Agreement effected by the Amended Agreement, does not purport to be complete, and is qualified in its entirety by reference to Amended Agreement that is filed as Exhibit 4.6 to this Quarterly Report on Form 10-Q.

ITEM 6. EXHIBITS

The exhibits listed on the accompanying Exhibit Index are filed or incorporated by reference (as stated therein) as part of this Quarterly Report on Form 10-Q.

SIGNATURES

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

GTx, Inc.

Date: August 5, 2014

By: /s/ Marc S. Hanover
Marc S. Hanover, President, Chief Operating Officer
and interim Chief Executive Officer
(Principal Executive Officer)

Date: August 5, 2014

By: /s/ Jason T. Shackelford
Jason T. Shackelford, Senior Director,
Accounting and Corporate Controller
Acting Principal Financial and Accounting Officer
(Principal Financial and Accounting Officer)

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EXHIBIT INDEX

Exhibit Number	Exhibit Description	Incorporation By Reference			
		Form	SEC File No.	Exhibit	Filing Date
2.1	Asset Purchase Agreement dated as of September 28, 2012 between the Registrant and Strakan International S.à r.l.	8-K	000-50549	2.1	10/03/2012
3.1	Restated Certificate of Incorporation of GTx, Inc.	S-3	333-127175	4.1	08/04/2005
3.2	Certificate of Amendment of Restated Certificate of Incorporation of GTx, Inc.	8-K	000-50549	3.2	05/06/2011
3.3	Certificate of Amendment of Restated Certificate of Incorporation of GTx, Inc.	8-K	000-50549	3.3	05/09/2014
3.4	Amended and Restated Bylaws of GTx, Inc.	8-K	000-50549	3.2	07/26/2007
4.1	Reference is made to Exhibits 3.1, 3.2 and 3.3				
4.2	Specimen of Common Stock Certificate	S-1	333-109700	4.2	12/22/2003
4.3	Amended and Restated Registration Rights Agreement between Registrant and J. R. Hyde, III dated August 7, 2003	S-1	333-109700	4.4	10/15/2003
4.4	Consent, Waiver and Amendment between Registrant and J. R. Hyde, III and Pittco Associates, L.P. dated December 3, 2007	S-3	333-148321	4.6	12/26/2007
4.5	Waiver and Amendment Agreement among Registrant, J.R.	10-K	000-50549	4.5	03/12/2014

	Hyde, III and Pittco Associates, L.P. dated March 6, 2014				
4.6+	Amended and Restated Registration Rights Agreement among Registrant, J.R. Hyde, III and The Pyramid Peak Foundation, dated August 4, 2014	—	—	—	—
4.7	Form of Common Stock Warrant, issued by Registrant pursuant to the Securities Purchase Agreement, dated March 3, 2014, among the Registrant, J.R. Hyde, III and The Pyramid Peak Foundation	10-K	000-50549	4.7	03/12/2014
4.8+	Consent, Waiver and Amendment Agreement between Registrant and J.R. Hyde, III and Pittco Associates, L.P., dated August 4, 2014	—	—	—	—
10.1	Severance Agreement, made effective as of April 3, 2014, between Mitchell S. Steiner, M.D. and the Registrant	10-Q	000-50549	10.2	05/12/2014
10.2	Amendment to Amended and Restated Employment Agreement, effective as of April 3, 2014, between the Registrant and Marc S. Hanover	10-Q	000-50549	10.3	05/12/2014
10.3+	Consulting Agreement, made effective as of September 1, 2014, between the Registrant and James T. Dalton	—	—	—	—
31.1+	Certification of Principal Executive Officer, as required by Rule 13a-14(a) or Rule 15d-14(a)	—	—	—	—
31.2+	Certification of Principal Financial Officer, as required by Rule 13a-14(a) or Rule 15d-14(a)	—	—	—	—
32.1+	Certification of Principal Executive Officer, as required by Rule 13a-14(b) or Rule 15d-14(b) and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350)(1)	—	—	—	—
32.2+	Certification of Principal Financial Officer, as required by Rule 13a-14(b) or Rule 15d-14(b) and Section 1350 of Chapter 63 of Title 18 of the United States Code (18 U.S.C. §1350)(1)	—	—	—	—
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 Labels Linkbase Document	—	—	—	—

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101.PRE+	XBRL Taxonomy Extension Presentation Linkbase Document	—	—	—	—

+ Filed herewith

(1) This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Registrant under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.

AMENDED AND RESTATED REGISTRATION RIGHTS AGREEMENT

This AMENDED AND RESTATED REGISTRATION RIGHTS AGREEMENT (the "Agreement") is made as of August 4, 2014 by and among GTx, Inc., a corporation organized and existing under the laws of the State of Delaware (the "Company"), The Pyramid Peak Foundation ("PPF") and J.R. Hyde III ("JRH and together with PPF, the "Purchasers").

RECITALS

WHEREAS, the Company and the Purchasers are parties to a Securities Purchase Agreement, dated as of March 3, 2014 (the "Purchase Agreement"), pursuant to which the Purchasers purchased an aggregate of 11,976,048 immediately separable Units, with each Unit consisting of one share of Common Stock and a Warrant (as defined in the Purchase Agreement) to purchase 0.85 of a share of Common Stock;

WHEREAS, in connection with the consummation of the transactions contemplated by the Purchase Agreement, and pursuant to the terms of the Purchase Agreement, the Company and the Purchasers entered into that certain Registration Rights Agreement, dated as of March 6, 2014 (the "Prior Agreement");

WHEREAS, the Company and the Purchasers desire to amend and restate the Prior Agreement and to accept the rights and covenants hereof in lieu of their rights and covenants under the Prior Agreement; and

NOW, THEREFORE, in consideration of the covenants and promises set forth herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereby agree as follows:

AGREEMENT

1. Certain Definitions. Unless the context otherwise requires, the following terms, for all purposes of this Agreement, shall have the meanings specified in this Section 1.

"Affiliate" has the meaning set forth in Rule 12b-2 of the rules and regulations promulgated under the Exchange Act; provided, however, that for purposes of this Agreement, the Purchasers and their Affiliates, on the one hand, and the Company and its Affiliates, on the other, shall not be deemed to be "Affiliates" of one another.

"Allowed Delay" has the meaning set forth in Section 2.1(b)(ii).

"Board" means the board of directors of the Company.

"Business Days" has the meaning ascribed to such term in the Purchase Agreement.

"Closing Date" has the meaning ascribed to such term in the Purchase Agreement.

"Common Stock" means shares of the common stock, par value $0.001 per share, of the Company.

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

"Filing Deadline" has the meaning set forth in Section 2.1(a).

"FINRA" means the Financial Industry Regulatory Authority.

"Form S-3" means such form under the Securities Act as in effect on the date hereof or any successor or similar registration form under the Securities Act subsequently adopted by the Commission that permits inclusion or incorporation of substantial information by reference to other documents filed by the Company with the Commission.

"Free Writing Prospectus" means an issuer free writing prospectus, as defined in Rule 433 under the Securities Act, relating to an offer of Registrable Securities.

"Holder" means any Purchaser owning or having the right to acquire Registrable Securities.

"Initiating Shelf Take-Down Holder" has the meaning set forth in Section 2.1(c).

"RRA" means the Amended and Restated Registration Rights Agreement, dated August 7, 2003, by and between the Company and J.R. Hyde, III, as the same may be amended from time to time.

"RRA Holders" means the holders of the RRA Registrable Securities.

"RRA Registrable Securities" has the meaning ascribed to the term "Registrable Securities" under the RRA.

"RRA Registration" means any registration effected pursuant to Section 2 of the RRA.

"Nasdaq" has the meaning ascribed to such term in the Purchase Agreement.

"Participating Holder" means with respect to any registration, any Holder of Registrable Securities covered by the applicable Registration Statement.

"Person" has the meaning ascribed to such term in the Purchase Agreement.

"Piggyback Registrable Securities" means all Registrable Securities under this Agreement and all RRA Registrable Securities.

"PIPE Shares" means, collectively, the Shares and the Warrant Shares.

"Prospectus" means the prospectus included in any Registration Statement, all amendments and supplements to such prospectus, including pre- and post-effective amendments to such Registration Statement, and all other material incorporated by reference in such prospectus.

"Register," "registered" and "registration" refer to a registration effected by preparing and filing a registration statement in compliance with the Securities Act, and the declaration or ordering of effectiveness of such registration statement or document.

"Registrable Securities" means the PIPE Shares and any Common Stock issued as (or issuable upon the conversion or exercise of any warrant, right or other security which is issued as) a dividend or other distribution with respect to, or in exchange for or in replacement of, the PIPE Shares. Notwithstanding the foregoing, PIPE Shares shall cease to be Registrable Securities for all purposes hereunder upon the earliest to occur of the following: (A) sale by any Person to the public either pursuant to a registration statement under the Securities Act or under Rule 144 (in which case, only such PIPE Shares sold shall cease to be Registrable Securities) or (B) becoming eligible for sale by the Holder pursuant to Rule 144 without restriction.

"Registration Statement" means any registration statement of the Company that covers Registrable Securities pursuant to the provisions of this Agreement filed with, or to be filed with, the SEC under the rules and regulations promulgated under the Securities Act, including the related Prospectus, amendments and supplements to

such registration statement, including pre- and post-effective amendments, and all exhibits and all material incorporated by reference in such registration statement.

"Registration Expenses" has the meaning set forth in Section 2.3.

"Rule 144" means Rule 144 as promulgated by the SEC under the Securities Act, as such rule may be amended from time to time, or any similar successor rule that may be promulgated by the SEC.

"Rule 145" means Rule 145 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same effect as such Rule.

"SEC" or "Commission" means the Securities and Exchange Commission or any other federal agency at the time administering the Securities Act.

"Securities Act" means the Securities Act of 1933, as amended, or any similar successor federal statute and the rules and regulations thereunder, all as the same shall be in effect from time to time.

"Shares" and "Warrant Shares" have the respective meanings ascribed to such terms in the Purchase Agreement.

"Shelf Registration Statement" has the meaning set forth in Section 2.1(a).

"Shelf Take-Down" has the meaning set forth in Section 2.1(c).

"Special Registration Statement" means (i) any registration statement relating to any employee benefit plan, (ii) with respect to any corporate reorganization or transaction under Rule 145, any registration statement related to the issuance or resale of securities issued in such a transaction, (iii) any registration statement related to stock issued upon conversion of debt securities, (iv) any RRA Registration and (v) the first registration statement on Form S-3 filed after March 6, 2014 by the Company with the SEC that registers solely a Company primary offering on a delayed or continuous basis pursuant to Rule 415 under the Securities Act.

"Subsidiaries" means each corporation, limited liability company, partnership, association, joint venture or other business entity of which any party or any of its Affiliates owns, directly or indirectly, more than 50% of the stock or other equity interest entitled to vote on the election of the members of the board of directors or similar governing body.

"Transaction Documents" means this Agreement, the Purchase Agreement and the Warrants (as defined in the Purchase Agreement), all exhibits and schedules thereto and hereto and any other documents or agreement executed in connection with the transactions contemplated hereunder or thereunder.

2. Registration Rights.

2.1 Shelf Registration.

(a) Registration Statements. On or prior to the date that is 180 days after the Closing Date (the "Filing Deadline"), the Company shall prepare and file with the SEC one Registration Statement on Form S-3 (or, if Form S-3 is not then available to the Company, on such form of registration statement as is then available to effect a registration for resale of the Registrable Securities) for an offering to be made on a continuous basis pursuant to Rule 415 under the Securities Act (the "Shelf Registration Statement"). Such Shelf Registration Statement shall include the aggregate amount of Registrable Securities to be registered therein and the intended methods of distribution thereof, subject to the limitations of Form S-3. To the extent the rules and regulations of the Commission do not permit such Shelf Registration Statement to include all of the Registrable Securities, the

Company shall use its reasonable best efforts to register the maximum amount permitted by the Commission, and the Registrable Securities required to be omitted from such Shelf Registration Statement shall be determined in the sole discretion of the Purchasers.

(b) Effectiveness.

(i) The Company shall use reasonable best efforts to have the Shelf Registration Statement declared effective as soon as practicable. The Company shall notify the Purchasers by facsimile or e-mail as promptly as practicable, and in any event, within twenty-four (24) hours, after any Registration Statement is declared effective and shall simultaneously provide the Purchasers with copies of any related Prospectus to be used in connection with the sale or other disposition of the securities covered thereby. Subject to any limitations provided herein, the Company shall cause the Shelf Registration Statement to remain effective until the earlier to occur of: (i) the date two years from the Closing or (ii) the date on which all of the Registrable Securities registered under the Shelf Registration Statement are either sold pursuant to the Shelf Registration Statement or sold or available for resale without restriction under Rule 144.

(ii) For not more than twenty (20) consecutive days or for a total of not more than forty-five (45) days in any twelve (12) month period, the Company may suspend the use of any Prospectus included in any Registration Statement contemplated by this Section in the event that the Company determines in good faith that such suspension is necessary to (A) 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 Company, in the best interests of the Company or (B) amend or supplement the Registration Statement or the related Prospectus so that such Registration Statement or Prospectus shall not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the case of the Prospectus in light of the circumstances under which they were made, not misleading (an "Allowed Delay"); provided, that the Company shall promptly (a) notify each Purchaser in writing of the commencement of and the reasons for an Allowed Delay, but shall not (without the prior written consent of a Purchaser) disclose to such Purchaser any material non-public information giving rise to an Allowed Delay, (b) advise the Purchasers in writing to cease all sales under the Registration Statement until the end of the Allowed Delay and (c) use commercially reasonable efforts to terminate an Allowed Delay as promptly as practicable.

(c) Shelf Take-Downs. An underwritten offering or sale of Registrable Securities pursuant to the Shelf Registration Statement (a "Shelf Take-Down") may be initiated by a Purchaser who is a Participating Holder (an "Initiating Shelf Take-Down Holder"), provided that (i) the aggregate amount of Registrable Securities to be offered and sold in such Shelf-Take Down is reasonably expected to result in aggregate gross proceeds of not less than $50 million, (ii) the Shelf Registration Statement is on Form S-3 and (iii) at the time of the initial filing of the Shelf Registration Statement (or, if the Shelf Registration Statement has been updated under Section 10(a)(3) of the Securities Act, at the time of the most recent update to the Shelf Registration Statement under Section 10(a)(3) of the Securities Act), the Company was eligible to conduct primary offerings on Form S-3 under General Instruction I.B.1 of Form S-3. Upon written request to the Company and subject to the final sentence of this Section 2.1(c), the Company shall amend or supplement the Shelf Registration Statement for such purpose as soon as practicable. The Company shall send to each Participating Holder in the Shelf Registration Statement written notice of such Shelf Take-Down and, if within 5 days after the date of such notice, any such Participating Holder shall so request in writing, the Company shall include in such Shelf Take-Down all or any part of the Registrable Securities such Participating Holder requests to be included, subject to Section 2.6(a)(ii), it being understood the Company shall not be responsible for any underwriting discounts or commissions in connection with any Shelf Take-Down. Notwithstanding the foregoing or any other provisions of this Agreement: (i) if the Company furnishes to the Initiating Shelf Take-Down Holder a certificate signed by the Company's principal executive officer that in the good faith judgment of the Board, it would be materially detrimental to the Company and its stockholders for a Shelf Take-Down to be effected at such time, the Company shall have the right to defer such Shelf Take-Down for a period of not more than one hundred twenty (120) days after receipt of the written request of the Initiating Shelf Take-Down Holder, *provided* that the Company shall not exercise this deferral right more than once in any twelve (12) month period; and (ii) the Company shall not be obligated to take any action to effect any Shelf Take-Down

during the ninety (90) day period following the closing of any underwritten public offering of the Company's securities (including a Shelf Take-Down).

2.2 Piggyback Registrations.

(a) If at any time there is not then an effective registration statement covering all of the Registrable Securities and the Company determines to prepare and file with the SEC a registration statement, but excluding in all cases any Special Registration Statements, relating to an offering for its own account or the account of others of any of its equity securities, then the Company shall send to each Holder written notice of such determination and, if within 15 days after the date of such notice, any such Holder shall so request in writing, the Company shall include in such registration statement all or any part of such Registrable Securities such Holder requests to be registered, subject to Section 2.6(b)(ii).

(b) The Company shall have the right, in its sole discretion, to terminate or withdraw any registration initiated by it under this Section 2.2 prior to the effectiveness of such registration whether or not any Holder has elected to include Registable Securities in such registration.

(c) Notwithstanding anything in this Agreement to the contrary, the provisions of this Section 2.2 and Section 2.6(b) may be amended or waived (either generally or in a particular instance, either retroactively or prospectively and either for a specified period of time or indefinitely), with the written consent of (i) the Company and (ii) the holders holding at least sixty percent (60%) of the then outstanding Piggyback Registrable Securities; *provided, however*, that if any such waiver or amendment effected pursuant to this Section 2.2(b) materially and adversely affects the rights of the Holders and does not materially and adversely affect the rights of the RRA Holders in the same manner, then such waiver or amendment shall require the written consent of the Holders of a majority-in-interest of the then outstanding Registrable Securities; *provided further* that if any such waiver or amendment effected pursuant to this Section 2.2(b) materially and adversely affects the rights of the RRA Holders and does not materially and adversely affect the rights of the Holders in the same manner, then such waiver or amendment shall require the written consent of the RRA Holders of a majority of the then outstanding RRA Registrable Securities.

2.3 Expenses. All expenses incident to the Company's performance of or compliance with this Agreement shall be paid by the Company, other than underwriting discounts or commissions deducted from the proceeds in respect of any Registrable Securities, including (i) all registration and filing fees, and any other fees and expenses associated with filings required to be made with the SEC, FINRA or any other regulatory authority and, if applicable, the fees and expenses of any "qualified independent underwriter" as such term is defined in NASD Rule 2720 (or any successor provision) and of its counsel, (ii) all fees and expenses in connection with compliance with any securities or "Blue Sky" laws (including fees and disbursements of counsel for the underwriters in connection with "Blue Sky" qualifications of the Registrable Securities), (iii) all printing, duplicating, word processing, messenger, telephone, facsimile and

delivery expenses (including expenses of printing certificates for the Registrable Securities in a form eligible for deposit with The Depository Trust Company and of printing Prospectuses and Free Writing Prospectuses), (iv) all fees and disbursements of counsel for the Company and of all independent certified public accountants of the Company (including the expenses of any special audit and cold comfort letters required by or incident to such performance), (v) Securities Act liability insurance or similar insurance if the Company so desires or the underwriters so require in accordance with then-customary underwriting practice, (vi) all fees and expenses incurred in connection with the listing of Registrable Securities on any securities exchange or quotation of the Registrable Securities on any inter-dealer quotation system, (vii) all reasonable fees and disbursements of one legal counsel for the Participating Holders, as selected by the Purchasers, in an amount not to exceed $50,000 in the aggregate during the term of this Agreement, (viii) any reasonable fees and disbursements of underwriters customarily paid by issuers or sellers of securities, (ix) all fees and expenses of any special experts or other Persons retained by the Company in connection with any registration, (x) all of the Company's internal expenses (including all salaries and expenses of its officers and employees performing legal or accounting duties), (xi) all expenses related to the "road-show" for any underwritten offering, including all travel, meals and lodging and (xii) any other fees and disbursements customarily paid by the issuers of securities. All such expenses are

referred to herein as "Registration Expenses." The Company shall not be required to pay any underwriting discounts and commissions and transfer taxes, if any, attributable to the sale of Registrable Securities.

2.4 Company Obligations. The Company will use reasonable best efforts to effect the registration of the Registrable Securities in accordance with the terms hereof, and pursuant thereto the Company will:

(a) prepare the required Registration Statement including all exhibits and financial statements required under the Securities Act to be filed therewith, and before filing a Registration Statement, Prospectus or any Free Writing Prospectus, or any amendments or supplements thereto, (x) furnish to the underwriters, if any, and the Participating Holders, if any, copies of all documents prepared to be filed, which documents shall be subject to the review of such underwriters and the Participating Holders and their respective counsel and (y) except in the case of a registration under Section 2.2, not file any Registration Statement or Prospectus or amendments or supplements thereto to which any Participating Holders or the underwriters, if any, shall reasonably object;

(b) file with the SEC a Registration Statement relating to the Registrable Securities including all exhibits and financial statements required by the SEC to be filed therewith, and use commercially reasonable efforts to cause such Registration Statement to become effective under the Securities Act;

(c) prepare and file with the SEC such pre- and post-effective amendments to such Registration Statement, supplements to the Prospectus and such amendments or supplements to any Free Writing Prospectus as may be (y) reasonably requested by any Participating Holder or (z) necessary to keep such Registration effective for the period of time required by this Agreement, and comply with provisions of the applicable securities laws with respect to the sale or other disposition of all securities covered by such Registration Statement during such period in accordance with the intended method or methods of disposition by the sellers thereof set forth in such Registration Statement;

(d) promptly notify the Participating Holders and the managing underwriter or underwriters, if any, and (if requested) confirm such advice in writing and provide copies of the relevant documents, as soon as reasonably practicable after notice thereof is received by the Company (A) when the applicable Registration Statement or any amendment thereto has been filed or becomes effective, and when the applicable Prospectus or Free Writing Prospectus or any amendment or supplement thereto has been filed, (B) of any written comments by the SEC or any request by the SEC for amendments or supplements to such Registration Statement, Prospectus or Free Writing Prospectus or for additional information, (C) of the issuance by the SEC of any stop order suspending the effectiveness of such Registration Statement or any order by the SEC preventing or suspending the use of any preliminary or final Prospectus or any Free Writing Prospectus or the initiation or threatening of any proceedings for such purposes, (D) of the receipt by the Company of any notification with respect to the suspension of the qualification of the Registrable Securities for offering or sale in any jurisdiction and (E) of the receipt by the Company of any notification with respect to the initiation or threatening of any proceeding for the suspension of the qualification of the Registrable Securities for offering or sale in any jurisdiction;

(e) promptly notify the Participating Holders and the managing underwriter or underwriters, if any, when the Company becomes aware of the happening of any event as a result of which the Registration Statement, the Prospectus included in such Registration Statement (as then in effect) or any Free Writing Prospectus contains any untrue statement of a material fact or omits to state a material fact necessary to make the statements therein (in the case of such Prospectus, any preliminary Prospectus or any Free Writing Prospectus, in light of the circumstances under which they were made) not misleading, when any Free Writing Prospectus includes information that may conflict with the information contained in the Registration Statement, or, if for any other reason it shall be necessary during such time period to amend or supplement such Registration Statement, Prospectus or Free Writing Prospectus in order to comply with the Securities Act and, in either case as promptly as reasonably practicable thereafter, prepare and file with the SEC and furnish without charge to the Participating Holders and the managing underwriter or underwriters, if any, an amendment or supplement to such Registration Statement, Prospectus or Free Writing Prospectus which shall correct such misstatement or omission or effect such compliance;

(f) promptly incorporate in a Prospectus supplement, Free Writing Prospectus or post-effective amendment to the applicable Registration Statement such information as the managing underwriter or underwriters and the Participating Holders agree should be included therein relating to the plan of distribution with respect to such Registrable Securities, and make all required filings of such Prospectus supplement, Free Writing Prospectus or post-effective amendment as soon as reasonably practicable after being notified of the matters to be incorporated in such Prospectus supplement, Free Writing Prospectus or post-effective amendment;

(g) furnish to each Participating Holder and each underwriter, if any, without charge, as many conformed copies as such Participating Holder or underwriter may reasonably request of the applicable Registration Statement and any amendment or post-effective amendment thereto, including financial statements and schedules, all documents incorporated therein by reference and all exhibits (including those incorporated by reference);

(h) deliver to each Participating Holder and each underwriter, if any, without charge, as many copies of the applicable Prospectus (including each preliminary Prospectus), any Free Writing Prospectus and any amendment or supplement thereto as such Participating Holder or underwriter

may reasonably request (it being understood that the Company consents to the use of such Prospectus, any Free Writing Prospectus and any amendment or supplement thereto by such Participating Holder and the underwriters, if any, in connection with the offering and sale of the Registrable Securities thereby) and such other documents as such Participating Holder or underwriter may reasonably request in order to facilitate the disposition of the Registrable Securities by such Participating Holder or underwriter;

(i) on or prior to the date on which the Registration Statement is declared effective, use its reasonable best efforts to register or qualify, and cooperate with the Participating Holders, the managing underwriter or underwriters, if any, and their respective counsel, in connection with the registration or qualification of such Registrable Securities for offer and sale under the securities or "Blue Sky" laws of each state and other jurisdiction of the United States as any Participating Holder or managing underwriter or underwriters, if any, or their respective counsel reasonably request in writing and do any and all other acts or things reasonably necessary or advisable to keep such registration or qualification in effect for such period as required by this Agreement, provided that the Company shall not be required to qualify generally to do business in any jurisdiction where it is not then so qualified or to take any action which would subject it to taxation or general service of process in any such jurisdiction where it is not then so subject;

(j) cooperate with the Participating Holders and the managing underwriter or underwriters, if any, to facilitate the timely preparation and delivery of certificates representing Registrable Securities to be sold and not bearing any restrictive legends, and enable such Registrable Securities to be in such denominations and registered in such names as the managing underwriters may request at least two (2) Business Days prior to any sale of Registrable Securities to the underwriters;

(k) use its reasonable best efforts to cause the Registrable Securities covered by the Registration Statement to be registered with or approved by such other governmental agencies or authorities as may be necessary to enable the seller or sellers thereof or the underwriter or underwriters, if any, to consummate the disposition of such Registrable Securities;

(l) make such representations and warranties to the Participating Holders and the underwriters or agents, if any, in form, substance and scope as are customarily made by issuers in secondary underwritten public offerings;

(m) enter into such customary agreements (including underwriting and indemnification agreements) and take all such other actions as the Purchasers or the managing underwriter or underwriters, if any, reasonably request in order to expedite or facilitate the registration and disposition of such Registrable Securities;

(n) obtain for delivery to the Participating Holders and to the underwriter or underwriters, if any, an opinion or opinions from counsel for the Company dated the effective date of the Registration Statement or, in the event of an underwritten offering, the date of the closing under the underwriting agreement, in customary form, scope and substance, which opinions shall be reasonably satisfactory to such Participating Holders or underwriters, as the case may be, and their respective counsel;

(o) in the case of an underwritten offering, obtain for delivery to the Company and the managing underwriter or underwriters, with copies to the Participating Holders, a cold comfort letter from the Company's independent certified public accountants in customary form and covering such matters of the type customarily covered by cold comfort letters as the managing underwriter or underwriters reasonably request, dated the date of execution of the underwriting agreement and brought down to the date of the closing under the underwriting agreement;

(p) cooperate with each Participating Holder and each underwriter, if any, participating in the disposition of such Registrable Securities and their respective counsel in connection with any filings required to be made with FINRA or any other securities regulatory authority;

(q) use its reasonable best efforts to comply with all applicable securities laws and make available to its security holders, as soon as reasonably practicable, an earnings statement satisfying the provisions of Section 11(a) of the Securities Act and the rules and regulations promulgated thereunder;

(r) provide and cause to be maintained a transfer agent and registrar for all Registrable Securities covered by the applicable Registration Statement from and after a date not later than the effective date of such Registration Statement;

(s) use commercially reasonable efforts to cause all Registrable Securities covered by the Registration Statement to be listed on each securities exchange on which any of the Common Stock is then listed or quoted and on each inter-dealer quotation system on which any of the Common Stock is then quoted;

(t) the Company shall make available, during normal business hours, for inspection and review by the Purchasers, advisors to and representatives of the Purchasers (who may or may not be affiliated with the Purchasers and who are reasonably acceptable to the Company), all financial and other records, all SEC Reports (as defined in the Purchase Agreement) and other filings with the SEC, and all other corporate documents and properties of the Company as may be reasonably necessary for the purpose of such review, and cause the Company's officers, directors and employees, within a reasonable time period, to supply all such information reasonably requested by the Purchasers or any such representative, advisor or underwriter in connection with such Registration Statement (including, without limitation, in response to all questions and other inquiries reasonably made or submitted by any of them), prior to and from time to time after the filing and effectiveness of the Registration Statement for the sole purpose of enabling the Purchasers and such representatives, advisors and underwriters and their respective accountants and attorneys to conduct initial and ongoing due diligence with respect to the Company and the accuracy of such Registration Statement; and

(u) with a view to making available to the Purchasers the benefits of Rule 144 (or its successor rule) and any other rule or regulation of the SEC that may at any time permit the Purchasers to sell shares of Common Stock to the public without registration, the Company covenants and agrees to: (i) make and keep public information available, as those terms are understood and defined in Rule 144, until the earlier of (A) the date as all of the Registrable Securities may be sold without restriction by the holders thereof pursuant to Rule 144 or any other rule of similar effect or (B) such date as all of the Registrable Securities shall have been resold; (ii) file with the SEC in a timely manner all reports and other documents required of the Company under the Exchange Act; and (iii) furnish to each Purchaser upon request, as long as such Purchaser owns any Registrable Securities, (A) a written statement by the Company that it has complied with the reporting requirements of the Exchange Act, (B) a copy of the Company's most recent Annual Report on Form 10-K or Quarterly Report on Form 10-Q, and (C) such other

information as may be reasonably requested in order to avail such Purchaser of any rule or regulation of the SEC that permits the selling of any such Registrable Securities without registration.

2.5 Obligations of the Purchasers.

(a) Each Purchaser shall furnish in writing to the Company such information regarding itself, the Registrable Securities held by it and the intended method of disposition of the Registrable Securities held by it, as shall be reasonably required to effect the registration of such Registrable Securities and shall execute such documents in connection with such registration as the Company may reasonably request. At least five (5) Business Days prior to the first anticipated filing date of any Registration Statement, the Company shall notify each Purchaser of the information the Company requires from such Purchaser if such Purchaser elects to have any of its Registrable Securities included in the Registration Statement. A Purchaser shall provide such information to the Company at least two (2) Business Days prior to the first anticipated filing date of such Registration Statement if such Purchaser elects to have any of its Registrable Securities included in the Registration Statement.

(b) Each Purchaser, by its 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 a Registration Statement hereunder, unless such Purchaser has notified the Company in writing of its election to exclude all of its Registrable Securities from such Registration Statement.

(c) Each Purchaser agrees that, upon receipt of any notice from the Company of either (i) the commencement of an Allowed Delay pursuant to Section 2.1(b)(ii) the happening of an event pursuant to Section 2.4(d) and Section 2.4(e) hereof, such Purchaser will immediately discontinue disposition of Registrable Securities pursuant to the Registration Statement covering such Registrable Securities, until the Purchaser is advised by the Company that such dispositions may again be made.

2.6 Underwriting.

(a) Shelf Registrations.

(i) Subject to the provisions and limitations set forth in Section 2.1(c) hereof, if the Initiating Shelf Take-Down Holder so requests, an offering of Registrable Securities pursuant to the Shelf Registration Statement shall be in the form of an underwritten offering, and such Initiating Shelf Take-Down Holder shall have the right to select the managing underwriter or underwriters to administer the offering with the consent of the Company (which consent shall not be unreasonably withheld). In the case of an underwritten offering under Section 2.1(c), the price, underwriting discount and other financial terms for the Registrable Securities shall be determined by the Initiating Shelf Take-Down Holder.

(ii) If the managing underwriter or underwriters of a proposed underwritten offering of the Registrable Securities included in a Shelf Take-Down advise the Board in writing that, in its or their opinion, the number of securities requested to be included in such Shelf Take-Down exceeds the number which can be sold in such offering without being likely to have a significant adverse effect on the price, timing or distribution of the securities offered or the market for the securities offered, the securities to be included in such Shelf Take-Down (i) first, shall be allocated *pro rata* among the Participating Holders that have requested to participate in such Shelf Take-Down based on the relative number of Registrable Securities requested by each Participating Holder to be included in such Shelf Take-Down and (ii) second, and only if all the securities referred to in clause (i) have been included in such Shelf Take-Down, the number of securities that the Company proposes to include in such Shelf Take-Down that, in the opinion of the managing underwriter or underwriters, can be sold without having such adverse effect.

(iii) If requested by the underwriters for any underwritten offering requested by an Initiating Shelf Take-Down Holder under Section 2.1(c), the Company shall enter into an underwriting agreement with such underwriters for such offering, such agreement to be reasonably satisfactory in substance and form to the

Company, the Initiating Shelf Take-Down Holder and the underwriters, and to contain such representations and warranties by the Company and such other terms as are generally prevailing in agreements of that type, including customary indemnities.

(b) Piggyback Registrations.

(i) In the event that the Company gives notice to the Holders of its determination to prepare and file with the SEC a registration statement pursuant to Section 2.2 and such securities included in such registration statement are to be distributed in an underwritten offering through one or more underwriters, the Company shall, if requested by any Holders pursuant to Section 2.2, use its reasonable best efforts to arrange for such underwriters to include on the same terms and conditions that apply to the other sellers in such registration all the Registrable Securities to be offered and sold by such Holders among the securities of the Company to be distributed by such underwriters in such registration. For the avoidance of doubt, the provisions of this Section 2.6(b) shall not be applicable to any offerings made pursuant to any Special Registration Statements and no Holder shall have any rights hereunder to include any Registrable Securities in any offering made pursuant to any Special Registration Statement, including any offerings in the form of a take-down from any existing or any future Special Registration Statements.

(ii) If the managing underwriter or underwriters of any proposed underwritten offering in connection with which the Holders and/or RRA Holders are seeking registration of Piggyback Registrable Securities pursuant to Section 2.2 or pursuant to the RRA, as applicable, should reasonably object to the inclusion of Piggyback Registrable Securities in such registration and underwriting, or if the Company after consultation with the managing underwriter or underwriters should reasonably determine that the inclusion of such Piggyback Registrable Securities would materially adversely affect the offering contemplated in such registration, and based on such determination recommends inclusion in such registration of fewer or none of the Piggyback Registrable Securities, then (x) the number of Piggyback Registrable Securities shall be reduced *pro rata* among such Holders and/or RRA Holders seeking to register Piggyback Registrable Securities, or (y) none of the Piggyback Registrable Securities shall be included in such registration and underwriting, if the Company after consultation with the managing underwriter or underwriters recommends the inclusion of none of such Piggyback Registrable Securities; provided, however, that, in either case, if securities are being offered for the account of persons or entities other than the Holders or the

RRA Holders as well as the Company, such reduction shall not represent a greater fraction of the number of Piggyback Registrable Securities intended to be offered by the Holders and/or RRA Holders than the fraction of similar reductions imposed on such other persons or entities (other than the Company).

(c) Participation in Underwritten Registrations. Subject to the provisions of Section 2.6(a)(ii) and Section 2.6(b)(ii) above, no Person may participate in any underwritten offering hereunder unless such Person (i) agrees to sell such Person's securities on the basis provided in any underwriting arrangements approved by the Persons entitled to approve such arrangements and (ii) completes and executes all questionnaires, powers of attorney, indemnities, underwriting agreements and other documents required under the terms of such underwriting arrangements and all applicable securities laws. The Participating Holders shall be parties to such underwriting agreement, which underwriting agreement shall (i) contain such representations and warranties by, and the other agreements on the part of, the Company to and for the benefit of such Participating Holders as are customarily made by issuers to selling stockholders in secondary underwritten public offerings and (ii) provide that any or all of the conditions precedent to the obligations of such underwriters under such underwriting agreement also shall be conditions precedent to the obligations of such Participating Holders. Any such Participating Holder shall not be required to make any representations or warranties to or agreements with the Company or the underwriters in connection with such underwriting agreement other than representations, warranties or agreements regarding such Participating Holder, such Participating Holder's title to the Registrable Securities, such Participating Holder's authority to sell the Registrable Securities, such Participating Holder's intended method of distribution, absence of liens with respect to the Registrable Securities, enforceability of the applicable underwriting agreement as against such Participating Holder, receipt of all consents and approvals with respect to the entry into such underwriting agreement and the sale of such Registrable Securities and any other representations required to be made by such Participating Holder under applicable law, rule or regulation, and the aggregate amount of the liability of such

Participating Holder in connection with such underwriting agreement shall not exceed such Participating Holder's net proceeds from such underwritten offering.

2.7 Indemnification.

(a) Indemnification by the Company. The Company will indemnify and hold harmless each Purchaser and its officers, directors, members, employees and agents, successors and assigns, and each other person, if any, who controls such Purchaser within the meaning of the Securities Act, against any losses, claims, damages or liabilities, joint or several, to which they may become subject under the Securities Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon: (i) any untrue statement or alleged untrue statement of any material fact contained in any Registration Statement, any preliminary Prospectus or final Prospectus, or any amendment or supplement thereof or any omission or alleged omission to state a material fact required to be stated therein or necessary to make the statements therein not misleading, in light of the circumstances in which they were made; (ii) any "Blue Sky" application or other document executed by the Company specifically for that purpose or based upon written information furnished by the Company filed in any state or other jurisdiction in order to qualify any or all of the Registrable Securities under the securities laws thereof (any such application, document or information herein called a "Blue Sky Application"); (iii) the omission or alleged omission to state in a Blue Sky Application a material fact required to be stated therein or necessary to make the statements therein not misleading, in light of the circumstances in which they were made; (iv) any violation by the Company or its agents of any rule or regulation promulgated under the Securities Act applicable to the Company or its agents and relating to action or inaction required of the Company in connection with such registration; or (v) any failure to register or qualify the Registrable Securities included in any such Registration Statement in any state where the Company or its agents has affirmatively undertaken or agreed in writing that the Company will undertake such registration or qualification on a Purchaser's behalf and will reimburse such Purchaser, and each such officer, director or member and each such controlling person for any legal or other expenses reasonably incurred by them in connection with investigating or defending any such loss, claim, damage, liability or action; provided, however, that the Company will not be liable in any such case if and to the extent that any such loss, claim, damage or liability arises out of or is based upon an untrue statement or alleged untrue statement or omission or alleged omission so made in conformity with information furnished by such Purchaser or any such controlling person in writing specifically for use in such Registration Statement or Prospectus.

(b) Indemnification by the Purchasers. Each Purchaser agrees, severally but not jointly, to indemnify and hold harmless, to the fullest extent permitted by law, the Company, its directors, officers, employees, stockholders and each person who controls the Company (within the meaning of the Securities Act) against any losses, claims, damages, liabilities and expense (including reasonable attorney fees) resulting from any untrue statement or alleged untrue statement of a material fact or any omission or alleged omission of a material fact required to be stated in the Registration Statement or Prospectus or preliminary Prospectus or amendment or supplement thereto or necessary to make the statements therein not misleading, in light of the circumstances in which they were made, to the extent, but only to the extent that such untrue statement or alleged untrue statement or omission or alleged omission is contained in any information furnished in writing by such Purchaser to the Company specifically for inclusion in such Registration Statement or Prospectus or amendment or supplement thereto. In no event shall the liability of a Purchaser be greater in amount than the dollar amount of the proceeds (net of all expense paid by such Purchaser in connection with any claim relating to this Section 2 and the amount of any damages such Purchaser has otherwise been required to pay by reason of such untrue statement or omission) received by such Purchaser upon the sale of the Registrable Securities included in the Registration Statement giving rise to such indemnification obligation.

(c) Conduct of Indemnification Proceedings. Any Person entitled to indemnification hereunder shall (i) give prompt notice to the indemnifying party of any claim with respect to which it seeks indemnification and (ii) permit such indemnifying party to assume the defense of such claim with counsel reasonably satisfactory to the indemnified party (provided, however, that such indemnified party shall, at the expense of the indemnifying party, be entitled to counsel of its own choosing to monitor such defense); provided that, subject to the preceding sentence, any Person entitled to indemnification hereunder shall have the right to employ separate counsel and to participate in the defense of such claim, but the fees and expenses of such counsel

shall be at the expense of such Person unless (a) the indemnifying party has agreed to pay such fees or expenses, or (b) the indemnifying party shall have failed to assume the defense of such claim and employ counsel reasonably satisfactory to such person or (c) in the reasonable judgment of any such Person, based upon written advice of its counsel, a conflict of interest exists between such person and the indemnifying party with respect to such claims (in which case, if the Person notifies the indemnifying party in writing that such Person elects to employ separate counsel at the expense of the indemnifying party, the indemnifying party shall not have the right to assume the defense of such claim on behalf of such Person); and provided, further, that the failure of any indemnified party to give notice as provided herein shall not relieve the indemnifying party of its obligations hereunder, except to the extent that such failure to give notice shall materially adversely affect the indemnifying party in the defense of any such claim or litigation. It is understood that the indemnifying

party shall not, in connection with any proceeding in the same jurisdiction, be liable for fees or expenses of more than one separate firm of attorneys at any time for all such indemnified parties. No indemnifying party will, except with the consent of the indemnified party, consent to entry of any judgment or enter into any settlement that does not include as an unconditional term thereof the giving by the claimant or plaintiff to such indemnified party of a release from all liability in respect of such claim or litigation.

(d) Contribution. If for any reason the indemnification provided for in the preceding paragraphs (a) and (b) is unavailable to an indemnified party or insufficient to hold it harmless, other than as expressly specified therein, then the indemnifying party shall contribute to the amount paid or payable by the indemnified party as a result of such loss, claim, damage or liability in such proportion as is appropriate to reflect the relative fault of the indemnified party and the indemnifying party, as well as any other relevant equitable considerations. No Person guilty of fraudulent misrepresentation within the meaning of Section 11(f) of the Securities Act shall be entitled to contribution from any Person not guilty of such fraudulent misrepresentation. In no event shall the contribution obligation of a holder of Registrable Securities be greater in amount than the dollar amount of the proceeds (net of all expenses paid by such holder in connection with any claim relating to this Section 2 and the amount of any damages such holder has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission) received by it upon the sale of the Registrable Securities giving rise to such contribution obligation.

2.8 Termination of Registration Rights. The registration rights provided to the Holders under this Section 2 shall terminate in their entirety upon the earlier to occur of: (i) the date two years from the Closing; or (ii) at such time as there are no Registrable Securities. Notwithstanding the foregoing, Sections 2.3, 2.7 and 3 shall survive the termination of such registration rights.

3. Miscellaneous.

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

3.2 Successors and Assigns. Except as otherwise expressly provided herein, the provisions hereof shall inure to the benefit of, and be binding upon, the successor and assigns of the parties hereto (other than the rights of any Holder under Section 2 hereof, which shall not be assignable and shall not inure to the benefit of any successor or assign of a Holder). The Company may not assign its rights or obligations hereunder except with the prior written consent of each Holder. Each Holder may assign their respective rights hereunder (other than the rights

of any Holder under Section 2 hereof, which shall not be assignable and shall not inure to the benefit of any successor or assign of a Holder) in the manner and to the Persons permitted under the Purchase Agreement.

3.3 Entire Agreement; Amendment. This Agreement and the other Transaction Documents constitute the full and entire understanding and agreement between the parties with regard to the subjects hereof and thereof. Any previous agreements among the parties relative to the specific subject matter hereof are superseded by this Agreement. Subject to the provisions of Section 2.2(b), neither this Agreement nor any provision hereof may be amended, changed, waived, discharged or terminated other than by a written instrument signed by the party against who enforcement of any such amendment, change, waiver, discharge or termination is sought.

3.4 Notices. All notices and other communications provided for or permitted hereunder shall be made as set forth in Section 7.3 of the Purchase Agreement.

3.5 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.

3.6 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.

3.7 Counterparts. 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.

3.8 Delays or Omissions. It is agreed that no delay or omission to exercise any right, power or remedy accruing to any party upon any breach or default of any other party under this Agreement shall impair any such right, power or remedy, nor shall it be construed to be a waiver of any such breach or default, or any acquiescence therein, or of any similar breach or default thereafter occurring; nor shall any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. It is further agreed that any waiver, permit, consent or approval of any kind or character of any breach or default under this Agreement, or any waiver of any provisions or conditions of this Agreement must be in writing and shall be effective only to the extent specifically set forth in writing, and that all remedies, either under this Agreement, by law or otherwise, shall be cumulative and not alternative.

3.9 Consents. Any permission, consent, or approval of any kind or character under this Agreement shall be in writing and shall be effective only to the extent specifically set forth in such writing.

3.10 SPECIFIC PERFORMANCE. THE PARTIES HERETO AGREE THAT IRREPARABLE DAMAGE WOULD OCCUR IN THE EVENT THAT ANY OF THE PROVISIONS OF THIS AGREEMENT WERE NOT PERFORMED IN ACCORDANCE WITH ITS SPECIFIC INTENT OR WERE OTHERWISE BREACHED. IT IS ACCORDINGLY AGREED THAT THE PARTIES SHALL BE ENTITLED TO AN INJUNCTION OR INJUNCTIONS, WITHOUT BOND, TO PREVENT OR CURE BREACHES OF THE PROVISIONS OF THIS AGREEMENT AND TO ENFORCE SPECIFICALLY THE TERMS AND PROVISIONS HEREOF, THIS BEING IN ADDITION TO ANY OTHER REMEDY TO WHICH THEY MAY BE ENTITLED

BY LAW OR EQUITY, AND ANY PARTY SUED FOR BREACH OF THIS AGREEMENT EXPRESSLY WAIVES ANY DEFENSE THAT A REMEDY IN DAMAGES WOULD BE ADEQUATE.

3.11 Construction of Agreement. No provision of this Agreement shall be construed against either party as the drafter thereof.

3.12 Section References. Unless otherwise stated, any reference contained herein to a Section or subsection refers to the provisions of this Agreement.

3.13 Variations of Pronouns. All pronouns and all variations thereof shall be deemed to refer to the masculine, feminine, or neuter, singular or plural, as the context in which they are used may require.

3.14 Cancellation of Prior Agreement. This Agreement supersedes and replaces the Prior Agreement in its entirety, and the Company and the Holders hereby cancel the Prior Agreement in its entirety. Each of the Company and the Holders agree that as of the date hereof, neither party has any existing liability or continuing obligation or right under the Prior Agreement.

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

IN WITNESS WHEREOF, the parties have caused this Amended and Restated Registration Rights Agreement to be duly executed and delivered by their proper and duly authorized officers as of the day and year first written above.

GTx, INC.

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

[Signature Page to Amended and Restated Registration Rights Agreement]

IN WITNESS WHEREOF, the parties have caused this Amended and Restated Registration Rights Agreement to be duly executed and delivered by their proper and duly authorized officers as of the day and year first written above.

J.R. HYDE, III

By: /s/ J.R.Hyde, III

[Signature Page to Amended and Restated Registration Rights Agreement]

IN WITNESS WHEREOF, the parties have caused this Amended and Restated Registration Rights Agreement to be duly executed and delivered by their proper and duly authorized officers as of the day and year first written above.

THE PYRAMID PEAK FOUNDATION

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

GTX, INC.

CONSENT, WAIVER AND AMENDMENT AGREEMENT

THIS CONSENT, WAIVER AND AMENDMENT AGREEMENT (the "***Agreement***") is entered into as of August 4, 2014, by and among **GTX, INC.**, a Delaware corporation (the "***Company***"), and the undersigned Holders.

RECITALS

WHEREAS, on August 7, 2003, the Company and J.R. Hyde, III entered into that certain Amended and Restated Registration Rights Agreement, as the same has been subsequently amended from time to time (as so amended, the "***Hyde Rights Agreement***").

WHEREAS, the undersigned Holders (the "***Consenting Holders***") acknowledge and understand that the Company expects to enter into an Amended and Restated Registration Rights Agreement, as the same may be amended from time to time (the "***New Registration Rights Agreement***"), with certain holders named therein (the "***New Holders***"), in connection with the entry into by the Company and the New Holders of a Securities Purchase Agreement (the "***Purchase Agreement***"), dated as of March 3, 2014, pursuant to which the Company issued an aggregate of 11,976,048 shares of Common Stock (the "***Common Shares***") and warrants to purchase an aggregate of 10,179,642 shares of Common Stock (the "***Warrants***," and the shares of Common Stock issuable upon exercise of the Warrants, the "***Warrant Shares***"). The Common Shares, together with the Warrant Shares, shall be referred to herein as the "***Shares***."

WHEREAS, the Consenting Holders acknowledge and understanding that pursuant to the terms of the New Registration Rights Agreement, the Company is obligated to prepare and file one or more registration statements (the "***Resale Registration Statements***") under the Securities Act of 1933, as amended (the "***Securities Act***"), registering the resale of the Shares by the New Holders, and that the Company will grant to the New Holders certain piggyback registration rights. As used in this Agreement, (i) the term "***Shares***" also includes any securities issued or issuable with respect to any of the Shares by way of exchange, stock dividend or stock split or in connection with a combination of shares, recapitalization, merger, consolidation or other reorganization or otherwise; and (ii) the term "***Resale Registration Statements***" includes (A) any registration statements filed by the Company under the Securities Act pursuant to the terms of the New Registration Rights Agreement and (B) any amendments or supplements to any of such registration statements or the prospectuses included therein.

WHEREAS, (i) pursuant to Section 8(d) of the Hyde Rights Agreement, the Holders have under certain circumstances the right to be notified if the Company shall determine to prepare and file a registration statement under the Securities Act and to include in such registration statement Registrable Securities held by such Holders (the "***Piggyback Registration Rights***") and (ii) pursuant to Section 8(b) of the Hyde Rights Agreement, the prior written consent of the Holders may be required prior to the Company entering into the New Registration Rights Agreement.

WHEREAS, pursuant to Sections 8(d) and 8(g) of the Hyde Rights Agreement, the Company and the Consenting Holders (for and on behalf of all Holders) wish to amend the Hyde Rights Agreement as set forth below, and the Consenting Holders wish to (i) give their express written consent to the entering into of the New Registration Rights Agreement by the Company and (ii) waive the Piggyback Registration Rights in connection with the filings of the Resale Registration Statements and any offerings made pursuant thereto.

WHEREAS, the Consenting Holders are holders of at least a majority of the Registrable Securities held by all Holders and, together with the Company, have the right, pursuant to Section 8(g) of the Hyde Rights Agreement, to amend the Hyde Rights Agreement and to waive certain provisions thereof.

AGREEMENT

1. ACKNOWLEDGEMENT. The Company and each of the Consenting Holders agree and acknowledge that the sole Holders under the Hyde Rights Agreement as of the date hereof are J.R. Hyde, III and Pittco Associates, L.P.

2. CONSENT. Each of the Consenting Holders hereby provides, for itself and on behalf of all other Holders, its express written consent to the entering into by the Company of the New Registration Rights Agreement and to the consummation by the Company of the transactions contemplated thereby, including but not limited to the grant of registration rights to the New Holders and the filing of the Resale Registration Statements. The foregoing consent is irrevocable and shall be effective with respect to each Holder, as well as all affiliates, successors and assigns of each Holder.

3. WAIVER. Each of the Consenting Holders hereby waives, for itself and on behalf of all other Holders, (i) any and all Piggyback Registration Rights in connection with the filing of, and any offerings made pursuant to, the Resale Registration Statements and (ii) any rights to any notices with respect to the foregoing under the Hyde Rights Agreement. The foregoing waiver is irrevocable and shall be effective with respect to each Holder, as well as all affiliates, successors and assigns of each Holder.

4. AMENDMENTS.

4.1 Section 1 of the Hyde Rights Agreement is hereby amended to remove the definitions of "RRA Holder and "RRA Registration".

4.2 Section 1 of the Hyde Rights Agreement is hereby amended to amend and restate the definition of "New Registration Rights Agreement" thereunder to read in full as follows:

> ""New Registration Rights Agreement" means that certain Amended and Restated Registration Rights Agreement, dated as of August 4, 2014, by and between the Company and the parties identified therein, as the same may be amended from time to time in accordance with the terms thereof."

4.3 Section 1 of the Hyde Rights Agreement is hereby amended to amend and restate the definition of "Special Registration Statement" thereunder to read in full as follows:

"Special Registration Statement" means (i) any registration statement relating to any employee benefit plan, (ii) with respect to any corporate reorganization or transaction under Rule 145 under the Securities Act, any registration statement related to the issuance or resale of securities issued in such a transaction, (iii) any registration statement related to stock issued upon conversion of debt securities, (iv) any registration statement effected pursuant to Section 2.1 of the New Registration Rights Agreement, and (v) the first registration statement on Form S-3 filed after March 6, 2014 by the Company with the Commission that registers solely a Company primary offering on a delayed or continuous basis pursuant to Rule 415 under the Securities Act."

4.4 Section 8(c) of the Hyde Rights Agreement is hereby amended and restated to read in full as follows:

"(c) Piggyback on Holder Registrations. Neither the Company nor any of its security holders (other than the Holders in such capacity pursuant hereto) may include securities of the Company in a Registration Statement filed pursuant to a demand under this Agreement, and, unless the Company has obtained the written consent of the Holders of a majority of the then outstanding Registrable Securities as set forth in Section 8(b), the Company shall not after the date hereof enter into any agreement providing such right to any of its security holders, unless the right so granted is subject in all respects to the prior rights in full of the Holders set forth herein, and is not otherwise in conflict with the provisions of this Agreement."

4.5 Section 8(d) of the Hyde Rights Agreement is hereby amended and restated to read in full as follows:

"(d) Piggy-Back Registrations.

(i) If, at any time when there is not an effective Registration Statement covering the Registrable Securities, the Company shall determine to prepare and file with the Commission a registration statement relating to an offering for its own account or the account of others under the Securities Act of any of its equity securities ("Other Securities"), other than on a Special Registration Statement, then the Company shall send to each Holder of Registrable Securities written notice of such determination and, if within fifteen (15) days after receipt of such notice, any such Holder shall so request in writing (which request shall specify the number of Registrable Securities intended to be disposed of by the Holders), the Company will cause the registration under the Securities Act of all Registrable Securities which the Company has been so requested to register by the Holders, to the extent required to permit the disposition of the Registrable Securities so to be registered; provided, however, that if at any time after giving written notice of its intention to register Other Securities on a registration statement other than on a Special Registration Statement and prior to the effective date of the registration statement filed in connection with such registration, the Company shall determine for any reason not to register or to delay registration of the Other Securities, the Company may, at its election, give written notice of such determination to such Holders and, thereupon, (i) in the case of a determination not to register, shall be relieved of its obligation to register any Registrable Securities in connection with such registration (but not from its obligation to pay expenses in accordance with Section 5 hereof), and (ii) in the case of a determination to delay registering, shall be permitted to delay registering any Registrable Securities being registered pursuant to this Section 8(d) for the same period as the delay in registering the Other Securities. In the case of an underwritten public offering in connection with which the Holders and/or New Holders are seeking registration of Piggyback Registrable Securities pursuant to this Section 8(d) or pursuant to the New Registration Rights Agreement, as applicable, if the managing underwriter(s) or underwriter(s) of such offering should reasonably object to the inclusion of Piggyback Registrable Securities in such registration statement and underwriting, or if the Company after consultation with the managing underwriter should reasonably determine that the inclusion of such Piggyback Registrable Securities would materially adversely affect the offering contemplated in such registration statement, and based on such determination recommends inclusion in such registration statement of fewer or none of the Piggyback Registrable Securities, then (x) the number of Piggyback Registrable Securities shall be reduced *pro rata* among the Holders and/or the New Holders seeking to register Piggyback Registrable Securities, or (y) none of the Piggyback Registrable Securities shall be included in such registration statement and underwriting, if the Company after

consultation with the managing underwriter or underwriters recommends the inclusion of none of such Piggyback Registrable Securities; provided, however, that, in either case, if securities are being offered for the account of persons or entities other than the Holders or the New Holders as well as the Company, such reduction shall not represent a greater fraction of the number of Piggyback Registrable Securities intended to be offered by the Holders and/or the New Holders than the fraction of similar reductions imposed on such other persons or entities (other than the Company). For the avoidance of doubt, the provisions of this Section 8(d) shall not be applicable to any offerings made pursuant to any Special Registration Statements and no Holder shall have any rights hereunder to include any Registrable Securities in any offering made pursuant to any Special Registration Statement, including any offerings in the form of a take-down from any existing or any future Special Registration Statements.

(ii) Notwithstanding anything in this Agreement to the contrary, the provisions of this Section 8(d) may be amended or waived (either generally or in a particular instance, either retroactively or prospectively and either for a specified period of time or indefinitely), with the written consent of (i) the Company and (ii) the holders holding at least sixty percent (60%) of the then outstanding Piggyback Registrable Securities; provided, however, that if any such waiver or amendment effected pursuant to this Section 8(d)(ii) materially and adversely affects the rights of the Holders and does not materially and adversely affect the rights of the New Holders in the same manner, then such waiver or amendment shall require the written consent of the Holders of a majority of the then outstanding Registrable Securities; provided further that if any such waiver or amendment effected pursuant to this Section 8(d)(ii) materially and adversely affects the rights of the New Holders and does not materially and adversely affect the rights of the Holders in the same manner, then such waiver or amendment shall require the written consent of the New Holders of a majority of the then outstanding New Registrable Securities."

4.6 Section 8(g) of the Hyde Rights Agreement is hereby amended and restated to read in full as follows:

"(g) Amendments and Waivers. Subject to the provisions of Section 8(d)(ii), the provisions of this Agreement, including the provisions of this sentence, may not be amended, modified or supplemented, and waivers or consents to departures from the provisions hereof may not be given, unless the same shall be in writing and signed by the Company and the Holders of a majority of the then outstanding Registrable Securities."

5. MISCELLANEOUS.

5.1 Defined Terms. Capitalized terms not otherwise defined herein shall have the meanings ascribed to them in the Hyde Rights Agreement.

5.2 Full Power and Authority. Each of the Consenting Holders represents and warrants to the Company that (i) the undersigned Holder has the full right, power and authority to execute and deliver this Agreement, and (ii) this Agreement has been duly executed and delivered by the undersigned Holder and constitutes the legal, valid and binding obligation of the undersigned enforceable in accordance with its terms, except (A) as such enforcement is limited by bankruptcy, insolvency or other similar laws affecting the enforcement of creditors' rights generally and (B) for limitations imposed by general principles of equity.

5.3 Effect of Agreement. Except as modified by the terms of this Agreement, the terms and provisions of the Hyde Rights Agreement shall remain in full force and effect. Other than as stated in this Agreement, this Agreement shall not operate as a waiver of any condition or obligation imposed on the parties under the Hyde Rights Agreement. In the event of any conflict, inconsistency, or incongruity between any provision of this Agreement and any provision of the Hyde Rights Agreement, the provisions of this Agreement shall govern and control.

5.4 Governing Law. This Agreement shall be governed in all respects by the laws of the State of Tennessee as such laws are applied to agreements between Tennessee residents entered into and to be performed entirely within Tennessee.

5.5 Successors and Assigns. The provisions hereof shall inure to the benefit of, and be binding upon, the successors and assigns of the parties hereto.

5.6 Counterparts. This Agreement may be executed in several counterparts, each of which shall constitute an original and all of which, when taken together, shall constitute one instrument.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the undersigned have executed this **CONSENT, WAIVER AND AMENDMENT AGREEMENT** effective as of the date first above written.

GTX, INC.

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

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

PITTCO ASSOCIATES, L.P.

By: /s/ J.R. Hyde, III

Name: J.R. Hyde, III

Title: Chariman

SIGNATURE PAGE TO CONSENT, WAIVER AND AMENDMENT AGREEMENT

CONSULTING AGREEMENT

This Consulting Agreement ("Agreement") is made and entered into with an effective date of the1st day of September, 2014 (the "Effective Date") by and between **GTx, Inc.**, a Delaware corporation with offices at 175 Toyota Plaza, 7th Floor, Memphis, TN 38103 (the "Company"), and **James T. Dalton, Ph.D**, an individual acting as an independent contractor and having an address of 9896 Rue Bienville Place, Lakeland, Tennessee 38002 (the "Consultant").

1. SERVICES AND COMPENSATION

(a) Consultant agrees to perform for the Company the following services (the "Services") in accordance with the terms and conditions of this Agreement:

Serve as an expert and consultant providing such Services as directed by the Company in the areas of (i) Selective Androgen Receptor Modulators ("SARMs") (e.g., enobosarm), (ii) agents related to preventing and/or treating cancer cachexia and/or muscle wasting, (iii) estrogen-based therapies (e.g., GTx-758) to treat prostate cancer or side effects arising from androgen deprivation therapies, (iv) androgen-based treatments for breast cancer, (v) orally active anti-tubulin agents targeting the colchicine binding site of tubulin to treat cancers, and (vi) estrogen receptor beta selective agonists to treat fatty liver diseases such as non-alcoholic steatohepatitis (such compounds, programs and agents being hereinafter collectively referred to as "GTx Technology").

(b) For such Services and beginning in September 2014, Company agrees to pay Consultant at the beginning of each month during the term of this Agreement a fee of Four Thousand Dollars ($4,000). For so long as Consultant remains an employee of the University of Michigan, his hours worked hereunder will be subject to the applicable limitations in the policies and procedures of the University of Michigan governing time spent on outside consulting by its employees. Company shall reimburse Consultant for approved travel and other reasonable out-of-pocket expenses incurred by Consultant at the request of Company, provided that Consultant provides Company with reasonable documentation and invoices of such expenses, and such expenses are incurred consistent with Company's Vendor Expense Policy attached and incorporated herein as Exhibit A. Consultant shall submit an invoice for any such expenses as soon as feasible after the expenses are incurred, together with supporting documentation deemed acceptable by Company. Payment for approved invoices shall be made within thirty (30) days of receipt.

(c) Additionally, as a named inventor of the GTx Technology for which Consultant has agreed to provide the Services hereunder to the Company, to the extent reasonably possible, the Company will provide Consultant with the opportunity to participate as a senior author on manuscripts arising from the Company's clinical studies of enobosarm for treating and/or preventing muscle wasting in cancer patients or treating breast cancer in women with advanced breast cancer or in connection with the clinical study of GTx-758 in men with castration resistant prostate cancer.

(d) For so long as the term of this Agreement continues, Consultant's stock options that were granted by the Company to Consultant prior to September 1, 2014 (i.e., while he was an employee of Company) will continue to vest during the term of this Agreement, provided such vesting of options will terminate upon the effective date of termination of this Agreement. Such options are more particularly described on Exhibit B attached hereto and made a part hereof (the "Options"). Following termination of

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this Agreement for any reason, notwithstanding the terms of the Options, all Options that remain unvested on the date of such termination shall automatically expire, and Consultant will have one (1) year from the effective date of termination to exercise all vested Options (or such lesser period of time if the relevant grant term for the Option(s) should earlier expire), provided that if this Agreement is terminated on account of Consultant's breach of Sections 3 or 5 hereof, such vested options must be exercised within ninety (90) days of the termination of this Agreement or they will then expire.

(d) All invoices shall be by first class mail, postage prepaid, addressed to Company as follows:

Accounts Payable/Jason Shackelford
GTx, Inc.
175 Toyota Plaza, 7th Floor
Memphis, TN 38103

(e) Consultant will provide to Company a completed Federal Tax Form W-9. Company will issue an IRS Form 1099-MISC if required by law. All payments made to the Consultant shall be paid and mailed to the entity or individual identified on the Federal Tax Form W-9 provided by the Consultant. Consultant represents and warrants that such person/entity identified is the appropriate person/entity to receive payments under this Agreement.

(f) Consultant shall maintain records during the term of this Agreement and for one (1) year following expiration or termination of this Agreement of all Services performed and expenses incurred under this Agreement. Company shall have the right, upon reasonable notice, to examine such records.

2. QUALIFICATIONS

Consultant hereby warrants that he has not been debarred or convicted of a crime which could lead to debarment under Section 306 of the Federal Food, Drug, and Cosmetic Act, as amended by the Generic Drug Enforcement Act of 1992. Consultant hereby warrants that he has not and will not utilize the services of any individual or legal entity relating to this Agreement that has been debarred or convicted of a crime which could lead to debarment. Consultant further warrants that he is not an excluded individual or entity listed on the "List of Excluded Individuals/Entities" maintained by the United States Department of Health and Human Services Office of Inspector General. In the event that Consultant becomes debarred or excluded, or receives notice of action or threat of action with respect to debarment or exclusion, Consultant shall notify Company immediately.

3. CONFIDENTIALITY

(a) For the purposes of this Agreement, "Confidential Information" means, information related to the Company's Services to be provided hereunder and GTx Technology, as well as the Company's financial condition and expectations, sales and expected sales, workforce and workforce needs, compensation arrangements, business and marketing plans and ideas, business relationships and affiliations, contemplated and existing contracts, business

practices, present operations and intended future operations, pharmaceutical compounds, compositions, formulations, methods, processes, clinical trials, and products and product candidates for the treatment, prevention, or detection of human diseases, including small molecules that target androgen, estrogen, or other hormonal receptors for purposes of treating, diagnosing, or imaging humans in health and diseases, and includes all intellectual property, inventions, methods, applications, processes, techniques, samples, materials, drawings, concepts, discoveries, improvements, designs, whether or not patentable, but specifically including patents and

patent applications in the United States or any foreign country, and any trade secrets, know-how, results or conclusions, and all business, financial, compliance, regulatory, contracting, and other information, procedures, technology and data relating or otherwise pertaining thereto regardless of whether such information is specifically designated as confidential and regardless of whether such information is in written, oral, electronic, or other form. Confidential Information also includes any Work Product (defined further below) developed by Consultant for Company.

(b) Confidential Information shall not include material or information which is: (i) already in the public domain at time of disclosure hereunder; (ii) rightfully received by Consultant from a third party without any obligation of confidentiality with Company; or (iii) already known prior to or independently developed by Consultant after the Effective Date hereof which were not a part of Consultant's knowledge while employed by the Company and are free of any obligations of confidentiality, as evidenced by his written records. Consultant may disclose Confidential Information that must be disclosed pursuant to a valid order of a court of competent jurisdiction or duly authorized regulatory agency, or as otherwise required by applicable law or regulation, provided that Consultant shall, as soon as practicable but prior to such disclosure, give Company notice and reasonable assistance to allow Company the opportunity to contest such order or request. In addition, Consultant shall maintain and make available to Company a record and copies of any such Confidential Information so disclosed.

(c) Consultant will not, unless Consultant first obtains Company's express written consent, either (i) use Confidential Information for any purpose whatsoever other than the performance of the Services on behalf of Company, or (ii) disclose Confidential Information to any third party. Consultant further agrees to take all reasonable precautions to prevent any unauthorized disclosure of such Confidential Information.

(d) Consultant agrees that Consultant will not, during the term of this Agreement, improperly use or disclose any proprietary information or trade secrets of any former or current employer or other person or entity with which Consultant has an agreement or duty to keep in confidence information acquired by Consultant in confidence, if any, and that Consultant will not bring onto the premises of Company or otherwise disclose to Company any unpublished document or proprietary information belonging to such other employer, person or entity unless consented to in writing by such employer, person or entity.

(e) Consultant recognizes that Company has received and in the future will receive from third parties their confidential or proprietary information subject to a duty on Company's part to maintain the confidentiality of such information and to use it only for certain limited purposes. Consultant agrees that Consultant owes Company and such third parties, during the term of this Agreement and thereafter, a duty to hold all such confidential or proprietary information in the strictest confidence and not to disclose it to any person, firm or corporation or to use it except as necessary in carrying out the Services for Company consistent with Company's agreement with such third party.

(f) Upon Company's request or upon termination of this Agreement (whichever occurs first), Consultant shall immediately cease all use of the Confidential Information and return to Company or, at Company's option, destroy all materials and documentation consisting of or relating to the Confidential Information and certify to Company in writing such return or destruction.

(g) For so long as the Agreement remains in effect and for a period of ten (10) years following its expiration or early termination, Consultant's obligations of confidence, non-disclosure, and non-use hereunder shall continue and survive with respect to Confidential Information received or generated while the Agreement was in effect.

4. OWNERSHIP

Consultant agrees that all deliverables, materials, notes, records, drawings, designs, inventions, improvements, developments, discoveries, trade secrets or other intellectual property (collectively, "Work Product") conceived, discovered, developed, delivered or reduced to practice by Consultant, solely or in collaboration with others, in the performance of the Services under this Agreement are the sole property of the Company free of any obligations or consideration beyond that provided for by this Agreement. In addition, any Work Product which constitutes copyrightable subject matter shall be considered "works made for hire" as that term is defined in the United States Copyright Act. Consultant further agrees to assign (or to cause to be assigned) and does hereby assign fully to the Company all such Work Product and any copyrights, patents, or other intellectual property rights relating thereto. Consultant agrees to execute documents and take such actions reasonably requested by GTx to vest and perfect Company's interest in the Work Product. Consultant represents that Consultant has full power and authority to perform each of the provisions under this Section. Consultant agrees to execute documents and take such actions reasonably requested by GTx to vest and perfect Company's interest in the Work Product.

5. CONFLICTING OBLIGATIONS

(a) Consultant certifies that Consultant has no outstanding agreement or obligation that is in conflict with any of the provisions of this Agreement, or that would preclude Consultant from complying with the provisions hereof and further certifies that Consultant will not enter into any such conflicting agreement during the term of this Agreement.

(b) In view of Consultant's access to the Company's confidential information, trade secrets and proprietary know-how and in consideration of Company retaining Consultant to provide Services hereunder, Consultant agrees that Consultant will not, without Company's prior written consent, develop or design technology identical or substantially similar to GTx Technology for any third party in the pharmaceutical or biotechnology industry or as the Confidential Information for any such third party in the pharmaceutical or biotechnology industry at any time during the term of this Agreement and for a period of twelve (12) months after the termination of this Agreement. Consultant acknowledges that the obligations in this Section are in addition to Consultant's nondisclosure obligations under Section 3 hereof.

(c) Non-competition. Under Consultant's previous Amended & Restated Employment Agreement with Company dated February14, 2013 (the "Employment Agreement"), a copy of which is attached hereto as Exhibit C, and his Agreement on Condition of Employment dated February 28, 2013 (the "Agreement on Condition of Employment"), a copy of which is attached as Exhibit D (collectively, the "Prior Non-Competition Agreements"), Consultant agreed to refrain from entering into any competing business involving a "Competing Product" (as defined in the Employment Agreement) or "Conflicting Product" (as defined in the Agreement on Condition of Employment) for a period of two years following termination of his employment with the Company. Notwithstanding the provisions of the Prior Non-Competition Agreements, including Section 8.4 of the Employment Agreement, Company and Consultant hereby agree that Consultant will continue to be bound by the terms of those non-compete provisions contained in the Prior Non-Competition Agreements, subject to the amendment of the term "Competing Product" or "Conflicting Product", as the case may be, as herein provided, for a period commencing upon the execution of the Prior Non-Competition Agreements until the later of (i) two years from the date of termination of Consultant's employment with the Company or (ii) one (1) year from the date of termination of this Agreement. The definition of "Competing Product" or "Conflicting Product", as the case may be, as set forth in the Prior Non-Competition Agreements, is hereby amended as follows:

"Competing Product" or **"Conflicting Product"** means any pharmaceutical or other compound, composition, formulation, method, process, product or material that is competitive with any product of the Employer that is or pertains to the GTx Technology(as defined in the Consulting Agreement executed between the parties with an effective date of September 1, 2014 (the "Consulting Agreement")), which was under development, manufacture, distribution or commercialization at any time from and after January 1, 2005 (the effective date of the Employee's initial employment agreement with the Employer) through the date of termination of the Consulting Agreement."

In consideration for Company agreeing to narrow hereunder the previous definitions of Competing Product and Conflicting Product contained in the Prior Non-Competition Agreements, Consultant and Company hereby agree that the period of time for which the non-competition provisions contained in the Prior Non-Competition Agreements, as hereby amended, will remain in effect for the period commencing upon the execution of the Prior Non-Competition Agreements until the later of (i) two years from the date of termination of Consultant's employment with the Company or (ii) one year following the termination of this Agreement. Company agrees that Consultant will continue to have the right to conduct academic research in the areas pertaining to GTx Technology during the term hereof and for the period of non-competition thereafter, as long as such research is restricted to academic research only and is not for the purpose of commercializing any product which would fall within the definition of Competing Product or Conflicting Product in the Prior Non-Competition Agreements. Any academic research pertaining to GTx Technology that is to be funded by governmental research grants or third party grants or loans will require Company's prior written approval if the terms of the grant or loans will provide any government or third party rights in the technology for which the grant or loan is sought.

6. TERM AND TERMINATION

(a) Term. This Agreement will commence on the September 1, 2014 and will continue for a period of one (1) year, unless terminated for cause in accordance with this Section. Thereafter, the term of this Agreement (the "Term") shall continue until termination by one or both of the parties.

(b) For cause termination. Either party may terminate this Agreement immediately upon written notice if the other party is in breach of any material provision of this Agreement or the Prior Non-Competition Agreements. In Company's sole discretion, it may offer notice and an opportunity to cure such breach to Consultant. Upon receipt or provision of notice of termination, Consultant shall use reasonable efforts to avoid incurring additional costs and expenses relating to this Agreement during the closeout or winding down period. In the event of a for cause termination, Consultant shall receive no payments for periods following the effective date of such termination.

(c) Not for cause termination. At any time on or after September 1, 2015, either party may terminate the Agreement by providing not less than thirty (30) days prior written notice to the other party that the Agreement is being terminated. Consultant shall receive no payments for periods following the effective date of such termination.

(d) Upon such termination all rights and duties of the parties toward each other shall cease except:

(i) That the Company shall be obliged to pay, within thirty (30) days of the effective date of termination, all amounts owing to Consultant for unpaid Services and related expenses, if any, in accordance with the provisions of Section 1 (Services and Compensation) hereof; and

(ii) Sections 3 (Confidentiality), 4 (Ownership), 5 (Conflicting Obligations), 6 (Term and Termination), 7 (Warranties), 8 (Indemnification) and 10 (Independent Contractor) shall survive termination of this Agreement.

7. WARRANTIES

Consultant warrants that the Services shall be performed in a timely and good, workmanlike manner in accordance with the standards of Consultant's profession and such other accepted standards as may be applicable to any Work Product of its kind delivered to Company hereunder, and all Work Product will be free of material errors and deficiencies, not infringe upon the rights of any third party, and comply with applicable laws. Notwithstanding the foregoing, Consultant is not responsible for any information provided by Company for inclusion in Work Product.

8. TAXES

Consultant shall be responsible for paying all income-related taxes arising from compensation paid under this Agreement.

9. INDEMNIFICATION

Consultant shall indemnify and hold harmless Company, its directors, officers, employees and agents from and against any suits, claims, losses, demands, liabilities, damages, costs and expenses (including court costs and reasonable attorneys fees) ("Liability") in connection with any suit, demand or action by

any third party to the extent arising out of or resulting from (a) any breach by Consultant of his representations, warranties or obligations set forth in this Agreement, (b) Consultant's failure to comply with applicable laws and regulations, (c) negligence or willful misconduct by Consultant or his agents, or (d) claims that any Work Product infringes the intellectual property rights of a third party, except to the extent that such Liability results directly from materials or content provided by Company.

10. ASSIGNMENT

Neither this Agreement nor any right or intent hereunder may be assigned or transferred by Consultant without the express written consent of the Company. Company may assign this Agreement by operation of law or otherwise to an affiliate or pursuant to a merger, sale of all or substantially all of the assets of Company or a stock transfer or other company reorganization without the consent of Consultant.

11. INDEPENDENT CONTRACTOR

Nothing in this Agreement shall in any way be construed to constitute Consultant as an agent, employee or representative of the Company, but Consultant shall perform the Services hereunder as an independent contractor. Consultant acknowledges and agrees that Consultant is obligated to report as income all compensation received by Consultant pursuant to this Agreement, and Consultant agrees to and acknowledges the obligation to pay all self-employment and other taxes thereon.

12. BENEFITS

Consultant acknowledges and agrees, and it is the intent of the parties hereto, that Consultant receives no benefits from the Company, either as an independent contractor or employee. If Consultant is reclassified by a state or federal agency or court as an employee for tax or other purposes, Consultant will become a non-benefit employee and will receive no benefits from the Company, except those mandated by state or

federal law, even if by the terms of the benefit plans or programs of the Company in effect at the time of such reclassification Consultant would otherwise be eligible for such benefits.

13. GOVERNING LAW AND JURISDICTION

This Agreement shall be governed by the internal substantive laws, but not the choice of law rules, of the State of Tennessee. The parties hereto hereby irrevocably and unconditionally consent to the exclusive jurisdiction of, and venue of, the state and federal courts sitting in the State of Tennessee.

14. ENTIRE AGREEMENT

This Agreement, together with exhibits hereto, is the entire agreement of the parties and supersedes any prior agreements between them, whether written or oral, with respect to the subject matter hereof. If any provisions of an exhibit are in direct conflict with this Agreement, the terms of this Agreement shall govern the specific issue. Notwithstanding the first sentence of this Section, this Agreement shall not supersede any Confidentiality Agreement entered into by the parties with respect to any information not specifically subject to this Agreement.

15. GENERAL

(a) *Insider Trading*. Consultant acknowledges that he may receive material, non-public information about Company and its business in the course of providing the Services and that the United States securities laws prohibit trading in Company's securities on the basis of such information.

(b) The heading and captions are for convenience only and do not form part of this Agreement and are not intended to interpret, define or limit the scope, extent or intent of this Agreement or any provisions hereof.

(c) The exhibits of this Agreement may be changed and updated by written agreement of both parties hereto from time to time.

(d) This Agreement may not be altered, amended or modified, except by formal agreement in writing signed by duly authorized representatives of both parties.

(e) Neither party shall, by mere lapse of time, without giving notice thereof, be deemed to have waived any breach by the other party of any terms or provisions of this Agreement. The waiver by either party of any such breach shall not be construed as a waiver of subsequent breaches or as a continuing waiver of such breach.

(f) In the event that any provision contained in this Agreement should, for any reason, be held to be invalid or unenforceable in any respect under the laws of any jurisdiction where enforcement is sought, such invalidity or unenforceability shall not affect any other provision of this Agreement and this Agreement shall be construed as if such invalid or unenforceable provision had not been contained herein.

(g) Any notice required or permitted to be given hereunder by either party shall be in writing and shall be deemed given on the date received if delivered personally or by a reputable overnight delivery service (with delivery confirmation), or three days after the date postmarked if sent by registered or certified mail, return receipt requested, postage prepaid to the following addresses:

If to Consultant:
James T. Dalton, Ph.D
9896 Rue Bienville Place
Lakeland, Tennessee 38002

If to Company:
Henry P. Doggrell
Vice President, Chief Legal Counsel
GTx, Inc.
175 Toyota Plaza, 7th Floor
Memphis, TN, 38103

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the Effective Date. The parties may execute this Agreement by exchange of facsimile, including electronically scanned (i.e., PDF), copies provided that (i) a complete copy of this Agreement (not just the signature page) shall be exchanged with each transmission and (ii) all signatures shall appear on the same signature page. Once signed by all parties, this Agreement shall become effective and binding and such complete facsimile copy shall be treated the same as an original.

GTx, Inc.	**James T. Dalton, Ph.D**
/s/ Henry P. Doggrell	/s/ James T. Dalton
(Signature)	(Signature)
Henry P. Doggrell	James T. Dalton
Printed Name	Printed Name
Chief Legal Officer	
Title	
June 9, 2014	June 3, 2014
(Date)	(Date)

Exhibit A

GTx Travel Expense Reimbursement Policy

for Consultants and Vendors of GTx

Reasonable travel expenses for a rental car, use of a Vendor's/Consultant's car, air travel, meals, lodging, parking fees and taxi fares incurred by a Vendor/Consultant providing services for GTx pursuant to a written contract with GTx will be reimbursed by GTx as set forth below. Any exceptions to this policy must be pre-approved in writing by GTx.

1. **Mileage Allowance**

Mileage allowance will be reimbursed at the prevailing mileage rate set by the United States Internal Revenue Service (IRS).

2. **Tolls and Parking Charges**

All tolls and parking charges will be reimbursed, except as follows: if a Vendor/Consultant chooses to rent a car and drive to a destination rather than fly, then parking charges incurred for parking the Vendor's car will not be reimbursed.

3. **Rental Cars**

When use of a rental car is necessary only charges for *an economy or mid-size car* will be reimbursed. GTx will not provide reimbursement for car rental insurance for travel within the United States. GTx *will* provide reimbursement for car rental insurance *for travel outside* the United States. Refueling costs charged by the rental agency are not reimbursed by GTx.

4. **Flights, Hotel and Meals**

GTx will provide reimbursement for air travel for coach class only. When possible, air travel should be reserved at least fourteen (14) days in advance to take advantage of discount fares. Any exceptions must be pre-approved in writing by GTx. Air travel receipts should include the travel agency itinerary, paper copy airline ticket, or E-ticket receipt.

GTx will provide hotel reimbursement for the cost of single occupancy / standard room at a reasonably priced hotel for the geographic area where services are to be provided.

GTx provides reimbursement for the actual cost of meals up to Fifty Dollars ($50.00) per meal, but subject to a maximum of Seventy-Five Dollars ($75.00) per day.

Exhibit A

GTx, Inc. Vendor Travel Expense Reimbursement Policy

The travel expenses for a rental car, use of a personal car of vendor, air travel, meals, lodging, parking fees and taxi fares incurred by a vendor providing services for GTx pursuant to a written contract with GTx where such travel is requested by GTx will be reimbursed by GTx as set forth below. Any exceptions to this policy must be pre-approved in writing by GTx.

1. Rental Cars

When use of a rental car is necessary, only the cost for an economy or mid-size car will be reimbursed. GTx will also provide reimbursement for rental car fueling costs. Refueling costs charged by the rental agency, however, are not reimbursed by GTx.

2. Use of Vendor Car

When the car of a vendor is utilized in GTx business, GTx will provide reimbursement on a per mile/kilometer basis based upon the prevailing rate set by the applicable country in which the vendor/consultant resides. If no prevailing rate is available in that country, the United States Internal Revenue Service (IRS) prevailing rate per mile will be used. GTx assumes no responsibility beyond providing mileage reimbursement; it is the vendor's responsibility to conduct repair and maintenance and to protect against damage and legal liability in such form and amount as vendor deems adequate.

3. Taxi, Parking and Toll Charges

All reasonable charges for taxis, parking and tolls will be reimbursed.

4. Flights, Hotel and Meals

Flights and airfares must be approved by GTx in advance. GTx will provide reimbursement for air travel for coach class; however, for flights with a duration time of more than five (5) hours, GTx will provide reimbursement for business class. When possible, air travel should be reserved **at least** fourteen (14) days in advance to take advantage of discount fares. Air travel receipts should include the travel agency itinerary, paper copy airline ticket, or E-ticket receipt.

GTx will provide hotel reimbursement for the cost of single occupancy / standard room at a reasonably priced hotel for the geographic area where services are being provided.

GTx provides reimbursement for the actual cost of meals up to the equivalent of Fifty USD ($50.00) per meal, but subject to a maximum of Seventy-Five USD ($75.00) per day.

5. Receipts

Original receipts or supporting documentation deemed sufficient by GTx must be provided to GTx prior to approved expenses being reimbursed to the vendor.

Exhibit B

Personnel Grant Status

GTx, Inc.
ID: 62-1715807
175 Toyota Plaza, 7th Floor
Memphis, TN 38103

File: Optstmt
Date: 4/30/2014
Time:4:11:43PM

AS OF 4/30/2014

James Dalton
9896 Rue Bienville Place
Lakeland, TN United States 38002

A W A R D S

Number	Grant Date	Plan	Type	Granted	Price	Released	Vested	Cancelled	Unvested	Deferred	Next Deferral Release Date
RS00006	10/1/2013	2013	RSU	100,000	$ 0.0000	0	0	0	100,000	0	
				100,000		0	0	0	100,000	0	

S T O C K O P T I O N S

Number	Grant Date	Plan	Type	Granted	Price	Exercised	Vested	Cancelled	Unvested	Outstanding	Exercisable
0000053	1/20/2005	2002	NQ	34,000	$ 13.0700	17,000	34,000	0	0	17,000	17,000
0000054	1/20/2005	2002	NQ	16,000	$ 13.0700	0	16,000	0	0	16,000	16,000
0000055	5/19/2005	2002	NQ	25,000	$ 9.7100	0	25,000	0	0	25,000	25,000
00000862	1/1/2012	2004	NQ	35,000	$ 3.3600	0	14,000	0	21,000	35,000	14,000
0000223	1/1/2006	2002	NQ	20,000	$ 7.5600	0	20,000	0	0	20,000	20,000
0000292	1/1/2007	2000	NQ	500	$ 17.8400	0	500	0	0	500	500
0000293	1/1/2007	2002	NQ	6,600	$ 17.8400	0	6,600	0	0	6,600	6,600
0000294	1/1/2007	2004	NQ	17,900	$ 17.8400	0	17,900	0	0	17,900	17,900
0000379	1/1/2008	2004	NQ	25,000	$ 14.3500	0	25,000	0	0	25,000	25,000

0000508	1/1/2009	2004	NQ	25,000	$ 16.8400	0	25,000	0	0	25,000	25,000
0000633	1/1/2010	2004	NQ	35,000	$ 4.2000	0	28,000	0	7,000	35,000	28,000
0000775	1/1/2011	2004	NQ	50,000	$ 2.6500	20,000	30,000	0	20,000	30,000	10,000
0000939	1/1/2013	2004	NQ	55,000	$ 4.2000	0	11,000	0	44,000	55,000	11,000
0001035	10/1/2013	2013	NQ	100,000	$ 1.8800	0	0	0	100,000	100,000	0
				445,000		37,000	253,000	0	192,000	408,000	216,000

Exhibit C

AMENDED AND RESTATED
EMPLOYMENT AGREEMENT

This Amended and Restated Employment Agreement (this "Agreement") is made and entered into as of February 14, 2013 (the "Effective Date") by and between **GTx, Inc.**, located at 175 Toyota Plaza, 7th Floor, Memphis, Tennessee 38103 (the "Employer"), and **JAMES T. DALTON** (the "Employee"), residing at 9896 Rue Bienville Place, Lakeland, TN 38002.

WHEREAS, Employee was previously a tenured professor of The Ohio State University ("OSU") and an employee of the Employer; and

WHEREAS, the Employee was providing services to the Employer under the terms of an Amended and Restated Employment Agreement that was effective as of November 10, 2008 (the "Prior Employment Agreement"); and

WHEREAS, the Employer and the Employee wish to amend and restate the Prior Employment Agreement as set forth herein; and

WHEREAS, during the course of the Employee's employment with the Employer, the Employer will train and continue to train the Employee and to impart to the Employee proprietary, confidential, and/or trade secret information, data and/or materials of the Employer; and

WHEREAS, the Employer has a vital interest in maintaining its confidential information and trade secrets, as well as rights to inventions, since doing so allows the Employer to compete fairly and enhances the value of the Employer to shareholders and job security for employees; and

WHEREAS, the Employer desires to retain the services of the Employee and the Employee is willing to be employed and continue to be employed with the Employer upon the terms and subject to the conditions set forth in this Agreement;

NOW, THEREFORE, in consideration of the mutual covenants and agreements contained in this Agreement, the employment and continued employment of the Employee in accordance with the terms and conditions of this Agreement, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties, intending to be legally bound, agree and covenant as follows:

1. DEFINITIONS

For the purposes of this Agreement, the following terms have the meanings specified or referred to in this Section 1.

"Agreement" has the meaning set forth in first paragraph of this Agreement.

"Basic Compensation" means Salary and Benefits.

"Benefits" has the meaning stated in Section 3.1(b) of this Agreement.

"Board of Directors" means the Board of Directors of the Employer.

"CEO" has the meaning set forth in Section 2.2.

"**Change of Control"** means any of the following events: (a) the sale or other disposition of all or substantially all of the assets of the Employer in a single transaction or in a series of transactions (including, without limitation, any liquidation or dissolution of the Employer); (b) any Person or group becomes the beneficial owner, directly, or indirectly, of securities of the Employer representing more than fifty percent (50%) of the combined voting power of the Employer's then outstanding securities other than by virtue of a merger, consolidation or similar transaction (for such purposes, "voting stock" shall mean the capital stock of the Employer of any class or classes, the holders of which are ordinarily, in the absence of contingencies, entitled to vote for the election of members of the Board of Directors (or Persons performing similar functions) of the Employer); (c) a merger or consolidation of the Employer with or into any other entity, if immediately after giving effect to such transaction more than fifty percent (50%) of the issued and outstanding voting stock of the surviving entity of such transaction is held by Persons who were not holders (taking into account their individual and affiliated holdings) as of the Effective Date of at least fifty percent (50%) of the voting stock of the Employer; or (d) individuals who, on the Effective Date, are members of the Board of Directors (the "Incumbent Board") cease for any reason to constitute at least a majority of the members of the Board of Directors; *provided, however,* that if the appointment or election (or nomination for election) of any new member of the Board of Directors was approved or recommended by a majority vote of the members of the Incumbent Board then still in office, such new member will, for purposes of this Agreement, be considered as a member of the Incumbent Board. A Change of Control shall not include: (1) any transfer or issuance of stock of the Employer to one or more of the Employer's lenders (or to any agents or representatives thereof) in exchange for debt of the Employer owed to any such lenders; (2) any transfer of stock of the Employer to or by any Person or entity, including but not limited to one or more of the Employer's lenders (or to any agents or representatives thereof), pursuant to the terms of any pledge of said stock as collateral for any loans or financial accommodations to the Employer and/or its subsidiaries; (3) any transfer or issuance to any Person or entity, including but not limited to one or more of the Employer's lenders (or to any agents or representatives thereof), in connection with the workout or restructuring of the Employer's debts to any one of the Employer's lenders, including but not limited to the issuance of new stock in exchange for any equity contribution to the Employer in connection with the workout or restructuring of such debt; (4) any transfer of stock by a stockholder of the Employer which is

a partnership or corporation to the partners or stockholders in such stockholder or any transfer of stock by a stockholder of the Employer to an entity affiliated with such stockholder or the immediate family of such stockholder or a trust or similar entity for the benefit of such family members; or (5) any transfer or issuance of stock in connection with an offering of the Employer's stock in a registered public transaction not involving a transaction described in Rule 145, promulgated under the Securities Act of 1933, as amended, provided that the Employer's officers and Board of Directors shall not materially change as a result thereof.

"Change of Control Termination" means (i) a Termination Without Cause of the Employee's employment by the Employer (other than for death or disability) within twelve (12) months after a Change of Control or (ii) the Employee's resignation for Good Reason within twelve (12) months after a Change of Control.

"Competing Business" means any individual or entity, other than the Employer, that is engaging in, or proposes to engage in, the development, manufacture, distribution or sale of a Competing Product in North America, South America, Europe and Eastern Europe, and in the countries of Russia, Australia, Japan, China, Taiwan, South Korea and India; *provided, however*, that an entity that develops, manufactures, distributes or sells a Competing Product in a separate business unit than the business unit in which the Employee is then employed shall not be deemed a Competing Business unless the Employee provides Confidential Information and/or Proprietary Information to the business unit that is engaging in or proposes to engage in the development, manufacture, distribution or sale of a Competing Product.

"Competing Product" means any pharmaceutical or other compound, composition, formulation, method, process, product or material that is competitive with any product of the Employer under development, manufacture, distribution or commercialization at any time from and after January 1, 2005 (the effective date of the Employee's initial employment agreement with the Employer) through the date of termination of the Employee's employment, including, without limitation, small molecules that target androgen, estrogen, glucocorticoid, and/or other hormone receptors for purposes of treating, diagnosing, or imaging humans in health and disease, including treating cancer, osteoporosis and bone loss and muscle loss.

"Confidential Information and/or Proprietary Information" means any and all:

(a) information disclosed to the Employee or known by the Employee as a consequence of, or through, the Employee's employment with the Employer since his initial date of employment on January 1, 2005 or pursuant to the Employee's prior relationship with the Employer either through his employment with OSU or under the Consulting Agreement (including information conceived, originated, discovered, or developed in whole or in part by the Employee), not generally known in the relevant trade or industry, about the Employer's business, products, processes, and services; and trade secrets concerning the business and affairs of the Employer, product specifications, data, know-how, formulae, compositions, research, processes, designs, sketches, photographs, graphs, drawings, samples, inventions and ideas, past, current, and planned research and development, current and planned manufacturing or distribution methods and processes, customer lists, current and anticipated customer requirements, price lists, market studies, business plans, computer software and programs (including object code and source code), computer software and database technologies, systems, structures, and architectures (and related formulae, compositions, processes, improvements, devices, know-how, inventions, discoveries, concepts, ideas, designs, methods and information); and any other information, however documented, that is a trade secret within the meaning of Tenn. Code §39-14-138 or any other applicable law; and

(b) information concerning the business and affairs of the Employer (which includes historical financial statements, financial projections and budgets, historical and projected sales,

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capital spending budgets and plans, the names and backgrounds of key personnel, personnel training and techniques and materials), however documented; and

(c) intellectual property, inventions, methods, processes, techniques, computer programs, devices, products, services, compounds, gene therapy products, pharmaceuticals, substances, vectors, enzymes, genes, concepts, discoveries, improvements, and designs, whether or not patentable in the United States or foreign countries, any trade secrets, information, procedures, technologies, data, results, conclusions, know-how or show-how and business information; and

(d) notes, analysis, compilations, studies, summaries, and other material prepared by or for the Employer containing or based, in whole or in part, on any information included in the foregoing.

"Delayed Initial Payment Date" has the meaning stated in Section 9.2 of this Agreement.

"Effective Date" means the date stated in the first paragraph of this Agreement.

"Employee" has the meaning stated in the first paragraph of this Agreement.

"Employee Invention" means any idea, invention, technique, modification, process, improvement (whether patentable or not), industrial design (whether registerable or not), work of authorship (whether or not copyright protection may be obtained for it), design, copyrightable work, discovery, trademark, copyright, trade secret, formula, device, method, compound, gene, prodrug, pharmaceutical, structure, product concept, marketing plan, strategy, customer list, technique, blueprint, sketch, record, note, drawing, know-how, data, patent application, continuation application, continuation-in-part application, file wrapper continuation application or divisional application, created, conceived, or developed by the Employee, either solely or in conjunction with others, during the Employee's employment, or a period that includes a portion of the Employee's employment, that relates in any way to, or is useful in any manner in, the business then being conducted or proposed to be conducted by the Employer, and any such item created by the Employee, either solely or in conjunction with others, following termination of the Employee's employment with the Employer, that is based upon or uses Confidential Information and/or Proprietary Information.

"Employer" means GTx, Inc., its successors and assigns, and any of its current or future subsidiaries, or organizations controlled by, controlling, or under common control with it.

"Expenses" has the meaning stated in Section 4.1 of this Agreement.

"Good Reason" for termination means that the Employee voluntarily resigns from all positions he then holds with the Employer if and only if:

(a) one of the following actions have been taken without the Employee's express written consent:

(i) following a Change of Control, an adverse change in the Employee's authority, duties or responsibilities (including reporting responsibilities) which, without the Employee's consent, represents a material reduction in or a material demotion of the Employee's authority, duties or responsibilities as in effect immediately prior to a Change of Control or the assignment to the Employee of any duties or responsibilities which are materially inconsistent with and materially adverse to such authority, duties or responsibilities;

(ii) following a Change of Control, a material reduction in the then current Salary of the Employee;

(iii) following a Change of Control, the relocation of the Employer's principal employee offices to a location that increases the Employee's one-way commute by more than twenty (20) miles;

(iv) the failure of the Employer to obtain an agreement reasonably satisfactory to the Employee from any successor or assign of the Employer upon a Change of Control to assume and agree to perform this Agreement in all material respects following the Change of Control; or

(v) the Employer materially breaches its obligations under this Agreement or any other then-effective agreement with the Employee (including any agreement or arrangement providing for incentive compensation or employee benefits, including the Benefits provided in this Agreement).

(b) the Employee provides written notice to the Board of Directors within the thirty (30) day period immediately following such action; and

(c) such action is not remedied by the Employer within thirty (30) days following the Employer's receipt of such written notice; and

(d) the Employee's resignation is effective not later than sixty (60) days after the expiration of such thirty (30)-day cure period.

"Person" means any individual, corporation (including any non-profit corporation), general or limited partnership, limited liability company, joint venture, estate, trust, association, organization, or governmental body.

"Proprietary Items" means any Proprietary and/or Confidential Information embodied in any document, record, recording, electronic media, formulae, notebook, plan, model, component, device, or computer software or code, whether embodied in a disk or in any other form.

"Release" means a general release of claims in favor of the Employer, in a form acceptable to the Employer, which shall specifically relate to all of the Employee's rights and claims in existence at the time of such execution and shall confirm the Employee's continuing obligations to the Employer (including but not limited to obligations under Section 7 and Section 8 of this Agreement, the Agreement on Condition of Employment and any other confidentiality and/or non-competition agreement with the Employer).

"Salary" has the meaning stated in Section 3.1(a) of this Agreement.

"Section 409A" has the meaning stated in Section 9.2 of this Agreement.

"Termination Date" has the meaning stated in Section 6.1 of this Agreement.

"**Termination With Cause"** means the termination of the Employee's employment by act of the Board of Directors for any of the following reasons, any of which shall constitute "Cause" for purposes of this Agreement:

(a) the Employee's conviction of a felony;

(b) the Employee's theft, embezzlement, misappropriation of or intentional infliction of material damage to the Employer's property or business opportunities;

(c) the Employee's breach of the provisions contained in Section 7 or Section 8 of this Agreement or the provisions in the Agreement on Condition of Employment regarding confidentiality, non-competition or non-solicitation; or

(d) the Employee's ongoing willful neglect of or failure to perform his duties hereunder or his ongoing willful failure or refusal to follow any reasonable, unambiguous duly adopted written direction of the CEO that is not inconsistent with the description of the Employee's duties set forth in Section 2.3, if such willful neglect or failure is materially damaging or materially detrimental to the business and operations of the Employer; provided that, if curable, the Employee shall have received written notice of such neglect or failure and shall have continued to engage in such neglect or failure after 30 days following receipt of such notice from the CEO, which notice specifically identifies the manner in which the CEO believes that the Employee has engaged in such neglect or failure. For purposes of this subsection, no act, or failure to act, shall be deemed "willful" unless done, or omitted to be done, by the Employee not in good faith, and without reasonable belief that such action or omission was in the best interest of the Employer.

"Termination Without Cause" means the termination of the Employee's employment by the Employer for any reason other than (i) Termination With Cause, or (ii) a termination by the Employer due to the Employee's death or disability.

2. EMPLOYMENT TERMS AND DUTIES

2.1 Employment

The Employer hereby continues the employment of the Employee, and the Employee hereby accepts continued employment by the Employer, upon the terms and conditions set forth in this Agreement.

2.2 Term

Either the Employee or the Employer may terminate this Agreement and the Employee's employment and compensation with or without Cause or notice, at any time, at

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either the Employer's or the Employee's option. No officer or manager of the Employer has the authority to enter into any other agreement for employment for a specified period of time, or to modify or to make any agreement contrary to the foregoing, except by written amendment to this Agreement, dated and signed by the Chief Executive Officer ("CEO") or the President of the Employer.

2.3 Duties

The Employee will continue to have such duties as are assigned or delegated to the Employee by the Board of Directors, the CEO or the President and will initially serve as Vice President, Chief Scientific Officer for the Employer. The Employee will devote his full time, attention, skill and energy to the business of the Employer, will use his best efforts to promote the success of the Employer's business, and will cooperate fully with the Board of Directors, the CEO and the President in the advancement of the best interest of the Employer. The Employee agrees to abide by all bylaws, policies, practices, procedures or rules of the Employer. The Employee may be reassigned or transferred to another management position, as designated by the Board of Directors, the CEO or the President, which may or may not provide the same level of responsibility as the initial assignment, in accordance with the terms and conditions of this Agreement.

3. COMPENSATION

3.1 Basic Compensation

(a) Salary. As of the Effective Date, the Employee will be paid for each of the twenty-six pay periods during the calendar year approximately $16,560, which is the equivalent of $430,560 per calendar year (the "Salary"), subject to review and adjustment from time to time by the CEO in his sole discretion.

(b) Benefits. The Employee will, during his employment with the Employer, be permitted to participate in such life insurance, hospitalization, major medical, short term disability, long term disability, 401(k) plan and other employee benefit plans of the Employer that may be in effect from time to time, to the extent the Employee is eligible under the terms of those plans (collectively, the "Benefits"). All matters of eligibility for coverage or benefits under any such plan shall be determined in accordance with the provisions of such plan. The Employer reserves the right to change, alter, or terminate any such plan, in its sole discretion, subject to the terms of such plan.

(c) The Employer may withhold from the Salary or Benefits payable to the Employee all federal, state, local, and other taxes and other amounts as permitted or required pursuant to law, rules or regulations.

4. FACILITIES AND EXPENSES

4.1 General

The Employer will furnish the Employee office space, equipment, supplies, and such other facilities and personnel as the Employer deems necessary or appropriate for the

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performance of the Employee's duties under this Agreement, including sufficient capital equipment as determined by the CEO to support the needs of a preclinical research & development department. The Employer will pay on behalf of the Employee (or reimburse the Employee for) reasonable expenses incurred by the Employee at the request of, or on behalf of, the Employer in the performance of the Employee's duties pursuant to this Agreement, and in accordance with the Employer's employment policies, including reasonable expenses incurred by the Employee in attending conventions, seminars, and other business meetings, in appropriate business entertainment activities, and for promotional expenses (the "Expenses"). To the extent that any reimbursements payable or in-kind benefits provided pursuant to this Agreement are subject to the provisions of Section 409A of the Internal Revenue Code of 1986, as amended (the "Code"), any such reimbursements payable pursuant to this Agreement shall be paid no later than December 31 of the year following the year in which the expense was incurred, the amount of expenses reimbursed or in-kind benefits provided in one year shall not affect the amount eligible for reimbursement or in-kind benefits to be provided in any subsequent year, and the right to reimbursement or in-kind benefits under this Agreement will not be subject to liquidation or exchange for another benefit. The Employee must file expense reports with respect to such expenses in accordance with the Employer's policies.

5. VACATIONS AND HOLIDAYS

The Employee will be eligible to accrue paid vacation each calendar year in accordance with the vacation policies of the Employer in effect from time to time. Under such policies of the Employer as of the Effective Date, the Employee is eligible to accrue up to four (4) weeks of paid vacation each calendar year. Vacation must be taken by the Employee at such time or times during the calendar year as approved by the CEO or President. Additionally, the Employee will be entitled to the paid holidays set forth in the Employer's policies. Any accrued vacation days and holidays that are not used by the Employee by the end of the calendar year in which they were accrued will be lost and may not be used in any subsequent calendar year; *provided, however*, that upon termination of the Employee's employment, the Employee will be paid the equivalent compensation attributable to any accrued vacation days which were accrued during the calendar year in which such termination occurs and are not otherwise used by the Employee as of the date of such termination.

6. TERMINATION

6.1 At-Will Employment. The Employee's employment is at-will, which means that either the Employee or the Employer may terminate this Employment Agreement (with the exception of the provisions of Sections 7 and 8 which shall survive termination of this Agreement and the Employee's employment) with or without Cause or notice, at any time at either the Employee's or the Employer's option. Except as otherwise specifically set forth herein, or as provided in any plan documents governing any compensatory equity awards that have been or may be granted to the Employee from time to time in the sole discretion of the Employer or an affiliate, upon termination of the Employee's employment the Employer shall be released from any and all further obligations under this Agreement, except the Employer shall be obligated to pay the Employee his accrued but unpaid Basic Compensation and Expenses owing to the Employee through the day on which the Employee's employment is terminated (the

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"Termination Date"). The Employee's obligations under Sections 7 and 8 shall continue pursuant to the terms and conditions of this Agreement.

6.2 Termination Upon Death. The employment of the Employee shall terminate on the date of the Employee's death, in which event the Employee's accrued but unpaid Basic Compensation and Expenses, owing to the Employee through the date of the Employee's death, shall be paid to his estate. The Employee's estate will not be entitled to any other compensation under this Agreement.

6.3 Termination Related to a Change of Control. As additional consideration for the covenants in Section 7 and Section 8, in the event of a Change of Control Termination, and provided that the Employee signs and allows to become effective a Release within the time period provided therein (but not later than the 60th day following the Termination Date, such latest permitted effective date is the "Release Deadline" for purposes of this Agreement), then subject to Section 9.2:

(a) The Employee shall receive as severance one (1) year of his Salary, payable in accordance with the Employer's then current payroll schedule over the one (1) year period following the Termination Date, less deductions required by law; *provided, however*, that if the Employee terminates his employment on account of a material reduction in his Salary, as provided in paragraph (a)(ii) of the definition of Good Reason, the amount of such severance shall be based on the Employee's Salary immediately prior to such reduction. Notwithstanding the foregoing payment schedule, no severance will be paid prior to the effective date of the Release. Subject to Section 9.2, on the first regular payroll pay day following the effective date of the Release, the Employer will pay the Employee the severance that the Employee would otherwise have received on or prior to such date but for the delay in payment related to the effectiveness of the Release, with the balance of the severance being paid as originally scheduled.

(b) If the Employee timely elects group health insurance coverage under the Consolidated Omnibus Budget Reconciliation Act of 1985 ("COBRA"), the Employer will pay the Employee's monthly COBRA premiums (including the cost of eligible dependent coverage, if any) through the earliest of the following (the "COBRA Payment Period"): (i) for twelve (12) months following the Termination Date; (ii) the date that the Employee becomes eligible for group health insurance coverage through a new employer; or (iii) the date that the Employee is no longer eligible for COBRA coverage. Notwithstanding the foregoing, if at any time the Employer determines, in its sole discretion, that its payment of the Employee's COBRA premiums would result in a violation of applicable law (including, without limitation, Section 105(h)(2) of the Code and Section 2716 of the Public Health Service Act), then in lieu of paying such COBRA premiums, the Employer will pay the Employee on the last day of each remaining month of the COBRA Payment Period a fully taxable cash payment equal to the COBRA premium for that month, subject to applicable tax withholding (such amount, the "Special Severance Payment"); *provided, however*, that any such Special Severance Payment will be made without regard to the Employee's payment of COBRA premiums and for purposes of any such Special Severance Payment, the "COBRA Payment Period" will be

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determined without regard to the expiration of the Employee's eligibility for continued coverage under COBRA.

7. NON-DISCLOSURE COVENANT; EMPLOYEE INVENTIONS

7.1 Acknowledgements by the Employee

The Employee acknowledges and agrees that (a) during the course of his employment and as a part of his employment, the Employee will be afforded access to Confidential Information and/or Proprietary Information; (b) public disclosure of such Confidential Information and/or Proprietary Information could have an adverse effect on the Employer and its business; (c) because the Employee possesses substantial technical expertise and skill with respect to the Employer's business, the Employer desires to obtain exclusive ownership of each Employee Invention, and the Employer will be at a substantial competitive disadvantage if it fails to acquire exclusive ownership of each Employee Invention; and (d) the provisions of this Section 7 are reasonable and necessary to prevent the improper use or disclosure of Confidential Information and/or Proprietary Information and to provide the Employer with exclusive ownership of all Employee Inventions.

7.2 Agreements of the Employee

In consideration of the compensation and benefits to be paid or provided to the Employee by the Employer under this Agreement and otherwise, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Employee covenants and agrees as follows:

(a) Confidentiality

(i) That all of such Confidential Information and/or Proprietary Information is a unique asset of the business of the Employer, the disclosure of which would be damaging to the Employer.

(ii) That the Employee will not at any time, whether during or after termination or cessation of the Employee's employment, except as authorized by the Employer and for its benefit, use, divulge or disclose (or enable anyone else to use, divulge or disclose) to any Person, association or entity any Confidential Information and/or Proprietary Information which the Employee presently possesses or which the Employee may obtain during the course of the Employee's employment with respect to the business, finances, customers or affairs of the Employer or trade secrets, developments, methods or other information and data pertaining to the Employer's

business. The Employee shall keep strictly confidential all matters and information entrusted to the Employee and shall not use or attempt to use any such Confidential Information and/or Proprietary Information in any manner which may injure or cause loss or may be calculated to injure or cause loss, whether directly or indirectly, to the Employer.

(iii) That during the course of this Agreement or at any time after termination, the Employee will keep in strictest confidence and will not

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disclose or make accessible to any other Person without the prior written consent of the Employer, the Confidential Information and/or Proprietary Information; the Employee agrees: (a) not to use any such Confidential Information and/or Proprietary Information for himself or others; and (b) not to take any such material or reproductions thereof from the Employer's facilities at any time during his employment except, in each case, as required in connection with the Employee's duties to the Employer.

(iv) The Employee agrees to hold in confidence, and not to distribute or disseminate to any Person or entity for any reason, any Confidential Information and/or Proprietary Information of the Employer under this Agreement, or information relating to experiments or results obtained based on the duties of the Employee, except for information which: (a) is in or which becomes a part of the public domain not as a result of a breach of this Agreement, (b) is information lawfully received from a third party who had the right to disclose such information or (c) is required by legal process before a court of proper jurisdiction (by oral questions, deposition, interrogatories, requests for information or documents, subpoena, civil investigative domain or other similar process) to disclose all or any part of any Confidential Information and/or Proprietary Information, provided that the Employee will provide the Employer with prompt notice of such request or requirement, as well as notice of the terms and circumstances surrounding such request or requirements, so that the Employer may seek an appropriate protective order or waive compliance with the provisions of this Agreement. In such case, the parties will consult with each other on the advisability of pursuing any such order or other legal action or available step to resist or narrow such request or requirement. If, failing the entry of a protective order or the receipt of a waiver hereunder, the Employee is, in the opinion of counsel reasonably acceptable to the Employer, legally compelled to disclose Confidential Information and/or Proprietary Information, the Employee may disclose that portion of such information which counsel advises is necessary to disclose. The Employee will not oppose any action by the Employer to prevent disclosure pursuant to an appropriate protective order or to request other reliable assurances that confidential treatment will be accorded to the disclosure of such information.

(v) Upon termination of this Agreement by either party or upon written notice by the Employer, the Employee shall promptly redeliver to the Employer, or, if requested by the Employer, promptly destroy all written Confidential Information and/or Proprietary Information and any other written material containing any information included in the Confidential Information and/or Proprietary Information (whether prepared by the Employer, the Employee, or a third party), and will not retain any copies, extracts or other reproductions in whole or in part of such written Confidential Information and/or Proprietary Information (and upon request certify such redelivery or destruction to the Employer in a written instrument reasonably acceptable to the Employer and its counsel).

(vi) This Agreement and the terms and conditions recited herein are confidential and non-public, except as may be expressly permitted by the Employer. The Employee agrees not to disclose the contents of this Agreement to any Person or entity, including, but not limited to the press, other media, any public body, or any competitor of the Employer, except to the Employee's legal counsel, or as may be required by law.

(vii) Any trade secrets of the Employer will be entitled to all of the protections and benefits of State of Tennessee law and any other applicable law. If any information that the Employer deems to be a trade secret is found by a court of competent jurisdiction not be to a trade secret for purposes of this Agreement, such information will, nevertheless, be considered Confidential Information and/or Proprietary Information for purposes of this Agreement. The Employee hereby waives any requirement that the Employer submits proof of the economic value of any trade secret or posts a bond or other security.

(viii) None of the foregoing obligations and restrictions applies to any part of the Confidential Information and/or Proprietary Information that the Employee demonstrates was or became generally available to the public other than as a result of a disclosure by the Employee.

(ix) The Employee will not remove from the Employer's premises (except to the extent such removal is for purposes of the performance of the Employee's duties at home or while traveling, or except as otherwise specifically authorized by the Employer) any Proprietary Items. The Employee recognizes that, as between the Employer and the Employee, all of the Proprietary Items, whether or not developed by the Employee, are the exclusive property of the Employer. Upon termination of this Agreement by either party, or upon the request of the Employer during the employment of the Employee, the Employee will return to the Employer all of the Proprietary Items in the Employee's possession or subject to the Employee's control, and the Employee shall not retain any copies, abstracts, sketches, or other physical or electronic embodiment of any of the Proprietary Items.

(x) During the Employee's employment with the Employer, the Employee will not improperly use or disclose any confidential information or trade secrets, if any, of any former employer or any other Person to whom the Employee has an obligation of confidentiality, and the Employee will not bring onto the premises of the Employer any unpublished documents or any property belonging to any former employer or any other Person to whom the Employee has an obligation of confidentiality unless consented to in writing by that former employer or Person.

(b) Employee Inventions

(i) Each Employee Invention will belong exclusively to the Employer. The Employee agrees that the Employer shall have sole and exclusive

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ownership rights in any conception, invention, trade secrets, information, ideas, improvement, substance, know-how, whether or not patentable, arising out of, resulting from, or derivative of: (1) the work or services of the Employee, or (2) within the scope of the duties of the Employee, or (3) using any materials, compounds, devices, or monies of the Employer. Any resulting or derivative rights, including patent rights, shall become the exclusive property of the Employer and the Employer shall be entitled to the entire right, title and interest with respect hereto. The Employee agrees, without additional compensation, to convey, assign the entire right, title, and interest in and to any inventions for the United States and all foreign jurisdictions to the Employer arising out of, resulting from, or derivative of: (1) the work or services of the Employee, or (2) within the scope of the duties of the Employee, or (3) using any materials, compounds, devices, or monies.

(ii) The Employer shall retain the entire right, title and interest in and to any and all Confidential Information and/or Proprietary Information provided by the Employer to the Employee and to any methods, compounds, improvements, substances, and compositions using or incorporating such Confidential Information and/or Proprietary Information.

(iii) The Employee agrees that Confidential Information and/or Proprietary Information provided to the Employee by the Employer shall be used for work purposes only and shall not be used for any other uses, studies, experiments or tests.

(iv) The Employee agrees that he will promptly disclose to the Employer, or any Persons designated by the Employer, all the Employee Inventions, made or conceived or reduced to practice or learned by him, either alone or jointly with others, during the employment of the Employee. The Employee further agrees to assist the Employer in every proper way (but at the Employer's expense) to obtain and from time to time enforce patents, copyrights or other rights on Employee Inventions in any and all countries, and to that end the Employee will execute all documents necessary: (a) to apply for, obtain and vest in the name of the Employer alone (unless the Employer otherwise directs) letters patent, copyrights or other analogues protection in any country throughout the world and when so obtained or vested to renew and restore the same; and (b) to defend (including the giving of testimony and rendering any other assistance) any opposition proceedings in respect of such applications and any opposition proceedings or petitions or applications for revocation of such letters patent, copyright or other analogous protection. The Employee's obligation to assist the Employer in obtaining and enforcing patents and copyrights for Employee Inventions in any and all countries shall continue beyond and after the termination of the Employee.

(v) Any copyrightable work whether published or unpublished created by the Employee in connection with or during the performance of services below shall be considered a work made for hire, to the fullest extent permitted by

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law and all right, title and interest therein, including the worldwide copyrights, shall be the property of the Employer as the employer and party specially commissioning such work. In the event that any such copyrightable work or portion thereof shall not be legally qualified as a work made for hire, or shall subsequently be so held, the Employee agrees to properly convey to the Employer, without additional compensation, the entire right, title and interest in and to such work or portion thereof, including but not limited to the worldwide copyrights, extensions of such copyrights, and renewal copyrights therein, and further including all rights to reproduce the copyrighted work in copies or phonorecords, to prepare derivative works based on the copyrighted work, to distribute copies of the copyrighted work, to perform the copyrighted work publicly, to display the copyrighted work publicly, and to register the claim of copyright therein and to execute any and all documents with respect hereto.

(vi) The Employee may not publish or disclose any Confidential Information and/or Proprietary Information relating to, arising from, derivative of, or as a result of his employment pursuant to this Agreement, including but not limited to: information, improvements, results, experiments, data, or methods that makes reference to any of the Confidential Information and/or Proprietary Information. Any work performed under, or arising from, or a result of his employment with the Employer shall not be published or disclosed in written, electronic, or oral form without the express written permission of the Employer.

7.3 Disputes or Controversies

The Employee recognizes that should a dispute or controversy arising from or relating to this Agreement be submitted for adjudication to any court, arbitration panel, or other third party, the preservation of the secrecy of Confidential Information and/or Proprietary Information may be jeopardized. All pleadings, documents, testimony, and records relating to any such adjudication will be maintained in secrecy and will be available for inspection by the Employer, the Employee, and their respective attorneys and experts, who will agree, in advance and in writing, to receive and maintain all such information in secrecy, except as may be limited by them in writing.

7.4 Agreement on Condition of Employment

As a condition of employment, the Employee agrees to execute and abide by the Employer's current form of Agreement on Condition of Employment, which may be amended by the parties from time to time without regard to this Agreement. The Agreement on Condition of Employment contains provisions that are intended by the parties to survive and do survive termination or expiration of this Agreement. In the event that the terms of this Agreement differ from or are in conflict with the Agreement on Condition of Employment, this Agreement shall control.

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8. NON-COMPETITION

8.1 Acknowledgments by the Employee

The Employee understands and recognizes that the Employee's services provided to the Employer are special, unique, unusual, extraordinary and intellectual in character. Subject to Section 8.4 below, the Employee agrees that, during the employment of the Employee and for a period of two (2) years from the date of termination of the Employee's employment with the Employer, he will not in any manner, directly or indirectly, on behalf of

himself or any Person, firm, partnership, joint venture, corporation or other business entity, engage or invest in, own, manage, operate, finance, control or participate in the ownership, management, operation, financing, or control of, be employed by, associated with, or in any manner connected with, lend the Employee's name or similar name to, lend the Employee's credit to or render services or advice to, enter into or engage in any Competing Business; *provided, however*, that the Employee may purchase or otherwise acquire up to (but not more than) one percent of any class of securities of any enterprise (but without otherwise participating in the activities of such enterprise) if such securities are listed on any national or regional securities exchange or have been registered under Section 12(g) of the Securities Exchange Act of 1934.

8.2 In consideration of the acknowledgements by the Employee, and in consideration of the compensation and benefits to be paid or provided to the Employee by the Employer, the Employee covenants that, subject to Section 8.4 below, he will not, directly or indirectly, whether for the Employee's own account or the account of any other Person (i) at any time during the employment of the Employee and for a period of two (2) years from the termination of the Employee's employment with the Employer, solicit, employ, or otherwise engage as an employee, independent contractor, or otherwise, any Person who is or was an employee of the Employer at any time during the Employee's employment with the Employer or in any manner induce or attempt to induce any employee of the Employer to terminate his employment with the Employer; or (ii) at any time during the employment of the Employee with the Employer and for two (2) years from the termination of the Employee's employment with the Employer, interfere with the Employer's relationship with any Person, including any Person who at any time during the Employee's employment with the Employer was an employee, contractor, supplier, or customer of the Employer.

8.3 In further consideration of these promises, the Employee agrees that he will not at any time during or after the Employee's employment with the Employer, disparage the Employer or any of its shareholders, directors, officers, employees, parents, subsidiaries, affiliates or agents in any manner likely to be harmful to them or their business, business reputation or personal reputation; *provided, however,* that the Employee may respond accurately and fully to any question, inquiry or request for information when required by legal process.

8.4 Change of Control. In the event of a Change of Control Termination, the Employee's obligations under Sections 8.1 and 8.2 above and the non-competition and non-solicitation provisions in the Agreement on Condition of Employment shall expire one (1) year from the date of termination of his employment with the Employer (or any entity acquiring the Employer as a result of a Change of Control).

8.5 If any covenant in Section 8 is held to be unreasonable, arbitrary, or against public policy, such covenant will be considered to be divisible with respect to scope,

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time, and geographic area, and such lesser scope, time, or geographic area, or all of them, as a court of competent jurisdiction may determine to be reasonable, not arbitrary, and not against public policy, will be effective, binding, and enforceable against the Employee.

The period of time applicable to any covenant in Section 8 will be extended by the duration of any violation by the Employee of such covenant.

The Employee will, while the covenants under Section 8 are in effect, give notice to the Employer, within ten days after accepting any other employment, of the identity of the Employee's employer. The Employer may notify such employer that the Employee is bound by this Agreement and, at the Employer's election, furnish such employer with a copy of this Agreement or relevant portions thereof.

9. TAX MATTERS

9.1 Responsibility for Tax Obligations. The Employee agrees that he is responsible for any applicable taxes of any nature (including any penalties or interest that may apply to such taxes) that the Employer reasonably determines apply to any payment or equity award made to the Employee hereunder (or any arrangement contemplated hereunder), that the Employee's receipt of any payment or benefit hereunder is conditioned on the Employee's satisfaction of any applicable withholding or similar obligations that apply to such payment or benefit, and that any cash payment owed to the Employee hereunder will be reduced to satisfy any such withholding or similar obligations that may apply thereto.

9.2 Compliance with Section 409A. Any payments or benefits provided under this Agreement that constitute "deferred compensation" within the meaning of Section 409A of the Code and the regulations and other guidance thereunder and any state law of similar effect (collectively "Section 409A") shall not commence in connection with the Employee's termination of employment unless the Employee has also incurred a "separation from service," as such term is defined in Treasury Regulation Section 1.409A-1(h) (without regard to any permissible alternative definition thereunder) ("Separation from Service"). It is intended that each installment of the payments and benefits provided for in this Agreement is a separate "payment" for purposes of Treasury Regulation Section 1.409A-2(b)(2)(i). For the avoidance of doubt, it is intended that payments of the amounts set forth in this Agreement satisfy, to the greatest extent possible, the exemptions from the application of Section 409A provided under Treasury Regulations 1.409A-1(b)(4), 1.409A-1(b)(5) and 1.409A-1(b)(9). However, if the Employer determines that the payments and benefits provided under this Agreement constitute "deferred compensation" under Section 409A and the Employee is, on the date of the Employee's Separation from Service, a "specified employee" of the Employer or any successor entity thereto, as such term is defined in Section 409A(a)(2)(B)(i) of the Code, then, solely to the extent necessary to avoid the incurrence of the adverse personal tax consequences under Section 409A, the timing of any such payments or benefits shall be delayed as follows: on the earlier to occur of (i) the date that is six (6) months and one (1) day after the Employee's Separation from Service or (ii) the date of the Employee's death (such earlier date, the "Delayed Initial Payment Date"), the Employer shall (A) pay to the Employee a lump sum amount equal to the sum of the payments that the Employee would otherwise have received through the Delayed Initial Payment Date if the commencement of the payment of the payments had not been so delayed pursuant to

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this Section 9.2 and (B) commence paying the balance of the payments in accordance with the applicable payment schedules set forth in this Agreement. If the Employer determines that any payments or benefits provided under this Agreement constitute "deferred compensation" under Section 409A and the Release could become effective in the calendar year following the calendar year in which the Employee's Separation from Service occurs, the Release will not be deemed effective any earlier than the Release Deadline for purposes of determining the timing of payment of any such payments or benefits.

9.3 Parachute Payments

(a) Notwithstanding anything in this Agreement to the contrary, if any payment or benefit the Employee will or may receive from the Employer or otherwise (a "280G Payment") would (i) constitute a "parachute payment" within the meaning of Section 280G of the Code, and (ii) but for this sentence, be subject to the excise tax imposed by Section 4999 of the Code (the "Excise Tax"), then any such 280G Payment pursuant to this Agreement (a "Payment") shall be equal to the Reduced Amount. The "Reduced Amount" shall be either (x) the largest portion of the Payment that would result in no portion of the Payment (after reduction) being subject to the Excise Tax or (y) the largest portion, up to and including the total, of the Payment, whichever amount (*i.e.*, the amount determined by clause (x) or by clause (y)), after taking into account all applicable federal, state and local employment taxes, income taxes, and the Excise Tax (all computed at the highest applicable marginal rate), results in the Employee's receipt, on an after-tax basis, of the greater economic benefit notwithstanding that all or some portion of the Payment may be subject to the Excise Tax. If a reduction in a Payment is required pursuant to the preceding sentence and the Reduced Amount is determined pursuant to clause (x) of the preceding sentence, the reduction shall occur in the manner (the "Reduction Method") that results in the greatest economic benefit for the Employee. If more than one method of reduction will result in the same economic benefit, the items so reduced will be reduced pro rata (the "Pro Rata Reduction Method").

(b) Notwithstanding any provision of Section 9.3(a) to the contrary, if the Reduction Method or the Pro Rata Reduction Method would result in any portion of the Payment being subject to taxes pursuant to Section 409A that would not otherwise be subject to taxes pursuant to Section 409A, then the Reduction Method and/or the Pro Rata Reduction Method, as the case may be, shall be modified so as to avoid the imposition of taxes pursuant to Section 409A as follows: (A) as a first priority, the modification shall preserve to the greatest extent possible, the greatest economic benefit for the Employee as determined on an after-tax basis; (B) as a second priority, Payments that are contingent on future events (*e.g.*, being terminated without Cause), shall be reduced (or eliminated) before Payments that are not contingent on future events; and (C) as a third priority, Payments that are "deferred compensation" within the meaning of Section 409A shall be reduced (or eliminated) before Payments that are not deferred compensation within the meaning of Section 409A.

(c) If the Employee receives a Payment for which the Reduced Amount was determined pursuant to clause (x) of Section 9.3(a) and the Internal Revenue Service determines thereafter that some portion of the Payment is subject to the Excise

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Tax, the Employee shall promptly return to the Employer a sufficient amount of the Payment (after reduction pursuant to clause (x) of Section 9.3(a)) so that no portion of the remaining Payment is subject to the Excise Tax. For the avoidance of doubt, if the Reduced Amount was determined pursuant to clause (y) of Section 9.3(a), the Employee shall have no obligation to return any portion of the Payment pursuant to the preceding sentence.

10. CLAWBACK/RECOVERY

Any amounts paid to the Employee by the Employer, whether or not under this Agreement or any incentive plan of the Employer, will be subject to recoupment in accordance with The Sarbanes-Oxley Act of 2002, The Dodd-Frank Wall Street Reform and Consumer Protection Act and any implementing regulations under these acts, any clawback policy adopted by the Employer, or as otherwise required by applicable law. In addition, in consideration of the Employee's continued employment with the Employer and in recognition of the Employee's position of trust and authority with the Employer, the Employee agrees to promptly consent to any clawback policy adopted by the Employer.

11. GENERAL PROVISIONS

11.1 Injunctive Relief and Additional Remedy

The Employee acknowledges that the injury that would be suffered by the Employer as a result of a breach of the provisions of this Agreement (including any provision of Sections 7 and 8) would be irreparable and that an award of monetary damages to the Employer for such a breach would be an inadequate remedy. Consequently, the Employer will have the right, in addition to any other rights it may have, to obtain injunctive relief to restrain any breach or threatened breach or otherwise to specifically enforce any provision of this Agreement, and the Employer will not be obligated to post bond or other security in seeking such relief. Without limiting the Employer's rights under this Section 11 or any other remedies of the Employer, if the Employee breaches any of the provisions of Section 7 or 8, the Employer will have the right to cease making any payments otherwise due to the Employee under this Agreement.

11.2 Covenants of Sections 7 and 8 are Essential and Independent Covenants

The covenants by the Employee in Sections 7 and 8 are essential elements of this Agreement, and without the Employee's agreement to comply with such covenants, the Employer would not have entered into this Agreement or employed or continued the employment of the Employee. The Employer and the Employee have independently consulted their respective counsel and have been advised in all respects concerning the reasonableness and propriety of such covenants, with specific regard to the nature of the business conducted by the Employer. The Employee agrees that this Agreement does not prevent him from earning a living or pursuing his career and that he has the ability to secure other non-competitive employment using his marketable skills. The Employee agrees that the restrictions contained in this Agreement are reasonable, proper, and necessitated by the Employer's legitimate business interests, including without limitation, the Employer's Confidential and/or Proprietary Information and the goodwill of its customers.

The Employee's covenants in Sections 7 and 8 are independent covenants and the existence of any claim by the Employee against the Employer under this Agreement or otherwise will not excuse the Employee's breach of any covenant in Section 7 or 8.

If the Employee's employment hereunder is terminated by either party, this Agreement will continue in full force and effect as is necessary or appropriate to enforce the covenants and agreements of the Employee in Sections 7 and 8.

11.3 Representations and Warranties by the Employee

The Employee represents and warrants to the Employer that the execution and delivery by the Employee of this Agreement do not, and the performance by the Employee of the Employee's obligations hereunder will not, with or without the giving of notice or the passage of time, or both:

(a) violate any judgment, writ, injunction, or order of any court, arbitrator, or governmental agency applicable to the Employee; or (b) conflict with, result in the breach of any provisions of or the termination of, or constitute a default under, any agreement to which the Employee is a party or by which the Employee is or may be bound.

11.4 Waiver

The rights and remedies of the parties to this Agreement are cumulative and not alternative. Neither the failure nor any delay by either party in exercising any right, power, or privilege under this Agreement will operate as a waiver of such right, power, or privilege, and no single or partial exercise of any such right, power, or privilege will preclude any other or further exercise of such right, power, or privilege or the exercise of any other right, power, or privilege. To the maximum extent permitted by applicable law, (a) no claim or right arising out of this Agreement can be discharged by one party, in whole or in part, by a waiver or renunciation of the claim or right unless in writing signed by the other party; (b) no waiver that may be given by a party will be applicable except in the specific instance for which it is given; and (c) no notice to or demand on one party will be deemed to be a waiver of any obligation of such party or of the right of the party giving such notice or demand to take further action without notice or demand as provided in this Agreement.

11.5 Binding Effect; Delegation of Duties Prohibited

This Agreement shall inure to the benefit of, and shall be binding upon, the parties hereto and their respective successors, assigns, heirs, and legal representatives, including any entity with which the Employer may merge or consolidate or to which all or substantially all of its assets may be transferred. The duties and covenants of the Employee under this Agreement, being personal, may not be delegated.

11.6 Notices

All notices, consents, waivers, and other communications under this Agreement must be in writing and will be deemed to have been duly given when (a) delivered by hand (with written confirmation of receipt), (b) sent by facsimile (with written confirmation of receipt), provided that a copy is mailed by registered mail, return receipt requested, or (c) when received by the addressee, if sent by a nationally recognized overnight delivery service (receipt

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requested), in each case to the appropriate addresses and facsimile numbers set forth below (or to such other addresses and facsimile numbers as a party may designate by notice to the other parties):

If to the Employer: GTx, Inc.
175 Toyota Plaza, 7th Floor
Memphis, Tennessee 38103
Attention: Vice President, Chief Legal Officer
Facsimile No.:901-844-8075

If to the Employee: James T. Dalton
9896 Rue Bienville Place
Lakeland, Tennessee 38002

The Employee shall notify the Employer in writing of any change of his address. Otherwise, the Employer shall send all notices to the Employee's address herein.

11.7 Entire Agreement; Amendments

This Agreement, including the Agreement on Condition of Employment, contains the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior agreements and understandings, oral or written, between the parties hereto with respect to the subject matter hereof. The Employer and the Employee further acknowledge and agree that the provisions of this Agreement amend and supersede the Prior Employment Agreement, which shall be of no further force and effect. This Agreement may not be amended orally, but only by an agreement in writing signed by the Employee and a duly authorized officer or director of the Employer.

11.8 Governing Law

This Agreement will be governed by the laws of the State of Tennessee without regard to conflicts of laws principles.

11.9 Jurisdiction

Any action or proceeding seeking to enforce any provision of, or based on any right arising out of, this Agreement shall be brought against either of the parties in the courts of the State of Tennessee, County of Shelby, or, if it has or can acquire jurisdiction, in the United States District Court for the Western District of Tennessee, and each of the parties consents to the jurisdiction of such courts (and of the appropriate appellate courts) in any such action or proceeding and waives any objection to venue laid therein. Process in any action or proceeding referred to in the preceding sentence may be served on either party anywhere in the world.

11.10 Section Headings, Construction

The headings of Sections in this Agreement are provided for convenience only and will not affect its construction or interpretation. All references to "Section" or "Sections" refer to the corresponding Section or Sections of this Agreement unless otherwise specified. All

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words used in this Agreement will be construed to be of such gender or number as the circumstances require. Unless otherwise expressly provided, the word "including" does not limit the preceding words or terms.

11.11 Severability

If any provision of this Agreement is held invalid or unenforceable by any court of competent jurisdiction, the other provisions of this Agreement will remain in full force and effect. Any provision of this Agreement held invalid or unenforceable only in part or degree will remain in full force and effect to the extent not held invalid or unenforceable.

11.12 Counterparts

This Agreement may be executed in one or more counterparts, each of which will be deemed to be an original copy of this Agreement and all of which, when taken together, will be deemed to constitute one and the same agreement.

11.13 Waiver of Jury Trial

THE PARTIES HERETO HEREBY WAIVE A JURY TRIAL IN ANY LITIGATION WITH RESPECT TO THIS AGREEMENT, OR ARISING OUT OF OR CONCERNING THE EMPLOYEE'S EMPLOYMENT WITH THE EMPLOYER OR TERMINATION THEREOF.

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

JAMES T. DALTON

/s/ James T. Dalton

GTx, Inc.

By: /s/ Henry P. Doggrell
Name: Henry P. Doggrell
Title: VP, Chief Legal Officer

Exhibit D

AGREEMENT ON CONDITION OF EMPLOYMENT

(AGREEMENT)

Whereas, Jim Dalton ("Employee") has previously executed an agreement with GTx, Inc. ("GTx" or "Employer") similar to this Agreement, and

Whereas, Employee and Employer have agreed that all employees of GTx will execute this Agreement, or one substantially similar to this Agreement, so all Employees will be subject to substantially similar provisions;

Now, Therefore, for and in consideration of employment and continued employment on an at will basis, the adequacy, sufficiency, and receipt of such consideration is hereby acknowledged, Employee and GTx, Inc. are executing this Agreement in substitution of the Prior Agreement with the understanding that the terms hereof shall apply from the date Employee was initially employed by GTx, as if Employee had executed this Agreement on that date, and further, Employee and Employer covenant and agree as follows:

FILES AND RECORDS OF GTx

1.1 During the period that the Employee is employed by GTx, the Employee shall maintain proper files and records relating to work performed hereunder by the Employee in accordance with good business practice and the standard procedures of GTx or as otherwise specified by GTx orally or in writing from time to time. All such files and records are the exclusive property of GTx or, as the case may be, any subsidiary or affiliate of GTx. Upon termination of the Employee's employment with GTx for any reason, the Employee will deliver to GTx all files, notebooks, computer discs, CD ROMs and other records (including all copies) of any nature which are in the Employee's possession or control and which relate in any manner to the Employee's employment or to the activities of GTx or any subsidiary or affiliate of GTx.

NON-DISCLOSURE AGREEMENT

2.1 The Employee acknowledges that during the Employee's employment, the Employee will have access to and possession of information, such as proprietary information, which is confidential, belonging to GTx and/or its affiliates or GTx's partners/collaborators, which GTx has received under

a confidentiality provision with its partners/collaborators (all of which shall be "Proprietary Information" hereunder). The Employee recognizes that all of such Proprietary Information is a unique asset of the business of GTx, the disclosure of which would be damaging to GTx. The Employee agrees that the Employee will not at any time, whether during or after the termination or cessation of the Employee's employment except as authorized by GTx and

for its benefit, divulge {or enable anyone else to, use, divulge or disclose) to any person, association or entity any Proprietary Information which the Employee presently possesses or which the Employee may obtain during the course of the Employee's employment with respect to the business, finances, customers or affairs of GTx or trade secrets, developments, methods or other information and data pertaining to GTx's business. "Proprietary Information" shall include, but not be limited to: 1) intellectual property, inventions, methods, processes, techniques, computer programs, devices, products, services,compound, gene therapy products, devices, pharmaceuticals, substance, vectors, prodrugs, enzymes, genes, materials, concepts, discoveries, improvements, and designs, whether or not patentable in the United States or foreign countries;and 2) any trade secrets, information, procedures, technologies, data, results, conclusions, know-how or show-how and business information. The Employee shall keep strictly confidential all matters and information entrusted to the Employee and shall not use or attempt to use any such Proprietary Information in any manner which may injure or cause loss or may be calculated to injure or cause loss, whether directly or indirectly, to GTx.

2.2 The Employee agrees that during the course of his employment and at any time after termination of his employment for any reason, he will keep in strictest confidence and will not disclose or make accessible to any other person without the prior written consent of GTx, the Proprietary Information. The Employee agrees: {i) not to use any such Proprietary Information for himself or others and {ii) not to take any such material or reproductions thereof from the Employer's facilities at any time during his employment except, in each case, as required in connection with the Employee's duties to the Employer.

2.3 The Employee agrees to hold in confidence, and not to distribute or disseminate to any person or entity for any reason, any Proprietary Information of GTx under this Agreement, or information relating to experiments or results obtained based on the duties of the Employee, except for information which is: {i) in or which becomes a part of the public domain not as a result of a breach of this Agreement, {ii) information lawfully received from a third party who had the right to disclose such information and {iii) requested or required {by oral questions, deposition, interrogatories, requests for information or documents, subpoena, civil investigative domain or other process) to be disclosed pursuant to a governmental, regulatory or legal process. The Employee will provide GTx with prompt notice of such request or requirement, as well as notice of the terms and circumstances surrounding such request or requirements, so that GTx may seek an appropriate protective order or waive compliance with the provisions of this Agreement. In such case, the parties will consult with each other on the advisability of pursuing any such order or other legal action or available step to resist or narrow such request or requirement. If, failing the entry of a protective order or the receipt of a waiver hereunder, the Employee is, in the opinion of counsel reasonably acceptable to GTx, legally compelled to disclose Proprietary Information, the Employee may disclose that portion of such information which counsel advises should be disclosed. The Employee will not oppose action by GTx to prevent disclosure of the Proprietary Information under an appropriate protective order or to request other reliable assurance that confidential treatment will be accorded to the disclosure of such information.

2.4 Upon written notice by GTx or termination of the Employee's employment, the Employee shall promptly redeliver to GTx, or, if requested by GTx, promptly destroy all written Proprietary Information and any other written material containing any information included in the

Proprietary Information (whether prepared by GTx, the Employee, or a third party), and the Employee will not retain any copies, extracts or other reproductions in whole or in part of such written Proprietary Information (and upon request, will so certify such redelivery or destruction to GTx in a written instrument reasonably acceptable to GTx and its counsel).

2.5 This Agreement and the terms and conditions recited herein are confidential and non-public. The Employee agrees not to disclose the contents of this Agreement to any person or entity, including, but not limited to the press, other media, any public body, or any competitor of GTx, except to the Employee's legal counsel or as may be required by law.

2.6 Any trade secrets of the Employer will be entitled to all of the protections and benefits of State of Tennessee law and other applicable law. If any information that the Employer deems to be a trade secret is found by a court of competent jurisdiction not to be a trade secret for purposes of this Agreement, such information will, nevertheless, be considered Proprietary Information for the purpose of this Agreement. The Employee hereby waives any requirement that the Employer submit proof of the economic value of any trade secret or post a bond or other security.

2.7 The Employee will not remove from the Employer's premises (except to the extent such removal is for purposes of the performance of the Employee's duties at home or while traveling, or except as otherwise specifically authorized by the Employer) any document, record, recording, electronic media, formulae, notebook, plan, model, component, device, or computer software or code, whether embodied in a disk or in any other form (collectively, the ({Proprietary Items"). The Employee recognizes that, as between the Employer and the Employee, all of the Proprietary Items, whether or not developed by the Employee, are the exclusive property of the Employer. Upon termination of this Agreement or the Employee's employment by either party, or upon the request of the Employer during the employment of the Employee, the Employee will return to the Employer all of the Proprietary Items in the Employee's possession or subject to the Employee's control, and the Employee shall not retain any copies, abstracts, sketches or other physical or electronic embodiment of any of the Proprietary Items.

2.8 During the Employee's employment with the Employer, the Employee will not improperly use or disclose any confidential information or trade secrets, if any, of any former employer or any other person to whom the Employee has an obligation of confidentiality, and the Employee will not bring onto the premises of the Employer any unpublished documents or any property belonging to any former employer or any other person to whom the Employee has an obligation of confidentiality unless consented to in writing by that former employer or person.

INVENTIONS OWNERSHIP AND PATENTS

3.1 Each employee invention will belong exclusively to GTx. The Employee agrees that GTx shall have sole and exclusive ownership rights in any conception, invention, trade secrets, information, ideas, improvement, substance, know-how, whether or not patentable, arising out of, resulting from, or derivative of: (1) the work or services of the Employee, or (2) within the scope of the duties of the Employee, or (3) using any materials, compounds, devices, or monies of GTx. Any resulting or derivative rights, including patent rights, shall become the exclusive property of GTx and GTx shall be entitled to the entire right, title and interest with respect

hereto. The Employee agrees, without additional compensation, to convey and assign the entire right, title, and interest in and to any inventions to GTx arising out of, resulting from, or derivative of: (1) the work or services of the Employee, or (2) within the scope of the duties of the Employee, or (3) using any materials, compounds, devices, or monies of GTx.

3.2 GTx shall retain the entire right, title and interest in and to any and all Proprietary Information provided by GTx to the Employee and to any methods, compounds, improvements, substances and compositions using or incorporating such Proprietary Information.

3.3 The Employee agrees that Proprietary Information provided to the Employee by GTx shall be used for work purposes only and shall not be used for any other uses, studies, experiments or tests.

3.4 The Employee agrees that he will promptly disclose to GTx, or any persons designated by GTx, all improvements, inventions, designs, ideas, works of authorship, copyrightable words, discoveries, trademarks, copyrights, trade secrets, formulas, processes, devices, methods, processes, compounds, genes, prodrugs, pharmaceuticals, structures, product concepts, marketing plans, strategies, customer lists, techniques, blueprints, sketches, records, notes, devices, drawings, know-how, data, whether or not patentable, patent applications, continuation applications, continuation-in-part applications, file wrapper continuation applications and divisional applications that relate to the Employee's job (collectively hereinafter referred to as the ((Inventions"), made or conceived or reduced to practice or learned by him, either alone or jointly with others, during the employment of the Employee. The Employee further agrees to assist GTx in every proper way (but at GTx's expense) to obtain and from time to time enforce patents, copyrights or other rights on said Inventions in any and all countries, and to that end the Employee will execute all documents necessary: (i) to apply for, obtain and vest in the name of GTx alone (unless GTx otherwise directs) letters patent, copyrights or other analogous protection in any country throughout the world, and when so obtained or vested, to renew and restore the same; and (ii) to defend any opposition proceedings in respect of such applications and any opposition proceedings or petitions or applications for revocation of such letters patent, copyright or other analogous protection. The Employee's obligation to assist GTx in obtaining and enforcing patents and copyrights for Inventions as set forth herein in any and all countries shall continue beyond the Employee's employment with GTx, as GTx may from time to time reasonably request.

3.5 Any copyrightable work, whether published or unpublished, created by the Employee in connection with or during the performance of his employment shall be considered a work made for hire, to the fullest extent permitted by law, and all right, title and interest therein, including the worldwide copyrights, shall be the property of GTx as the employer and party specially commissioning such work. In the event that any such copyrightable work or portion thereof shall not be legally qualified as a work made for hire, or shall subsequently be so held, the Employee agrees, without additional compensation, to properly convey to GTx the entire right, title and interest in and to such work or portion thereof, including but not limited to the worldwide copyrights, extensions of such copyrights, and renewal copyrights therein, and further including all rights to reproduce the copyrighted work in copies or phonorecords, to prepare derivative works based on the copyrighted work, to distribute copies of the copyrighted work, to perform the copyrighted work publicly, to display the copyrighted work publicly, and to

register the claim of copyright therein and to execute any and all documents with respect hereto.

3.6 The Employee may not publish or disclose any Proprietary Information relating to, arising from, derivative of, or as a result of his employment pursuant to this Agreement including but not limited to: information relating to compounds under development or testing at GTx or by others on behalf of GTx and any improvements, results, experiments, data, or methods pertaining thereto, that makes reference to any of the Proprietary Information. Any work performed under, or arising from, or a result of his employment with GTx shall not be published or disclosed in written, electronic, or oral form without the express written permission of GTx.

BUSINESS CONDUCT

4.1 In order to maintain and enhance GTx's standing and integrity in the business community, the business and personal conduct of the Employee shall be totally professional and above reproach and the Employee shall at all times observe the highest standards of professionalism and courtesy in the Employee's behavior with the public, with colleagues, with customers and with competitors. The Employee is required to well and faithfully serve GTx and to the best of the Employee's ability, use the Employee's best efforts at all times to promote the development and enhancement of GTx's business and reputation. The Employee agrees, for a period of two (2) years from the Employee's termination of employment, not to make any disparaging comment or statement about GTx or any of its shareholders, directors, officers, employees, parents, subsidiaries, affiliates or agents, whether or not true, including but not limited to, comments which could adversely affect the conduct of the business of GTx, any of its plans or prospects, or the business name or reputation of GTx; *provided; however,* that the Employee may respond accurately and fully to any question, inquiry or request for information when required by legal process.

4.2 The Employee represents and warrants that the Employee is under no obligation to, and/or no conflict exists with, any former person, or entity, or other parties which is in any way inconsistent with, or which imposes any restriction upon, the Employee's acceptance of employment under this Agreement with GTx. The Employee represents that he is not in default under, or in breach of, any agreement requiring the Employee to preserve the confidentiality of any information, client lists, trade secrets or other confidential information; and neither the execution and delivery of this Agreement nor the performance by the Employee of the Employee's obligations under this Agreement will conflict with, result in a breach of, or constitute a default under, any employment or confidentiality agreement to which the Employee is a party or to which the Employee may be subject.

NON-COMPETITION

5.1 In addition to and in view of the above, the Employee understands and recognizes that his service, skills, knowledge of the Employer's business, and position learned and provided to GTx are special and unique and agrees that, from this date hereof until a period of two (2) years from the date of termination of his employment with GTx,. he shall not in any manner, directly or indirectly, on behalf of himself or any person, firm, partnership, joint venture, corporation or other business entity ("Person"), enter into or engage in any business that manufacturers,

develops, sells or distributes any pharmaceutical or other compound, composition, formulation, method, process, product or material that is competitive with any product of the Employer under development, manufacture, distribution or commercialization at any time from and after the Employee's initial date of employment with the Employer through the date of termination of the Employee's employment with the Employer, including, without limitation, small molecules that target androgen, estrogen, glucocorticoid, and/or other hormone receptors for purposes of treating, diagnosing, or imaging humans in health and disease, including treating cancer, osteoporosis and bone loss and muscle loss (each of which is hereinafter a "Conflicting Product") either as an individual for his own account, or as a proprietor, partner, member, joint venturer, employee, agent, salesperson, officer, director or shareholder of a Person operating or intending to operate within the area that GTx is now operating or, at the time of the Employee's termination, is then operating and which, in any event, will include the United States, Canada, Mexico, all Western European Countries, India, Japan, Korea, China and Taiwan (collectively, the "Restricted Territories"); *provided, however*, that nothing herein will preclude the Employee from holding a position with a Person which does not engage in a business directly or indirectly competitive with a Conflicting Product anywhere within the Restricted Territories, and nothing herein shall preclude the Employee from holding a position in a business unit of a Person which is separate from a business unit which develops, manufactures, distributes or sells a Conflicting Product as long as the Employee does not provide any Confidential and/or Proprietary Information to the business unit that is engaging in or proposes to engage in the development, manufacture, distribution or sale of a Conflicting Product.

5.2 The Employee acknowledges that the Employee's service, skills, knowledge, and position with GTx and in this industry are unique and, that the breach, or threatened breach, by the Employee of the provisions of this Section will cause irreparable harm to GTx. The Employee also acknowledges that business competitive with that of GTx or of any of its affiliates may be carried on anywhere within the Restricted Territories as a result of the use of telephonic and other communications techniques. Therefore, the Employee acknowledges that the geographical and term restrictions of this Section are reasonable under the circumstances. Accordingly, in the event of any breach or threatened breach of the provisions of this Agreement by the Employee, GTx shall be entitled, in addition to any other right or remedy it may have at law or in equity, to such equitable and injunctive relief as may be available to restrain the Employee and any firm, partnership, individual, corporation, entity or other business organization participating in such breach or threatened breach from the violation of the provisions hereof, including an injunction, without the posting of any bond or other security, enjoining or restraining the Employee from any such violation or threatened violation of this Agreement. Nothing herein shall be construed as prohibiting GTx from pursuing any other remedies available at law or in equity for such breach or threatened breach, including the recovery of damages and the immediate termination of the employment of the Employee hereunder.

5.3 If any covenant herein is held to be unreasonable, arbitrary, or against public policy, such covenant will be considered to be divisible with respect to scope, time, and geographic area, and such lesser scope, time, or geographic area, or all of them, as a court of competent jurisdiction may determine to be reasonable, not arbitrary, and not against public policy, will be effective, binding, and forcible against the Employee.

5.4 The period of time applicable to any covenant herein will be extended by the duration of any violation by the Employee of such covenant.

5.5 The Employee will, while the covenant herein is in effect, give notice to GTx, within ten (10) days after accepting any other employment, of the identity of the Employee's employer. GTx may

notify such employer that the Employee is bound by this Agreement and, at GTx's election, furnish such employer with a copy of this Agreement or other relevant portions thereof.

5.6 The Employee agrees that this Agreement does not prevent him from earning a living or pursuing his career and that he has the ability to secure other non-competitive employment using his marketable skills. The Employee agrees that the restrictions contained in this Agreement are reasonable, proper, and necessitated by GTx's legitimate business interests, including without limitation, GTx's Proprietary Information and the goodwill of its customers. The Employee represents and agrees that he is entering into this Agreement freely and with knowledge of its contents with the intent to be bound by the Agreement and the restrictions contained in it.

NON-SOLICITATION

6.1 During the employment of the Employee, and for two (2) years thereafter, the Employee shall not, directly or indirectly, without the prior written consent of GTx, interfere with, disrupt or attempt to disrupt any past, present or prospective relationship, contractual or otherwise, between GTx and any of its licensors, licensees, sublicensees, sub-sublicensees, clients, customers, suppliers, employees or other related parties. The Employee further agrees that for a period of two (2) years from the date of termination of his employment, he will not solicit or induce for hire any of the employees, agents, contractors or advisors of GTx or any such individual who, within twelve (12) months of the Employee's termination, was employed or retained by GTx in any such capacity.

GENERAL

7.1 The rights and remedies of the parties to this Agreement are cumulative and not alternative. Neither the failure nor any delay by either party in exercising any right, power, or privilege under this Agreement will operate as a waiver of such right, power, or privilege, and no single or partial exercise of any such right, power, or privilege will preclude any other or further exercise of such right, power, or privilege or the exercise of any other right, power, or privilege. To the maximum extent permitted by applicable law, (a) no claim or right arising out of this Agreement can be discharged by one party, in whole or in part, by a waiver or renunciation of the claim or right unless in writing signed by the other party; (b) no waiver that may be given by a party will be applicable except in the specific instance for which it is given; and (c) no notice to or demand on one

party will be deemed to be a waiver of any obligation of such party or of the right of the party giving such notice or demand to take further action without notice or demand as provided in this Agreement.

7.2 This Agreement shall inure to the benefit of, and shall be binding upon, the parties hereto and their respective successors, assigns, heirs, and legal representatives, including any entity with which GTx may merge or consolidate or to which all or substantially all of its assets may be transferred. The duties and covenants of the Employee under this Agreement, being personal, may not be delegated or assigned.

7.3 All notices, consents, waivers, and other communications under this Agreement must be in writing and will be deemed to have been duly given when (a) delivered by hand (with written

confirmation of receipt), (b) sent by facsimile (with written confirmation of receipt), provided that a copy is mailed by registered mail, return receipt requested, or (c) when received by the addressee, if sent by a nationally recognized overnight delivery service (receipt requested), in each case to the appropriate addresses and facsimile numbers set forth below (or to such other addresses and facsimile numbers as a party may designate by notice to the other parties):

If to GTx:	GTx, Inc. 175 Toyota Plaza, 7th Floor Memphis, TN 38103
Attention:	Vice President, Chief Legal Officer
Facsimile No:	901.844.8075
If to the Employee:	Jim Dalton 9896 Rue Bienville Place Lakeland, TN 38002

The Employee shall notify GTx in writing of any change of his address. Otherwise, GTx shall send all notices to the Employee's address as listed on the Company's payroll records.

7.4 This Agreement contains the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior agreements and understandings, oral or written, between the parties hereto with respect to the subject matter hereof. This Agreement may not be amended orally, but only by an agreement in writing signed by the parties hereto.

7.5 This Agreement will be governed by and construed in accordance with the laws of the State of Tennessee without regard to conflicts of laws principles.

7.6 Any action or proceeding seeking to enforce any provision of, or based on any right arising out of, this Agreement shall be brought against either of the parties in the courts of the State of Tennessee, County of Shelby or, if it has or can acquire jurisdiction, in the United States District Court for the Western District of Tennessee, and each of the parties consents to the jurisdiction of such courts (and of the appropriate appellate courts) in any such action or proceeding and waives any objection to venue laid therein. Process in any action or proceeding referred to in the preceding sentence may be served on either party anywhere in the world.

7.7 The headings of Sections in this Agreement are provided for convenience only and will not affect its construction or interpretation. All words used in this Agreement will be construed to be of such gender or number as the circumstances require. Unless otherwise expressly provided, the word "including" does not limit the preceding words or terms.

7.8 If any provision of this Agreement is held invalid or unenforceable by any court of competent jurisdiction, the other provisions of this Agreement will remain in full force and effect. Any provision of this Agreement held invalid or unenforceable only in part or degree will remain in full force and effect to the extent not held invalid or unenforceable.

7.9 This Agreement may be executed in one or more counterparts, each of will be deemed to be an original copy of this Agreement and all of which when taken together, will be deemed to constitute one and the same agreement

EMPLOYMENT AT WILL

8.1 The Employee agrees that nothing contained in this Agreement constitutes a contract of employment. Either the Employee or GTx may terminate the employment of the Employee (including the Employee's compensation and benefits) with or without notice or cause and for any reason, at any time, either at the Employee's or GTx's option. No officer or manager of the Employer has the authority to enter into any agreement for employment for a specified period of time except in writing, dated and signed by the CEO or the President.

WAIVER OF JURY TRIAL

9.1 THE PARTIES HERETO HEREBY WAIVE A JURY TRIAL IN ANY LITIGATION WITH RESPECT TO THIS AGREEMENT, OR ARISING OUT OF OR CONCERNING THE EMPLOYEE'S EMPLOYMENT WITH THE EMPLOYER OR TERMINATION THEREOF.

I HAVE CAREFULLY READ THE FOREGOING AGREEMENT, HAVE BEEN ADVISED OF ITS MEANING AND CONSEQUENCES AND KNOW THE CONTENTS THEREOF, AND I SIGN AS MY OWN FREE ACT AND DEED.

This Agreement is accepted this 28th day of February, 2013

GTx, Inc.

By: /s/ Henry P. Doggrell	James T. Dalton
VP, Chief Legal Officer & Secretary	(Employee)
February 27, 2013	February 28, 2013
Date	Date

EXHIBIT 31.1

PRINCIPAL EXECUTIVE OFFICER CERTIFICATION

I, Marc S. Hanover, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of GTx, 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:

   (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: August 5, 2014

/s/ Marc S. Hanover
Marc S. Hanover
President, Chief Operating Officer and interim Chief Executive Officer
(Principal Executive Officer)

EXHIBIT 31.2

PRINCIPAL FINANCIAL OFFICER CERTIFICATION

I, Jason T. Shackelford, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of GTx, 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:

   (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: August 5, 2014

/s/ Jason T. Shackelford
Jason T. Shackelford
Senior Director, Accounting and Corporate Controller
and Acting Principal Financial and Accounting Officer
(Principal Financial Officer)

EXHIBIT 32.1

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 of GTx, Inc. (the "Company") on Form 10-Q for the three months ended June 30, 2014, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Marc S. Hanover, Chief Executive Officer of the Company certify, pursuant to Rule 13a-14(b) or Rule 15d-14(b) and 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

1. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; 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: August 5, 2014

/s/ Marc S. Hanover
Marc S. Hanover
President, Chief Operating Officer and interim Chief Executive Officer
(Principal Executive Officer)

This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934 (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.

EXHIBIT 32.2

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 of GTx, Inc. (the "Company") on Form 10-Q for the three months ended June 30, 2014, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Jason T. Shackelford, Principal Financial Officer of the Company certify, pursuant to Rule 13a-14(b) or Rule 15d-14(b) and 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to the best of my knowledge:

3. The Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

4. The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 5, 2014

/s/ Jason T. Shackelford
Jason T. Shackelford
Senior Director, Accounting and Corporate Controller
and Acting Principal Financial and Accounting Officer
(Principal Financial Officer)

This certification accompanies the Form 10-Q to which it relates, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934 (whether made before or after the date of the Form 10-Q), irrespective of any general incorporation language contained in such filing.