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GTx, Inc.

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

FORM 10-K

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

For the fiscal year ended December 31, 2016

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)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, par value $0.001 per share	The NASDAQ Stock Market, LLC

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes o No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes o No ☒

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

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. 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 o
Non-accelerated filer o (Do not check if a smaller reporting company)	Smaller reporting company ☒

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

The aggregate market value of common stock held by non-affiliates of the registrant based on the closing sales price of the registrant's common stock on June 30, 2016 as reported on The NASDAQ Capital Market was $32,944,890.

There were 16,041,923 shares of registrant's common stock issued and outstanding as of March 17, 2017.

DOCUMENTS INCORPORATED BY REFERENCE

Certain portions of the registrant's definitive proxy statement to be filed with the Securities and Exchange Commission pursuant to Regulation 14A, not later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K, in connection with the Registrant's 2017 Annual Meeting of Stockholders are incorporated by reference into Part III of this Annual Report on Form 10-K.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K contains forward-looking statements. The forward-looking statements are contained principally in the sections entitled "Risk Factors," "Management's Discussion and Analysis of Financial Condition and Results of Operations" and "Business." 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 selective androgen receptor modulator, or SARM, and selective androgen receptor degrader, or SARD, programs;
- the therapeutic and commercial potential of, and our ability to advance the development of SARMs and our SARD program;
- 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 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 preclinical and clinical programs, including whether our ongoing clinical trials will achieve clinically relevant results;
- the timing of regulatory discussions and submissions, and the anticipated timing, scope and outcome of related regulatory actions or guidance;
- 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, expenses, capital requirements and needs 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 Annual Report on Form 10-K in greater detail in the section entitled "Risk Factors" under Part I, 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 Annual Report on Form 10-K. You should read this Annual Report on Form 10-K and the documents that we incorporate by reference in and have filed as exhibits to this Annual Report on Form 10-K, 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.

PART I

ITEM 1. BUSINESS

Overview

GTx, Inc., 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, and other serious medical conditions. Our current strategy is focused on the further development of selective androgen receptor modulators, or SARMs, a class of drugs that we believe have the potential to be used as a hormonal therapy for the treatment of advanced breast cancer, as well as the potential to treat other serious medical conditions where unmet medical needs in muscle-related diseases may benefit from increasing muscle mass, such as stress urinary incontinence, or SUI, and Duchenne muscular dystrophy, or DMD. In 2015, we entered into an exclusive worldwide license agreement with the University of Tennessee Research Foundation, or UTRF, to develop its proprietary selective androgen receptor degrader, or SARD, technology, which we believe has the potential to provide compounds that can degrade multiple forms of androgen receptor, or AR, by inhibiting tumor growth in patients with progressive castration-resistant prostate cancer, or CRPC, including those patients who do not respond or are resistant to current therapies.

Our lead SARM candidate, enobosarm (GTx-024), has to date been evaluated in 24 completed or ongoing clinical trials, including in six Phase 2 and two Phase 3 clinical trials, enrolling over 1,700 subjects, of which approximately 1,200 subjects were treated with enobosarm. 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 in 2014 positive results from a Phase 2 proof-of-concept, open-label clinical trial evaluating a 9 mg oral daily dose of enobosarm for the treatment of patients with estrogen receptor, or ER, positive and AR positive metastatic breast cancer who have previously responded to hormonal therapy. During the second half of 2015, we commenced enrollment in both a Phase 2 clinical trial designed to evaluate the efficacy and safety of a 9 mg and 18 mg dose of enobosarm in patients whose advanced breast cancer is both ER positive and AR positive and a Phase 2 proof-of-concept clinical trial designed to evaluate the efficacy and safety of an 18 mg dose of enobosarm in patients with advanced AR positive triple-negative breast cancer, or TNBC. Both of these clinical trials are being conducted utilizing a Simon's two-stage trial design. The Phase 2 clinical trial evaluating enobosarm in patients with ER positive, AR positive advanced breast cancer has completed enrollment of both stages of the clinical trial for both dose cohorts. We announced in November 2016 that enobosarm achieved the pre-specified primary efficacy endpoint in the 9 mg dose cohort. We expect to report top-line clinical results from this clinical trial in the third quarter of 2017. In our trial evaluating enobosarm in patients with advanced AR positive TNBC, we anticipate having sufficient data from the first stage of this trial in the second quarter of 2017 to allow us to make a determination as to whether we will continue the clinical trial and enroll patients into the second stage of this trial. However, due to the slow rate of patient enrollment in this trial, our current capital resources may not be sufficient to enable us to complete the second stage of the TNBC trial, in which case, we may be unable or unwilling to enroll patients into the second stage of this trial even if we determine that the first stage milestone has been met.

We are also evaluating enobosarm and other compounds in our SARM portfolio for indications outside of oncology where unmet medical needs in muscle-related diseases may benefit from increasing muscle mass. In the first quarter of 2016, we initiated a Phase 2 proof-of-concept clinical trial of enobosarm to treat postmenopausal women with SUI. This is the first clinical trial to evaluate a SARM for the treatment of SUI. We currently anticipate obtaining data from this clinical trial in the third

quarter of 2017 sufficient to enable us to determine if continued development of enobosarm in SUI is warranted. We have also evaluated several SARM compounds in preclinical models of DMD where a SARM's ability to increase muscle mass may prove beneficial to patients suffering from DMD, which is a rare disease characterized by progressive muscle degeneration and weakness.

With respect to SARDs, we believe this class of assets has the potential to treat prostate cancer, as well as other diseases such as benign prostatic hyperplasia and Kennedy's disease. We envision initially developing SARDs as a potentially novel treatment for men with CRPC, including those who do not respond or are resistant to currently approved therapies. Our evaluation of the SARD program is at an early stage. We are currently implementing an appropriate development program for SARDs and have selected lead SARD compounds that are undergoing further preclinical development, including formulation, pharmacokinetic and toxicology studies, required to support potential initial human clinical trials. While we plan to initiate a first in human clinical trial during the second half of 2017, we will require additional funding to initiate and complete any such clinical trial.

We recently completed a Phase 2 clinical trial evaluating GTx-758 (Capesaris®), an oral nonsteroidal selective ER alpha agonist, as a secondary hormonal therapy in men with metastatic and high risk non-metastatic CRPC. We have determined to discontinue further development of GTx-758 and will not be making any further investments in this program.

We have discussions ongoing with several potential collaboration partners who have expressed interest in our SARM compounds for the treatment of breast cancer, SUI and/or DMD, as well as our SARD technology.

Scientific Background on Estrogen and Androgen Hormones,
Selective Hormone Receptor Modulators, and Selective Androgen Receptor Degraders

Estrogens and androgens are hormones that play critical roles in regulating the reproductive system and contributing to the homeostasis of the muscular, skeletal, cardiovascular, metabolic and central nervous systems.

Testosterone, the predominant androgen, is important for masculine physical characteristics, such as muscle size and strength and bone strength, as well as for mental well-being. Testosterone is converted into a more potent androgen, dihydrotestosterone, or DHT, which acts as the primary androgen in the prostate, sebaceous glands and hair follicles, and may cause unwanted effects like benign prostatic hyperplasia, or BPH, acne and hair loss. In aging men, there typically is a gradual decline in testosterone levels, which contributes to a loss of muscle mass and strength, erectile dysfunction, decreased sexual interest, depression and mood changes.

Estrogens and androgens perform their physiologic functions principally by binding to and activating their respective hormone receptors located in various tissues. Once a hormone binds with its receptor, this activates a series of cellular events that results in the hormone specific tissue effects.

Pharmaceuticals that target estrogen or androgen receptors have been used medically for over 50 years. The drugs that have been used to stimulate androgen receptors are either natural or synthetic hormones, known as anabolic/androgenic steroids. Steroids are generally believed to activate hormone receptors in all tissue types in a non-selective manner resulting in not only beneficial effects but also in unwanted clinical effects. Hair growth, acne and masculinization are also of concern in women who are exposed to exogenous testosterone. The lack of selectivity of testosterone and its conversion to DHT may result in unwanted side effects, such as the potential stimulation of latent into clinical prostate cancer, worsening of BPH, development or worsening of acne, or loss of hair. To date, no orally

available testosterone products have been approved for use in the United States. Those testosterone products that are available must be administered by intramuscular injections or by transdermal patches or gels that may not be convenient for patients and, in some cases, can result in inconsistent blood levels of testosterone.

There are also classes of small molecules that are not steroids that can bind to the same hormone receptors. These nonsteroidal small molecules may either stimulate or block hormone receptors depending on the type of tissue in which the receptor is found and the interaction of the small molecule with the receptor. A drug that has the ability to either block or stimulate the hormone receptor in this manner is called a selective hormone receptor modulator. A selective hormone receptor modulator may be able to mimic the beneficial, while minimizing the unwanted, effects of natural or synthetic steroid hormones.

A SARM is a small molecule that binds to and selectively modulates androgen receptors, the primary receptor to which testosterone binds. SARMs may be utilized in place of androgens for various medical conditions while avoiding the unwanted androgenic effects in the prostate in men or skin and hair in men and women. In previous studies, SARMs have been shown to decrease bone breakdown and increase muscle mass. In addition to the potential beneficial effects in muscle and bone, SARMs may provide a therapeutic option for some women with breast cancer. Although no SARMs have been commercialized to date, we believe that SARMs, without the harmful side effects of testosterone or other exogenous anabolic steroid therapies, can potentially be developed to treat a range of medical conditions, including:

- androgen receptor positive breast cancer;
- muscle loss conditions of chronic diseases, such as cancer, AIDS, chronic kidney disease, end-stage renal disease, and neurodegenerative disorders;
- muscle loss in acute conditions such as trauma, burns, and rehabilitation;
- muscle loss conditions associated with aging, such as frailty and chronic sarcopenia;
- the prevention and/or treatment of osteoporosis;
- disorders of the central nervous system, such as low libido in both men and women;
- low testosterone conditions, such as primary and secondary hypogonadism; and
- disorders of male reproductive functions, such as infertility and erectile dysfunction.

SARDs are a novel class of drugs. The AR is a major driver of prostate tumor cell proliferation, and blocking its activity is a therapeutic target. Despite the use of therapies designed to inhibit the AR pathway in men with advanced prostate cancer, a significant number of men have tumors that do not respond to such therapeutic approaches and/or become resistant to them. This lack of response may be due to the presence of forms of the AR (splice variants and mutated) for which these therapies are not effective.

SARDs are designed to not only bind to androgen receptors, but also induce androgen receptor degradation and ultimately inhibit tumor cell growth. Selective AR degradation which targets the N-terminus may be an effective therapeutic strategy where a variant or mutated AR can be degraded

by the SARD. This ability to circumvent common drug resistance in prostate cancer patients may provide an important tool for effective new treatments.

Product Development Programs

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

Product Candidate/ Proposed Indication	Program	Development Phase	Status
Enobosarm Treatment of women with ER positive/AR positive advanced breast cancer (9 mg and 18 mg)	SARM	Phase 2	Completed enrollment of a Phase 2 open-label clinical trial evaluating enobosarm in patients whose advanced breast cancer is both ER positive and AR positive. Previously announced clinical benefit was achieved in the 9 mg dose cohort in the ongoing clinical trial. Top-line clinical results for the trial expected in the third quarter of 2017.
Enobosarm Treatment of women with advanced AR positive TNBC (18 mg)	SARM	Phase 2	Currently enrolling a Phase 2 open-label proof-of-concept clinical trial evaluating enobosarm in patients with advanced AR positive TNBC.
Enobosarm Treatment of postmenopausal women with SUI (3 mg)	SARM	Phase 2	Currently enrolling a Phase 2 proof-of-concept clinical trial evaluating enobosarm in postmenopausal women with SUI with data expected in the third quarter of 2017.
SARMs Treatment of DMD	SARM	Preclinical	Preclinical research being evaluated by potential collaboration partners for the treatment of DMD.
SARDs Treatment of castration resistant prostate cancer	SARD	Preclinical	Selected lead SARD compounds that are undergoing further preclinical development, including formulation, pharmacokinetic and toxicology studies, required to support potential initial human clinical trials.

SARMs

Enobosarm for the Potential Treatment of Breast Cancer

The treatment of breast cancer is one of the earliest examples of a targeted approach for cancer therapy. The development of therapeutic agents targeting the ER in breast cancer has served as a model for the development of other targeted therapies in oncology. The treatment for invasive breast cancer is guided, in part, by the characterization of receptor status in the tumor tissue which includes the presence or absence of ER, progesterone receptor, or PR, and human epidermal growth factor receptor 2, or HER2. Studies investigating the prevalence of receptor status in invasive breast cancer have demonstrated that 75-85% of tumors are ER positive and/or PR positive and 15-20% are HER2 positive. If there is a lack of expression of each of these three receptors, the breast cancer is known as TNBC, which is a more aggressive type of breast cancer with a worse prognosis than the receptor positive cancers.

Since the majority of breast cancers are receptor positive, historically, advances in the treatment for breast cancer were focused on targeting the ER through hormonal manipulation with selective ER modulators including ER antagonists, which block the proliferative action of estrogen, and aromatase inhibitors, which decrease the synthesis of estrogen in postmenopausal women. Unfortunately, as effective targeted approaches are not available for the treatment of TNBC, treatment is limited to cytotoxic chemotherapy.

Recent research has focused on identifying new potential therapeutic targets in both hormone receptor positive breast cancers and TNBC for several reasons. In ER positive patients, resistance to endocrine therapies is a clinical and scientific challenge leading researchers to investigate other targets that are linked to the ER function. In TNBC, therapeutic targets need to be identified to potentially improve outcomes for patients with this aggressive form of breast cancer either as first line therapy after chemotherapy or in conjunction with chemotherapy. One such target that has been identified in both ER positive and TNBCs is the AR. In fact, the AR is the most commonly expressed steroid receptor in breast cancer. Literature suggests that up to 90% of ER positive breast cancers and 10-15% of TNBCs express AR. Recent small studies have demonstrated that targeting the AR may be a viable treatment approach for advanced breast cancer.

To date, enobosarm has been evaluated in 24 completed or ongoing clinical trials, including in six Phase 2 and two Phase 3 clinical trials, enrolling over 1,700 subjects, of which approximately 1,200 subjects were treated with enobosarm. In our Phase 2 proof-of-concept clinical trial in patients with ER positive and AR positive metastatic breast cancer, we enrolled 22 postmenopausal women with ER positive metastatic breast cancer who have previously responded to hormonal therapy to assess clinical benefit at six months of enobosarm 9 mg once daily treatment. Clinical benefit was defined as those patients receiving treatment who have demonstrated (i) a complete response (disappearance of all targeted lesions), (ii) a partial response (at least a 30% decrease in the sum of the longest diameters of the targeted lesions), or (iii) stable disease (no disease progression from baseline). The primary endpoint was assessed in 17 AR positive patients, including one patient who had AR status determined outside the protocol specified window of time. Six of these 17 patients demonstrated clinical benefit at six months as stable disease, including the aforementioned patient, exceeding the pre-defined statistical threshold requiring that at least three of 14 patients with an AR positive metastatic lesion demonstrate clinical benefit. Seven patients in total (one patient with indeterminate AR status) achieved clinical benefit at six months as stable disease. The results also demonstrated that, after a median duration on study of 81 days, 41% of all patients (9/22) achieved clinical benefit as best response and also had increased prostate specific antigen, or PSA, which is an indicator of AR activity. No confirmed complete or partial responses were observed in the study, although one patient with liver metastases had a 27% reduction in a target tumor. Enobosarm was well tolerated throughout the clinical trial. 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.

Enobosarm for the Potential Treatment of Women Whose Advanced Breast Cancer is Both ER Positive and AR Positive

Scientific Overview. Prior to the ability to characterize receptor status and the introduction of targeted therapies directed at the ER, it was known that hormonal manipulation through ovarian ablation, along with alterations of pituitary and adrenal function could lead to tumor responses in some patients with breast cancer. Hormonal manipulation with steroidal androgens was also used with success as a first line treatment prior to the introduction of treatment with tamoxifen and also after disease progression following treatment with tamoxifen. However, androgen treatment had limitations due to the virilizing side effects including body and facial hair growth, acne and deepening of voice. Presently, ER targeted therapies are the mainstay of treatment for hormone receptor positive breast cancer with androgens reserved for use after failure of anti-estrogen therapies. However, the virilizing side effects are still a major limitation for patient compliance and acceptance. Based on the historical success of androgens for the treatment of breast cancer along with our preclinical data demonstrating tumor growth inhibition in ER positive breast cancer, we initiated a Phase 2 proof-of-concept clinical trial to evaluate enobosarm in postmenopausal women with ER positive and AR positive metastatic breast cancer in the second quarter of 2013. Based on the positive results from this proof-of-concept clinical trial in 2015, as well as our preclinical data demonstrating tumor growth inhibition with enobosarm in animal models of disease, the extensive experience we have with enobosarm in over 1,200 clinical trial patients, and its favorable safety profile, we initiated an open-label clinical trial of enobosarm in 2015 to demonstrate the effectiveness and safety of enobosarm to treat women whose advanced breast cancer is both ER positive and AR positive.

Potential Market. Breast cancer is the most commonly diagnosed cancer in women with one in eight women developing invasive breast cancer during their lifetime. As of 2016, it was estimated there were more than 2.8 million women with a history of invasive breast cancer living in the United States. In 2017, an estimated 255,000 new cases of breast cancer will be diagnosed in women in the United States with approximately 6% to 8% of these women having metastatic disease at time of diagnosis. As studies investigating the prevalence of receptor status in invasive breast cancer have demonstrated that 75-85% of tumors are ER positive, anti-estrogen therapy has been noted to have the greatest global commercial impact than any other treatment intervention in oncology. However, despite the widespread use and success of ER targeted therapies, there is no cure for metastatic breast cancer and eventually approximately 20-30% of women diagnosed with invasive breast cancer will have a recurrence.

Clinical Trial. In 2015, we commenced enrollment in a Phase 2 clinical trial designed to evaluate the efficacy and safety of enobosarm in patients whose metastatic or locally advanced breast cancer is both ER positive and AR positive. This open-label, multinational clinical trial, which enrolled patients whose cancer has shown prior response to hormonal therapy but has subsequently progressed, is utilizing a Simon's two-stage clinical trial design. Patients receive orally-administered enobosarm (9 mg or 18 mg) daily for up to 24 months. The first stage of evaluation was assessed among the first 18 evaluable patients for each cohort to determine if clinical benefit was achieved at 24 weeks of treatment. Clinical benefit is defined as a complete response, partial response or stable disease as measured by standardized response evaluation criteria. At least 3 of 18 patients per cohort achieved clinical benefit at 24 weeks of treatment, and the trial has proceeded to the second stage of enrollment. In the second stage, if at least 9 of 44 evaluable patients achieve clinical benefit at week 24, the study will have successfully demonstrated its primary endpoint, and those patients achieving clinical benefit at

24 weeks of treatment will be able to continue treatment for a total of up to 24 months. The two dose cohorts in the trial are being treated independently for the purpose of assessing efficacy.

In September 2016, we announced that we had achieved clinical benefit for the first stage in the 9 mg cohort and were continuing enrollment into the second stage of the clinical trial for this cohort. In November 2016, we announced that patients treated with enobosarm 9 mg had achieved the pre-specified primary efficacy endpoint in the ongoing Phase 2 clinical trial in women with advanced ER positive AR positive breast cancer. The primary efficacy endpoint for the clinical trial requires that at least nine patients (out of a total of 44 evaluable patients) achieve clinical benefit at 24 weeks of treatment. To date, of the 40 patients in the 9 mg dose cohort whose AR status has been confirmed AR positive, 10 patients have demonstrated clinical benefit at week 24, 23 patients have discontinued either at or prior to week 24, and 7 patients remain on study and have not yet reached week 24. There are another 5 patients who have been enrolled to the 9 mg cohort whose AR status has not yet been confirmed. Of the 10 evaluable patients achieving clinical benefit, 2 had a partial response and 8 had stable disease. The majority of adverse events are grade 1 and 2, and the most common adverse events reported (occurring in >10% of patients) include nausea (31%), fatigue (18%), and arthralgias (13%). Elevations in transaminases (ALT and AST) during enobosarm treatment were mild with the majority being grade 1 or 2.

In November 2016, we also announced that a sufficient number of patients had also achieved clinical benefit in the first stage in the 18 mg cohort for us to continue enrollment into the second stage for that cohort. Enrollment for both of the second stages for the 9 mg and 18 mg dose cohorts was completed in the first quarter of 2017. The trial will continue as planned with a daily dose of either enobosarm 9 mg or 18 mg until 44 evaluable patients in each cohort have completed treatment to better characterize the clinical benefit response, evaluate secondary endpoints and describe the safety profile of the dose levels. We expect to report top-line clinical results from the clinical trial in the third quarter of 2017.

Enobosarm appears to be safe and generally well tolerated. The independent Safety Monitoring Committee established to monitor the safety of our two ongoing breast cancer clinical trials met on December 1, 2016, and recommended that the clinical trials continue as planned.

Enobosarm for the Potential Treatment of Women with Advanced AR Positive TNBC

Scientific Overview. Although the majority of breast cancers are determined to be hormone receptor positive (expressing ER, PR or HER2), up to 20% of women diagnosed with breast cancer will have TNBC which is characterized by a lack of expression of ER, PR or HER2. TNBC occurs more frequently in younger patients (less than 50 years of age) and generally exhibits a more aggressive pattern of progression along with lower survival rates. For those patients with advanced TNBC, standard treatment options are limited to cytotoxic chemotherapy. However, even after an initial response to chemotherapy, the duration of the response may be short and there may be a higher likelihood of visceral metastases, rapidly progressing disease, and inferior survival compared to hormone receptor positive breast cancer. Therefore, there is an emphasis on research focused towards identifying therapeutic targets in TNBC. One such target is the AR. Historically, the AR has been considered to be anti-proliferative and beneficial in hormone receptor positive breast cancers. In TNBC, data from peer-reviewed literature indicates that the presence of the AR and androgen synthesizing enzymes is associated with lower proliferation, lower tumor grade, better overall survival, and more favorable clinical outcomes, as compared to those patients with TNBC not expressing AR. The current literature also suggests that the AR biomarker, PSA, is a favorable prognostic marker in breast cancer. Based on these findings, research is focusing on the AR as a potential therapeutic target. We have studied SARMs in preclinical TNBC cell and animal models. This preclinical data suggests

that the growth of TNBC cells expressing AR was inhibited by AR agonists, but not by the AR antagonist bicalutamide, suggesting that using an AR agonist may be a potentially viable approach for the treatment of advanced AR positive TNBC. We believe that this data, coupled with the early clinical success of androgens in breast cancer, supports the clinical evaluation of enobosarm as a potential novel targeted therapy to treat advanced AR positive TNBC.

Potential Market. Breast cancer is the most commonly diagnosed cancer in women with one in eight women developing invasive breast cancer during their lifetime. As of 2016, it was estimated there were more than 2.8 million women with a history of invasive breast cancer living in the United States. In 2017, an estimated 255,000 new cases of breast cancer will be diagnosed in women in the United States with TNBC accounting for up to 20% of these newly diagnosed breast cancers each year with 10-15% of these TNBC patient tumors expressing the AR. To date, treatment of TNBC has been limited to chemotherapy due to the lack of expression of known therapeutic targets on these tumors. Although first line chemotherapy is effective initially for the treatment of TNBC, patients eventually relapse and second line therapies are needed. While this market is smaller than ER positive breast cancer, it is currently underserved and represents an unmet medical need.

Clinical Trial. We commenced enrollment in 2015 in a Phase 2 proof-of-concept clinical trial of enobosarm designed to evaluate the efficacy and safety of enobosarm in patients with advanced AR positive TNBC. This open-label, multinational clinical trial, which also utilizes a Simon's two-stage clinical trial design, is expected to enroll up to approximately 55 patients to obtain 41 evaluable patients, who will be administered an 18 mg oral daily dose of enobosarm, with clinical benefit being assessed at 16 weeks of treatment. There will be two stages of evaluation in the clinical trial, with the first stage assessment occurring following 16 weeks of treatment for the first 21 evaluable patients. If at least 2 of the 21 patients achieve clinical benefit, the trial is designed to enroll the second stage of the study. Clinical benefit is defined as a complete response, partial response or stable disease as measured by standardized response evaluation criteria. We anticipate having sufficient data from the first stage of this trial in the second quarter of 2017 to allow us to make a determination as to whether we will continue the clinical trial and enroll patients into the second stage of this study. However, due to the slow rate of patient enrollment in this trial, our current capital resources may not be sufficient to enable us to complete the second stage of the TNBC trial, in which case, we may be unable or unwilling to enroll patients into the second stage of this trial even if we determine that the first stage milestone has been met. Accordingly, in order to enroll the second stage of and to complete this trial, we will need to obtain additional funding, which we may be unable to do in a timely manner or at all.

Other SARM Clinical or Preclinical Development Programs

SARMs for the Potential Treatment of Postmenopausal Women with Stress Urinary Incontinence

Scientific Overview. SUI is the involuntary leakage of urine during activities such as coughing, laughing, sneezing, exercising or other movements that increase intra-abdominal pressure and thus increase pressure on the bladder. In women, physical changes resulting from pregnancy, childbirth, and menopause often contribute to stress incontinence predominantly through the weakening of the pelvic floor muscles. We view this as a unique opportunity given the enrichment of the pelvic floor muscles with androgen receptors and the demonstrated effects that our SARMs have on building muscle. We have completed a series of preclinical studies to determine the effect of some of our SARMs on pelvic floor muscle mass. These preclinical studies have shown that in ovariectomized mice (a well-accepted model that simulates a postmenopausal condition), there were statistically significant increases in pelvic floor muscle mass, compared to control groups, indicating that SARMs may potentially provide a treatment option for the numerous post-menopausal women suffering from SUI.

Potential Market. SUI affects up to 35% of adult women. Currently, there are no orally available, effective treatment options for SUI. Treatment is limited to physical therapy to strengthen the pelvic floor muscles, surgery to help augment or support the pelvic floor muscles, bulking agents injected into the urethra of the bladder and implantable devices which aim to minimize the leakage of urine under stress. Other than physical therapy, each of these other treatment modalities is invasive with risks and complications. There is clearly an unmet medical need for new safe and effective therapies in this space.

Clinical Trial. In the first quarter of 2016, we initiated a Phase 2 proof-of-concept clinical trial of enobosarm to treat postmenopausal women with SUI. This is the first clinical trial to evaluate a SARM for the treatment of SUI. The rationale for evaluating enobosarm as a treatment for SUI in the proof-of-concept trial is supported by preclinical *in vivo* data demonstrating increases in pelvic floor muscle mass in animal models following treatment with our SARM compounds and safety data from clinical trials testing enobosarm 3 mg and other doses of enobosarm in more than 1,200 subjects. The trial is a single-arm, open-label proof-of-concept Phase 2 clinical trial evaluating the effects of orally administered enobosarm 3 mg in postmenopausal women with SUI. The primary endpoint of the trial is the change in frequency of daily stress urinary incontinence episodes from baseline to week 12. Secondary efficacy endpoints include accepted measurements of voiding, urethral pressure profile and change in pelvic floor muscles as measured by magnetic resonance imaging, or MRI. We currently anticipate obtaining data from this clinical trial in the third quarter of 2017 sufficient to enable us to determine if continued development of enobosarm in SUI is warranted. Continued development of enobosarm in SUI apart from our ongoing Phase 2 proof-of-concept clinical trial will require us to obtain additional funding.

SARMs for the Potential Treatment of Duchenne Muscular Dystrophy

Scientific Overview. We have evaluated several SARM compounds, including enobosarm, in preclinical models of DMD where a SARM's ability to increase muscle mass may prove beneficial to patients suffering from DMD, which is a rare genetic disorder characterized by progressive muscle degeneration and weakness. Symptom onset is in early childhood, usually between the ages of three and five, and the disease primarily affects boys. The DMD gene is the largest known gene in the human genome and, as a result, it is susceptible to mutations. These mutations can be inherited from a boy's mother, but approximately one-third of the mutations are spontaneous. The resulting disease is caused by the production of a dysfunctional, or completely non-functional, protein called dystrophin, which helps keep muscle cells intact. Until recently, boys with DMD did not survive much beyond their teen years, but with advances in cardiac and respiratory care, survival into the early thirties is becoming more common. DMD remains an unmet medical need and the U.S. Food and Drug Administration, or FDA, has recently issued guidance affirming FDA's interest in finding new treatment options for this disease. We believe that a SARM may be a viable therapeutic option for the treatment of DMD, including in combination with therapies that can potentially modify the underlying genetic defect.

Potential Market. The incidence of all the various manifestations of the disease is approximately 1 in 4,000 male births. Promising research is ongoing in the areas of modifying or correcting the genetic defect in DMD with some encouraging results. Other approaches include anti-inflammatory and anti-oxidant therapies, enhancement of utrophin expression and myostatin inhibitors; however, we believe there is still room for continued therapeutic advances.

Preclinical Development. Based on the extensive SARM data from our preclinical and clinical development efforts, we are undertaking preclinical studies and have initiated discussions with experts to better understand the potential of SARMs as a treatment for DMD. Our preclinical studies have continued to confirm beneficial effects from SARMs in mice genetically altered to simulate DMD, compared to control groups. DMD mice were treated with three different SARM compounds, including

enobosarm, and each cohort demonstrated increases in body weight, muscle mass, muscle performance (grip strength) and cardiac function compared to control groups. Based on our SARM data from these preclinical efforts, we have initiated discussions with potential collaboration partners to further develop a SARM for the treatment of DMD, and we will otherwise need to obtain additional funding in order to continue developing SARMs for the treatment of DMD.

SARDs for the Potential Treatment of Castration Resistant Prostate Cancer

Scientific Overview. In March 2015, we entered into an exclusive worldwide license agreement with the UTRF to develop SARD compounds that may be capable of degrading multiple forms of the AR. We believe SARDs have the potential to treat prostate cancer, as well as other diseases such as benign prostatic hyperplasia and Kennedy's disease. We envision initially developing SARDs as a potentially novel treatment for men with CRPC, including those who do not respond or are resistant to currently approved therapies. Although current therapies have improved overall survival in men with CRPC, approximately one-third of the CRPC patients do not respond to these therapies, due in part to the presence of splice variants, including AR-V7, as well as mutations in the androgen receptor. Splice variants of the androgen receptor have been identified in which the ligand binding domain, the binding site for androgens and necessary for the action of many of the current therapies, is lost. In addition, most patients who initially respond to available treatments eventually progress due to the emergence of resistance to these therapies. It is believed that CRPC growth remains highly dependent on androgen receptor activity, although the mechanisms which underlie this resistance are not fully understood. We believe a therapeutic agent that would safely degrade multiple forms of the androgen receptor, including those without the ligand binding domain, would be uniquely positioned to address this patient population.

Potential Market. In the United States alone, we believe there are approximately 80,000 men who have developed resistance to luteinizing hormone-releasing hormone, or LHRH, therapies and therefore have CRPC but who have not received chemotherapy. We believe there are approximately 36,000 men diagnosed each year with metastatic hormone sensitive prostate cancer. Zytiga® and XTANDI® are currently the only drugs approved for the treatment of metastatic CRPC in patients who have not yet received chemotherapy, although several other drugs are in clinical development for this indication. We believe new hormonal therapies in development, if approved, will be used prior to chemotherapy as physicians and patients look for treatment options capable of delaying cancer progression and possibly prolonging survival prior to chemotherapy.

Preclinical Development. Our evaluation of the SARD program is at an early stage. We are currently implementing an appropriate development program for SARDs and have selected lead SARD compounds that are undergoing further preclinical development, including formulation, pharmacokinetic and toxicology studies, required to support potential initial human clinical trials. While we plan to initiate a first in human clinical trial during the second half of 2017, we will require additional funding to initiate and complete any such clinical trial.

Our Strategy

Our objective is to discover, develop and commercialize small molecules for the treatment of cancer, including treatments for prostate and breast cancer, and other serious medical conditions. Key elements of our strategy to achieve these objectives are to:

Pursue Clinical Development of Enobosarm in Advanced Breast Cancer. Our current strategy is focused on further development of enobosarm, our lead product candidate, in two breast cancer indications targeting the androgen receptor. During the second half of 2015, we commenced enrollment

in two Phase 2 clinical trials of enobosarm. One trial is evaluating the efficacy and safety of enobosarm 9 mg and 18 mg doses in patients with ER positive, AR positive advanced breast cancer. Enrollment was complete for both dose cohorts in the first quarter of 2017. We have previously announced enobosarm achieved clinical benefit in the 9 mg dose cohort. We expect to report top-line clinical results from this clinical trial in the third quarter of 2017. The other Phase 2 clinical trial is evaluating the efficacy and safety of enobosarm 18 mg in patients with advanced AR positive TNBC. We anticipate having sufficient data from the first stage of this trial in the second quarter of 2017 to allow us to make a determination as to whether we will continue the clinical trial and enroll patients into the second stage of this study. However, due to the slow rate of patient enrollment in this trial, our current capital resources may not be sufficient to enable us to complete the second stage of the TNBC trial, in which case, we may be unable or unwilling to enroll patients into the second stage of this trial even if we determine that the first stage milestone has been met.

Pursue Development of SARMs for SUI. We are evaluating enobosarm for the treatment of SUI in a Phase 2 proof-of-concept clinical trial, which was initiated in the first quarter of 2016. We currently anticipate obtaining data from this clinical trial in the third quarter of 2017 to enable us to determine if continued development of enobosarm in SUI is warranted. Continued development of enobosarm in SUI apart from our ongoing Phase 2 proof-of-concept clinical trial will require us to obtain additional funding.

Pursue Development of SARMs for DMD. We are also evaluating enobosarm for the potential treatment of DMD. Based on our SARM data from these preclinical efforts, we have initiated discussions with potential collaboration partners to further develop a SARM for the treatment of DMD, and we will otherwise need to obtain additional funding in order to continue developing SARMs for the treatment of DMD.

Continue Evaluation of SARD Program. This class of assets is being evaluated as a potentially novel treatment for men with castration-resistant prostate cancer, including those who do not respond or are resistant to currently approved therapies. We are currently implementing an appropriate development program for SARDs and have selected lead SARD compounds that are undergoing further preclinical development, including formulation, pharmacokinetic, and toxicology studies, required to support potential initial human clinical trials. While we plan to initiate a first in human clinical trial during the second half of 2017, we will require additional funding to initiate and complete any such clinical trial.

Pursue Licensing, Partnering or Sale of Certain Assets. Our ability to pursue the continued development of SARMs and our SARD program is contingent upon our ability to obtain additional funding. Accordingly, we are actively seeking additional funding through the licensing, partnering or sale of certain assets to provide us the necessary resources for the development of our preclinical and clinical product candidates.

Licenses and Collaborative Relationships

In addition to our internally-developed and discovered small molecules, we have established and intend to continue to pursue licenses from and collaborative relationships with pharmaceutical companies and academic institutions to further the development and potential commercialization of our product candidates. While we currently have no ongoing collaborations for the development and commercialization of our product candidates, our strategy includes selectively partnering or collaborating with leading pharmaceutical and biotechnology companies to assist us in furthering the development and potential commercialization of our product candidates.

In July 2007, we and the University of Tennessee Research Foundation, or UTRF, entered into a consolidated, amended and restated license agreement, or the SARM License Agreement, to consolidate and replace our two previously existing SARM license agreements with UTRF and to modify and expand certain rights and obligations of each of the parties under both license agreements. Pursuant to the SARM License Agreement, we were granted exclusive worldwide rights in all existing SARM technologies owned or controlled by UTRF, including enobosarm, and certain improvements thereto, and exclusive rights to certain 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. Unless terminated earlier, the term of the SARM License Agreement will continue, on a country-by-country basis, for the longer of 20 years or until the expiration of the last valid claim of any licensed patent in the particular country in which a licensed product is being sold. UTRF may terminate the SARM License Agreement for our uncured breach or upon our bankruptcy.

Under the SARM License Agreement, we paid UTRF a one-time, upfront fee of $290,000 as consideration for entering into the SARM License Agreement. We are also 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. During the year ended December 31, 2007, we paid UTRF a sublicense royalty of approximately $1.9 million as a result of our previous collaboration with Merck & Co., Inc. We also agreed to pay all expenses to file, prosecute and maintain the patents relating to the licensed SARM technologies, and are obligated to use commercially reasonable efforts to develop and commercialize products based on the licensed SARM technologies. In December 2008, we and UTRF amended the SARM License Agreement, or the SARM License Amendment, to, among other things, clarify the treatment of certain payments that we may receive from our current and future sublicensees for purposes of determining sublicense fees payable to UTRF, including the treatment of payments made to us in exchange for the sale of our securities in connection with sublicensing arrangements. In consideration for the execution of the SARM License Amendment, we paid UTRF $494,000.

We and UTRF also entered into a license agreement, or the SARD License Agreement, in March 2015 pursuant to which we were granted exclusive worldwide rights in all existing SARD technologies owned or controlled by UTRF, including all improvements thereto. Under the SARD License Agreement, we are obligated to employ active, diligent efforts to conduct preclinical research and development activities for the SARD program to advance one or more lead compounds into clinical development. We are also obligated to pay UTRF annual license maintenance fees, low single-digit royalties on net sales of products and additional royalties on sublicense revenues, depending on the state of development of a clinical product candidate at the time it is sublicensed. Unless terminated earlier, the term of the SARD License Agreement will continue, on a country-by-country basis, until the expiration of the last valid claim of any licensed patent in the particular country in which a licensed patent is granted. UTRF may terminate the SARM License Agreement for our uncured breach or upon our bankruptcy.

Manufacturing

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.

There are no complicated chemistries or unusual equipment required in the manufacturing process for either enobosarm or SARDs. The active ingredient in enobosarm is manufactured using a five-step synthetic process that uses commercially available starting materials for each step. Enobosarm drug

product is manufactured using conventional manufacturing technology without the use of novel excipients. We rely on third-party vendors for drug substance and drug product manufacturing, including drug substance for SARDs used in our preclinical studies.

Competition

The biotechnology and biopharmaceutical industries are characterized by rapidly advancing technologies, intense competition and a strong emphasis on proprietary products. We face competition from many different sources, including commercial pharmaceutical and biotechnology enterprises, academic institutions, government agencies and private and public research institutions.

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. Our commercial opportunities will be reduced or eliminated if our competitors develop and commercialize similar products that are safer, more effective, have fewer side effects or are less expensive than any products that we and/or our collaborators may develop.

SARMs

There are other SARM product candidates in development that may compete with enobosarm and any future SARM product candidates, if approved for commercial sale. We are developing enobosarm for the treatment of patients with advanced AR positive breast cancer. To our knowledge, no other SARMs are currently in development for the treatment of advanced AR positive breast cancer; however, other companies with SARMs in development for muscle wasting and cachexia could enter into a breast cancer program in the future. For example, Radius Health, Inc. has stated that it may test its SARM compound, RAD140, in a breast cancer indication in the future. A number of other compounds targeting the androgen axis in breast cancer could compete with enobosarm if one or more are approved for commercial sale in the indications for which enobosarm is being developed. 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. ARAs in development include XTANDI® (enzalutamide) being developed by Medivation, Inc., which was recently acquired by Pfizer Inc., and Astellas Pharma, Inc., VT 464 being developed by Innocrin Pharmaceuticals Inc., and generic bicalutamide. Agents targeting pathways outside of the androgen axis also may compete with enobosarm in breast cancer as they are directed towards similar patient populations that may benefit from enobosarm.

Enobosarm for the Potential Treatment of Women Whose Advanced Breast Cancer is Both ER Positive and AR Positive

In ER positive breast cancer, a number of targeted therapies are approved and/or are being developed to be used in combination with other hormonal agents. These therapies include CDK 4/6 inhibitors (palbociclib being developed by Pfizer has recently been approved by FDA, and ribociclib (Novartis) and abemaciclib (Eli Lilly and Company) are in Phase III trials), PI3K/AKT inhibitors (BKM120 and BYL719 being developed by Novartis, Taselisib being developed by Roche), and mTOR inhibitors (Everolimus being developed by Novartis has recently been approved by the FDA). In ER positive breast cancer, new selective estrogen receptor modulators and selective estrogen receptor degraders targeting the estrogen receptor are in development, including GDC-0910 (Roche), RAD 1901 (Radius Pharmaceuticals), and AZD9496 (Astra Zeneca).

Enobosarm for the Potential Treatment of Women with Advanced AR Positive TNBC

We are also developing enobosarm for the treatment of women with advanced AR positive TNBC. There are no currently approved therapies for this subset of patients, beyond chemotherapy. However, a number of approaches for the treatment of TNBC are currently under investigation. Agents also targeting the androgen axis include XTANDI® (enzalutamide) being developed by Pfizer and Astellas Pharma, orteronel (TAK-700) being developed by Takeda, VT 464 being developed by Innocrin and CR-1447 being developed by Curadis. Only a subset of the total TNBC population is AR positive; therefore, agents targeting TNBC as a whole may also compete with enobosarm if approved for commercial sale. These agents include: PI3K/AKT inhibitors (BKM120 and BYL719 being developed by Novartis, Taselisib being developed by Roche), IL6/JAK/Stat inhibitors (ruxolitinib being developed by Incyte), mTOR inhibitors (Everolimus being developed by Novartis), EGFR inhibitor (Neratinib being developed by Puma), and PARP inhibitors (Velaparib being developed by AbbVie), PD-1 inhibitors (pembrolizumab) being developed by Merck & Co. and MPDL3280A being developed by Roche.

SARMs for the Potential Treatment of Postmenopausal Women with Stress Urinary Incontinence

We initiated a Phase 2 proof-of-concept clinical trial of enobosarm to treat postmenopausal women with SUI. There are a variety of treatments that may be used for SUI in women; however, currently, there are no available oral agents approved for the treatment of SUI. Behavioral modification and pelvic floor physical therapy are common initial treatment approaches. Bulking agents, including carbon coated beads (Durasphere® marketed by Coloplast Corp), calcium hydroxlapatite (Coaptite® marketed by BioForm Medical, Inc.) and silicon (Macroplastique® marketed by Cogentix Medical), can be injected into or around the urethra for treating intrinsic sphincter deficiency, a cause of SUI symptoms. Biologic bulking agents including patient-derived adipose stem cells and autologous muscle-derived stem cells (Cook Myosite) are being developed. Recently, an over-the-counter vaginal pessary (Impressa® marketed by Kimberly-Clark) has been approved for the temporary management of urine leakage in women with SUI. Finally, surgical procedures (e.g. sling; bladder neck suspension) have been demonstrated to be effective in some women.

SARMs for the Potential Treatment of Duchenne Muscular Dystrophy

We are also exploring the potential of SARMs to treat DMD. DMD is a rare genetic disorder which currently has no cure and leads to a progressive weakening of all the muscles in the body. A number of drugs are in various stages of development by pharmaceutical companies to meet the unmet medical need in DMD. These drugs may compete for patient enrollment during the clinical trial phase, should we be able to advance the development of SARMs as a potential treatment of DMD, or commercially if approved. The most advanced development is by those companies who are targeting the genetic mutation with exon skipping or codon blocking therapies including eteplirsen by Sarepta Therapeutics Inc. (which recently received FDA approval) and DS-1541b, by Daiichi Sankyo Co. Marathon Pharmaceuticals LLC recently received FDA approval for a glucocorticoid, deflazacort, which was recently acquired from Marathon by PTC Therapeutics. Santhera Pharmaceuticals has completed a Phase 3 trial with a synthetic analog of coenzyme Q_{10}, idebenone. Eli Lilly and Company completed a Phase 3 trial with tadalafil, a PDE5 inhibitor, although the study did not meet its primary endpoint. Pfizer Inc. is developing its anti-myostatin monoclonal antibody, PF-06252616, and is currently in a Phase 2 trial. Bristol Myers Squibb Company is developing BMS 986089, an anti-myostatin adnectin, and currently has a Phase 2 trial ongoing. Italfarmco S.p.A. has a Phase 2 trial ongoing with givinostat, an HDAC inhibitor. Summit Therapeutics PLC has initiated a Phase 2 trial with ezutromid, an utrophin upregulator. Cardero Therapeutics Inc. is planning a Phase 2 trial with epicatechin, a flavanol. In addition, Akashi Therapeutics is developing two compounds for DMD, one of which is a SARM. Tarix Orphan is developing TXA127, an angiotensin 1-7 peptide. Fibrogen is developing FG-3019, a monoclonal antibody which inhibits connective tissue growth factor. Catabasis Pharmaceuticals Inc. is

developing CAT-1004, an NF-KB inhibitor. ReveraGen Biopharma Inc. plans to begin Phase 2 trials in DMD with VPB 15, a novel glucocorticoid. Capricor Therapeutics has initiated a Phase 1/2 trial with CAP 1002, cardiosphere derived cells.

SARDs for the Potential Treatment of CRPC

We have entered into an exclusive worldwide license agreement with UTRF to develop its proprietary SARD technology which we believe has the potential to provide compounds that can degrade multiple forms of AR by inhibiting tumor growth in patients with CRPC, including those patients who do not respond or are resistant to current therapies. Drugs in commercial development having potentially similar approaches to removing the AR by degradation include Arvinas Inc.'s ARV-330, which is a chimera with an AR binding moiety on one end and an E3 ligase recruiting element on the other that is in preclinical development for the treatment of advanced prostate cancer and Androscience Corporation's androgen receptor degrader enhancer, or ARD, which is currently in development for acne and alopecia with the potential for development as a treatment for prostate cancer. Additionally, Essa Pharma Inc. is beginning early studies with EPI-506, an AR antagonist that targets the N-terminal domain of the AR. C4 Therapeutics, Inc. is developing degronimids as means to degrade the AR through the ligand binding domain associated degradation. CellCentric is developing therapies that target the histone methyltransferase enzyme to lower AR levels and Oric Pharmaceuticals is targeting the glucocorticoid receptor as a means to impact men that have CRPC. In addition to this specific potential mechanistic competition, there are various products approved or under clinical development in the broader space of treating men with advanced prostate cancer who have metastatic CRPC which may compete with our proposed initial clinical objective for our SARD compounds. Pfizer and Astellas Pharma market XTANDI® (enzalutamide), an oral androgen receptor antagonist, for the treatment of metastatic CRPC in men previously treated with docetaxel as well as those that have not yet received chemotherapy. Zytiga®, sold by Johnson & Johnson, has been approved for the treatment of metastatic CRPC. Similarly, Johnson & Johnson acquired Aragon Pharmaceuticals, Inc., which developed a second generation anti-androgen apalutamide (ARN-509) that is currently being evaluated in Phase 3 studies in men with progressive, advanced prostate cancer. Bayer HealthCare and Orion Corporation are currently performing a Phase 3 study of darolutamide (ODM-201) in men with CRPC without metastases and with a rising PSA examining safety and efficacy by measuring metastatic free survival. In addition to targeting the androgen receptor, therapeutic approaches are being developed to target the progesterone receptor in these patients by Arno Therapeutics Inc.

Intellectual Property

We will be able to protect our technology from unauthorized use by third parties only to the extent it is covered by valid and enforceable patents or is effectively maintained as trade secrets. Patents and other proprietary rights are an essential element of our business.

For enobosarm and our other SARM compounds, we have an exclusive license from UTRF under its issued patents and pending patent applications in the United States, Canada, Australia, Japan, China and other countries in Asia, before the European Patent Office designating Germany, Great Britain, Spain, France, Italy, and other European Union countries, as well as in certain other countries outside those regions, covering the composition of matter of the active pharmaceutical ingredient for pharmaceutical products, pharmaceutical compositions and methods of synthesizing the active pharmaceutical ingredients. We have also exclusively licensed from UTRF issued and pending patent applications in the United States, Canada, Australia, Japan, China and other countries in Asia, before the European Patent Office designating Germany, Great Britain, Spain, France, Italy and other European Union countries, as well as in certain other countries outside those regions, related to

methods for treating muscle wasting disorders, including DMD and cancer cachexia, and for treating sarcopenia and increasing muscle performance, muscle size and muscle strength and increasing the strength of or mass of a bone and for treating bone related disorders, including bone frailty and osteoporosis. Issued patents for enobosarm composition of matter that we licensed from UTRF and issued in the United States expire in 2024. Issued patents for composition of matter for our other SARM compounds in the United States will expire from 2021-2029, depending on the specific SARM compound. The issued patents we licensed from UTRF and issued outside of the United States for enobosarm expire in 2025, and with respect to other SARM compounds, expire in 2023 and 2027, depending on the specific SARM compound. We have pending patent applications for enobosarm and our other SARM compounds that, if issued, would expire in the United States and in countries outside the United States in 2025 and 2027, depending on the specific SARM compound. We have issued patents in the United States, and issued patents and pending applications in countries outside the United States for enobosarm and certain other SARM compounds as a feed composition for animals. The patents in the United States will expire in 2025. Issued patents outside the United States, and patent applications, if issued, which are pending outside the United States, will expire in 2031. Patent applications which are pending in the United States and outside the United States using SARMs for SUI and pelvic floor disorders will expire in 2035, if the patents are issued. Patent applications which are pending in the United States using enobosarm for DMD will expire in 2024, if the patents are issued. Issued patents in the United States, and patent applications, if issued, which are pending in the United States, using other SARMs for DMD will expire in 2027.

We have our own issued patents and pending patent applications in the United States, Canada, Australia, Europe, Japan, China and other countries in Asia, as well as in certain other countries outside those regions, related to solid forms of enobosarm. Issued patents covering solid forms of enobosarm in the United States will expire in 2029. Issued patents and pending patent applications, if issued, in countries outside of the United States will expire in 2028. We have our own pending patent applications in the United States and as an International Application related to methods of treating breast cancer using our SARM compounds. Such patent applications, if issued, would expire in 2033 in the United States and outside of the United States. We have allowed claims in the United States directed to TNBC and AR positive breast cancer.

For our SARD compounds and methods of use thereof, we have filed certain patent applications and are the exclusive licensee of the SARD technology under a license agreement with UTRF executed in 2015. The patent applications will expire between 2036 and 2037, if the patents are issued.

We cannot be certain that any of our pending patent applications, or those of our licensors, will result in issued patents. In addition, because the patent positions of biopharmaceutical companies are highly uncertain and involve complex legal and factual questions, the patents we own and license, or any further patents we may own or license, may not prevent other companies from developing similar or therapeutically equivalent products. Patents also will not protect our product candidates if competitors devise ways of making or using these product candidates without legally infringing our patents. In recent years, several companies have been extremely aggressive in challenging patents covering pharmaceutical products, and the challenges have often been successful. We cannot be assured that our patents will not be challenged by third parties or that we will be successful in any defense we undertake. Failure to successfully defend a patent challenge could materially and adversely affect our business.

In addition, changes in patent laws, rules or regulations or in their interpretations in the United States and other countries by the courts may materially diminish the value of our intellectual property or narrow the scope of our patent protection, which could have a material adverse effect on our business and financial condition.

We also rely on trade secrets, technical know-how and continuing innovation to develop and maintain our competitive position. We seek to protect our proprietary information by requiring our employees, consultants, contractors, outside scientific collaborators and other advisors to execute non-disclosure and confidentiality agreements and our employees to execute assignment of invention agreements to us on commencement of their employment. Agreements with our employees also prevent them from bringing any proprietary rights of third parties to us. We also require confidentiality or material transfer agreements from third parties that receive our confidential data or materials.

Government Regulation

New Drug Development and Approval Process

Numerous governmental authorities in the United States and other countries extensively regulate the testing, clinical development, manufacturing and marketing of pharmaceutical products and ongoing research and development activities. In the United States, the FDA rigorously reviews pharmaceutical products under the Federal Food, Drug, and Cosmetic Act and applicable regulations. Non-compliance with FDA regulations can result in administrative and judicial sanctions, including warning or untitled letters, clinical holds, fines, recall or seizure of products, injunctions, total or partial suspension of production, refusal of the government to approve marketing applications or allow entry into supply contracts, refusal to permit import or export of products, civil penalties, criminal prosecution and other actions affecting a company and its products. The FDA also has the authority to revoke previously granted marketing authorizations.

To secure FDA approval, an applicant must submit extensive preclinical and clinical data, as well as information about product manufacturing processes and facilities and other supporting information to the FDA for each indication to establish a product candidate's safety and efficacy. The development and approval process takes many years, requires the expenditure of substantial resources and may be subject to delays or limitations of approval or rejection of an applicant's new drug application, or NDA. Even if the FDA approves a product, the approval is subject to post-marketing surveillance, adverse drug experience and other recordkeeping and reporting obligations, and may involve ongoing requirements for post-marketing studies. The FDA also has authority to place conditions on any approvals that could restrict the commercial applications, advertising, promotion or distribution of these products. Product approvals may be withdrawn if compliance with regulatory standards is not maintained or if problems occur following initial marketing.

Preclinical and Clinical Testing

Preclinical studies involve laboratory evaluation of product characteristics and animal studies to assess the biological activity and safety of the product. In some cases, long-term preclinical studies are conducted while clinical studies are ongoing. The FDA, under its Good Laboratory Practices regulations, regulates preclinical studies. Violations of these regulations can, in some cases, lead to invalidation of the studies, requiring these studies to be replicated. When the preclinical testing is considered adequate by the sponsor to demonstrate the safety and scientific rationale for initial human studies, the results of the preclinical tests, together with manufacturing information and analytical data, are submitted to the FDA as part of an Investigational New Drug application, or IND. The IND becomes effective, if not rejected by the FDA, within 30 days after the FDA receives the IND. The FDA may, either during the 30-day period after filing of an IND or at any future time, impose a clinical hold on proposed or ongoing clinical trials on various grounds, including that the study subjects are or would be exposed to an unreasonable and significant health risk. If the FDA imposes a clinical hold, clinical trials cannot commence or recommence without FDA authorization and then only under terms authorized by the FDA.

Clinical trials involve the administration of the investigational product candidates to humans under the supervision of a qualified principal investigator. Clinical trials must be conducted in accordance with Good Clinical Practices under protocols submitted to the FDA as part of the IND. In addition, each clinical trial must be approved and conducted under the auspices of an Investigational Review Board, or IRB, and with patient informed consent. The IRB typically considers, among other things, ethical factors and the safety of human subjects.

Clinical trials are conducted in three sequential phases, but the phases may overlap. Phase 1 clinical trials usually involve healthy human subjects. The goal of a Phase I clinical trial is to establish initial data about the safety, tolerability and pharmacokinetic properties of the product candidates in humans. In Phase 2 clinical trials, controlled studies are conducted on an expanded population of patients with the targeted disease. The primary purpose of these tests is to evaluate the initial effectiveness of the drug candidate on the intended target and to determine if there are any side effects or other risks associated with the drug and to determine the optimal dose of the drug from the safety and efficacy profile developed from the clinical study. Phase 3 trials involve even larger patient populations, often with several hundred or even several thousand patients, depending on the use for which the drug is being studied. Phase 3 trials are intended to establish the overall risk-benefit ratio of the drug and provide, if appropriate, an adequate basis for product labeling. During all clinical trials, physicians monitor the patients to determine effectiveness and to observe and report any reactions or other safety risks that may result from use of the drug candidate.

Product Formulation and Manufacture

Concurrent with clinical trials and preclinical studies, companies must develop information about the chemistry and physical characteristics of the drug and finalize a process for manufacturing the product. In addition, manufacturers, including contract manufacturers, are required to comply with current applicable FDA Good Manufacturing Practice, or cGMP, regulations. The cGMP regulations include requirements relating to quality control and quality assurance, as well as the corresponding maintenance of records and documentation. The manufacturing process must be capable of consistently producing quality batches of the product and the manufacturer must develop methods for testing the quality, purity and potency of the final drugs. Additionally, appropriate packaging must be selected and tested and chemistry stability studies must be conducted to demonstrate that the product does not undergo unacceptable deterioration over its shelf-life.

Compliance with cGMP regulations also is a condition of new drug application approval. The FDA must approve manufacturing facilities before they can be used in the commercial manufacture of drug products. In addition, manufacturing establishments are subject to pre-approval inspections and unannounced periodic inspections.

New Drug Application Process

After the completion of the clinical trial phases of development, if the sponsor concludes that there is substantial evidence that the drug candidate is safe and effective for its intended use, the sponsor may submit a NDA to the FDA. The application must contain all of the information on the drug candidate gathered to that date, including data from the clinical trials, and be accompanied by a user fee.

Under the Prescription Drug User Fee Act, or PDUFA, submission of a NDA with clinical data requires payment of a fee, with some exceptions. In return, the FDA assigns a goal of six or ten months from filing of the application to return of a first "complete response," in which the FDA may approve the product or request additional information. There can be no assurance that an application will be approved within the performance goal timeframe established under PDUFA. The FDA initially

determines whether a NDA as submitted is acceptable for filing. The FDA may refuse to file an application, in which case the FDA retains one-half of the user fees. If the submission is accepted for filing, the FDA begins an in-depth review of the application. As part of this review, the FDA may refer the application to an appropriate advisory committee, typically a panel of clinicians, for review, evaluation and a recommendation. The FDA is not bound by the recommendation of an advisory committee.

If the FDA evaluations of the NDA and the manufacturing facilities are favorable, the FDA may issue an approval letter authorizing commercial marketing of the drug candidate for specified indications. The FDA could also issue a "complete response" letter at the end of the review period. A "complete response" letter will be issued to let a company know that the review period for a drug is complete and that the application is not yet ready for approval. The letter will describe specific deficiencies and, when possible, will outline recommended actions the applicant might take to get the application ready for approval, including calling for additional clinical trial data.

Marketing Approval and Post-Marketing Obligations

If the FDA approves an application, the drug becomes available for physicians to prescribe. Periodic reports must be submitted to the FDA, including descriptions of any adverse reactions reported. The FDA may require post-marketing studies, also known as Phase IV studies, as a condition of approval. In addition to studies required by the FDA after approval, trials and studies are often conducted to explore new indications for the drug. The purpose of these trials and studies and related publications is to develop data to support additional indications for the drug, which must be approved by the FDA, and to increase its acceptance in the medical community. In addition, some post-marketing studies are done at the request of the FDA to develop additional information regarding the safety of a product.

The FDA may 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 marketplace. REMS could add training requirements for healthcare professionals, safety communications 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. Whether a REMS would be imposed on a product and any resulting financial impact is uncertain at this time.

Any products manufactured or distributed pursuant to FDA approvals are subject to continuing regulation by the FDA, including record keeping requirements, reporting of adverse experiences with the drug, drug sampling and distribution requirements, notifying the FDA and gaining its approval of certain manufacturing or labeling changes, complying with certain electronic records and signature requirements, and complying with FDA promotion and advertising requirements. Drug manufacturers and their subcontractors are required to register their establishments and are subject to periodic unannounced inspections for compliance with cGMP requirements. Also, newly discovered or developed safety or effectiveness data may require changes to a product's approved labeling, including the addition of new warnings and contraindications, or even in some instances revocation or withdrawal of the product's approval.

Approval Outside of the United States

In order to market any product outside of the United States, we must comply with numerous and varying regulatory requirements of other countries regarding safety and efficacy and governing, among other things, clinical trials and commercial sales and distribution of our products, which broadly reflect the issues addressed by the FDA above. Approval procedures vary among countries and can involve additional product testing and additional administrative review periods. The time required to obtain

approval in other countries might differ from and be longer than that required to obtain FDA approval. Marketing approval in one country does not ensure marketing approval in another, but a failure or delay in obtaining marketing approval in one country may negatively impact the regulatory process in other countries.

As in the United States, the marketing approval process in Europe and in other countries is a lengthy, challenging and inherently uncertain process. If we fail to comply with applicable foreign regulatory requirements, we may be subject to fines, suspension or withdrawal of marketing approvals, product recalls, seizure of products, operating restrictions and criminal prosecution. Generally the development and approval procedures are harmonized throughout the European Union: however, there is limited harmonization in relation to national pricing and reimbursement practices.

Under European Union regulatory systems, a company may not market a medicinal product without marketing authorization. There are three procedures for submitting a MAA in the EU: (1) the mutual recognition procedure (MRP); (2) the decentralized procedure (DCP) and (3) the centralized procedure (CP). The submission strategy for a given product will depend on the nature of the product, the target indication(s), the history of the product, and the marketing plan. The centralized procedure is compulsory for medicinal products which are produced by biotechnology processes, advanced therapy medicinal products and orphan drugs. Besides the products falling under the mandatory scope, the centralized procedure is also open for other innovative products that are new active substances or other medicinal products that constitute a significant therapeutic, scientific or technical innovation.

The centralized procedure leads to approval of the product in all 27 EU member states and in Norway, Iceland and Liechtenstein. Submission of one MAA thus leads to one assessment process and one authorization that allows access to all applicable markets within the entire EU. The process of the centralized procedure is triggered when the applicant sends the letter announcing the intent to submit a MAA (letter of intent). The letter of intent also initiates the assignment of the Rapporteur and Co-Rapporteur, who are the two appointed members of the Committee for Human Medicinal Products, or CHMP, representing two EU member states. However, in light of the United Kingdom's vote in 2016 to leave the European Union, the so-called Brexit vote, there may be changes forthcoming in the scope of the centralized approval procedure as the terms of that exit are negotiated between the UK and the European Union.

When using the MRP or DCP, the applicant must select which and how many EU member states in which to seek approval. In the case of an MRP, the applicant must initially receive national approval in one EU member state. This will be the so-called reference member state (RMS) for the MRP. Then, the applicant seeks approval for the product in other EU member states, the so-called concerned member states (CMS) in a second step: the mutual recognition process. For the DCP, the applicant will approach all chosen member states at the same time. To do so, the applicant will identify the RMS that will assess the submitted MAA and provide the other selected member states with the conclusions and results of the assessment.

When the application for marketing authorization is made, the competent authority responsible for granting a marketing authorization must verify whether the application complies with the relevant requirements, including compliance with the agreed pediatric investigational plan, or PIP. Assuming it does, the marketing authorization may be granted and the relevant results are included in the summary of product characteristics (SmPC) for the product, along with a statement indicating compliance with the agreed PIP. It is not necessary for the product actually to be indicated for use in the pediatric population (for example, if the results show that that would not be appropriate).

Drug Price Competition and Patent Term Restoration Act of 1984

Under the Drug Price Competition and Patent Term Restoration Act of 1984, known as the Hatch-Waxman Act, a portion of a product's patent term that was lost during clinical development and application review by the FDA may be restored. The Hatch-Waxman Act also provides for a statutory protection, known as exclusivity, against the FDA's acceptance or approval of certain competitor applications. The Hatch-Waxman Act also provides the legal basis for the approval of abbreviated new drug applications, or ANDAs.

Patent term extension can compensate for time lost during product development and the regulatory review process by returning up to five years of patent life for a patent that covers a new product or its use. This period is generally one-half the time between the effective date of an IND and the submission date of a NDA, plus the time between the submission date of a NDA and the approval of that application. Patent term extensions, however, are subject to a maximum extension of five years, and the patent term extension cannot extend the remaining term of a patent beyond a total of 14 years. The application for patent term extension is subject to approval by the United States Patent and Trademark Office in conjunction with the FDA. It generally takes at least six months to obtain approval of the application for patent term extension.

The Hatch-Waxman Act also provides for a period of statutory protection for new drugs that receive NDA approval from the FDA. If a new drug receives NDA approval as a new chemical entity, meaning that the FDA has not previously approved any other new drug containing the same active entity, then the Hatch-Waxman Act prohibits an ANDA or a NDA submitted pursuant to section 505(b)(2) of the Federal Food, Drug, and Cosmetics Act, where the applicant does not own or have a legal right of reference to all of the data required for approval to be submitted by another company for a generic version of such drug (505(b)(2) NDA), with some exceptions, for a period of five years from the date of approval of the NDA. The statutory protection provided pursuant to the Hatch-Waxman Act will not prevent the filing or approval of a full NDA, as opposed to an ANDA or 505(b)(2) NDA, for any drug, including, for example, a drug with the same active ingredient, dosage form, route of administration, strength and conditions of use. In order to obtain a NDA, however, a competitor would be required to conduct its own clinical trials, and any use of the drug for which marketing approval is sought could not violate another NDA holder's patent claims.

If NDA approval is received for a new drug containing an active ingredient that was previously approved by the FDA but the NDA is for a drug that includes an innovation over the previously approved drug, for example, a NDA approval for a new indication or formulation of the drug with the same active ingredient, and if such NDA approval was dependent upon the submission to the FDA of new clinical investigations, other than bioavailability studies, then the Hatch-Waxman Act prohibits the FDA from making effective the approval of an ANDA or 505(b)(2) NDA for a generic version of such drug for a period of three years from the date of the NDA approval. This three year exclusivity, however, only covers the innovation associated with the NDA to which it attaches. Thus, the three year exclusivity does not prohibit the FDA, with limited exceptions, from approving ANDAs or 505(b)(2) NDAs for drugs containing the same active ingredient but without the new innovation.

While the Hatch-Waxman Act provides certain patent restoration and exclusivity protections to innovator drug manufacturers, it also permits the FDA to approve ANDAs for generic versions of their drugs assuming the approval would not violate another NDA holder's patent claims. The ANDA process permits competitor companies to obtain marketing approval for a drug with the same active ingredient for the same uses but does not require the conduct and submission of clinical studies demonstrating safety and effectiveness for that product. Instead of safety and effectiveness data, an ANDA applicant needs only to submit data demonstrating that its product is bioequivalent to the

innovator product as well as relevant chemistry, manufacturing and product data. The Hatch-Waxman Act also instituted a third type of drug application that requires the same information as a NDA, including full reports of clinical and preclinical studies, except that some of the information from the reports required for marketing approval comes from studies which the applicant does not own or have a legal right of reference. This type of application, a 505(b)(2) NDA, permits a manufacturer to obtain marketing approval for a drug without needing to conduct or obtain a right of reference for all of the required studies.

If a competitor submits an ANDA or 505(b)(2) NDA for a compound or use of any compound covered by another NDA holder's patent claims, the Hatch-Waxman Act requires, in some circumstances, the applicant to notify the patent owner and the holder of the approved NDA of the factual and legal basis of the applicant's opinion that the patent is not valid or will not be infringed. Upon receipt of this notice, the patent owner and the NDA holder have 45 days to bring a patent infringement suit in federal district court and obtain a 30-month stay against the company seeking to reference the NDA. The NDA holder could still file a patent suit after the 45 days, but if they miss the 45-day deadline, they would not have the benefit of the 30-month stay. Alternatively, after this 45-day period, the applicant may file a declaratory judgment action, seeking a determination that the patent is invalid or will not be infringed. Depending on the circumstances, however, the applicant may not be able to demonstrate a controversy sufficient to confer jurisdiction on the court. The discovery, trial and appeals process in such suits can take several years. If such a suit is commenced, the Hatch-Waxman Act provides a 30-month stay on the approval of the competitor's ANDA or 505(b)(2) NDA. If the litigation is resolved in favor of the competitor or the challenged patent expires during the 30-month period, unless otherwise extended by court order, the stay is lifted and the FDA may approve the application. Under regulations issued by the FDA, and essentially codified under the Medicare prescription drug legislation, the patent owner and the NDA holder have the opportunity to trigger only a single 30-month stay per ANDA or 505(b)(2) NDA. Once the applicant of the ANDA or 505(b)(2) NDA has notified the patent owner and the NDA holder of the infringement, the applicant cannot be subjected to another 30-month stay, even if the applicant becomes aware of additional patents that may be infringed by its product.

Pharmaceutical Pricing and Reimbursement

We currently have no marketed products. In both domestic and foreign markets, sales of any products for which we receive regulatory approval for commercial sale will depend in part on the availability of reimbursement from third-party payors. Third-party payors include government authorities or programs, managed care providers, private health insurers and other organizations. These third-party payors are increasingly challenging the price and examining the cost-effectiveness of medical products and services. In addition, significant uncertainty exists as to the reimbursement status of newly approved healthcare products. We may need to conduct expensive pharmacoeconomic studies in order to demonstrate the cost-effectiveness of our products. Our product candidates may not be considered cost-effective. Adequate third-party reimbursement may not be available to enable us to maintain price levels sufficient to realize an appropriate return on our investment in product development.

Within the United States, if we obtain appropriate approval in the future to market any of our oral drug product candidates, those products could potentially be covered by various government health benefit programs as well as purchased by government agencies. The participation in such programs or the sale of products to such agencies is subject to regulation. The marketability of any products for which we receive regulatory approval for commercial sale may suffer if the government and third-party payors fail to provide adequate coverage and reimbursement.

Medicaid is a joint federal and state program that is administered by the states for low income and disabled beneficiaries. Under the Medicaid Drug Rebate Program, participating manufacturers are required to pay a rebate for each unit of product reimbursed by the state Medicaid programs. The amount of the rebate for each product is set by law and may be subject to an additional discount if certain pricing increases more than inflation.

Medicare is a federal program that is administered by the federal government that covers individuals age 65 and over as well as those with certain disabilities. Oral drugs may be covered under Medicare Part D. Medicare Part D provides coverage to enrolled Medicare patients for self-administered drugs (*i.e.*, drugs that do not need to be injected or otherwise administered by a physician). Medicare Part D is administered by private prescription drug plans approved by the U.S. government and each drug plan establishes its own Medicare Part D formulary for prescription drug coverage and pricing, which the drug plan may modify from time-to-time. The prescription drug plans negotiate pricing with manufacturers and may condition formulary placement on the availability of manufacturer discounts. Since 2011, manufacturers with marketed brand name drugs have been required to provide a 50% discount on brand name prescription drugs utilized by Medicare Part D beneficiaries when those beneficiaries reach the coverage gap in their drug benefits.

Drug products are subject to discounted pricing when purchased by federal agencies via the Federal Supply Schedule (FSS). FSS participation is required for a drug product to be covered and reimbursed by certain federal agencies and for coverage under Medicaid, Medicare Part B and the Public Health Service (PHS) pharmaceutical pricing program. FSS pricing is negotiated periodically with the Department of Veterans Affairs. FSS pricing is intended not to exceed the price that a manufacturer charges its most-favored non-federal customer for its product. In addition, prices for drugs purchased by the Veterans Administration, Department of Defense (including drugs purchased by military personnel and dependents through the TRICARE retail pharmacy program), Coast Guard, and PHS are subject to a cap on pricing (known as the "federal ceiling price") and may be subject to an additional discount if pricing increases more than the rate of inflation.

To maintain coverage of drugs under the Medicaid Drug Rebate Program, manufacturers are required to extend discounts to certain purchasers under the PHS pharmaceutical pricing program. Purchasers eligible for discounts include hospitals that serve a disproportionate share of financially needy patients, community health clinics and other entities that receive health services grants from the PHS.

The United States and state governments continue to propose and pass legislation designed to reduce the cost of healthcare. For example, in March 2010, the United States Congress enacted the Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act ("Healthcare Reform Act") which includes changes to the coverage and reimbursement of drug products under government health care programs. Modifications to or repeal of all or certain provisions of the Healthcare Reform Act are expected as a result of the outcome of the recent presidential election and Republicans maintaining control of Congress, consistent with statements made by Donald Trump and members of Congress during the presidential campaign and following the election. We cannot predict the ultimate content, timing or effect of any changes to the Healthcare Reform Act or other federal and state reform efforts. There is no assurance that federal or state health care reform will not adversely affect our future business and financial results.

Although we currently have no products approved for commercial sale, we marketed FARESTON® through September 30, 2012 and the product was covered under various government health benefit programs as well as purchased by federal agencies. We could be subject to liability under federal laws regulating our participation in such programs or the sale of our product to such agencies if we failed to

comply with applicable requirements, including reporting prices for our products or offering products for sale at certain prices.

Regulations Pertaining to Sales and Marketing

Although we currently have no products approved for commercial sale, we may be subject to various federal and state laws pertaining to health care "fraud and abuse," including anti-kickback laws and false claims laws for activities related to our previous sales of FARESTON®, which we sold to a third party in 2012, or to future sales of any of our product candidates that may in the future receive regulatory and marketing approval. Anti-kickback laws generally prohibit a prescription drug manufacturer from soliciting, offering, receiving, or paying any remuneration to generate business, including the purchase or prescription of a particular drug. Although the specific provisions of these laws vary, their scope is generally broad and there may not be regulations, guidance or court decisions that apply the laws to particular industry practices. There is therefore a possibility that our practices might be challenged under such anti-kickback laws. False claims laws prohibit anyone from knowingly and willingly presenting, or causing to be presented, any claims for payment for reimbursed drugs or services to third party payors (including Medicare and Medicaid) that are false or fraudulent. Violations of fraud and abuse laws may be punishable by criminal or civil sanctions, including fines and civil monetary penalties, and/or exclusion from federal health care programs (including Medicare and Medicaid).

Laws and regulations have been enacted by the federal government and various states to regulate the sales and marketing practices of pharmaceutical manufacturers with marketed products. The laws and regulations generally limit financial interactions between manufacturers and health care providers and/or require disclosure to the government and public of such interactions. Many of these laws and regulations contain ambiguous requirements or require administrative guidance for implementation. Given the lack of clarity in laws and their implementation, our prior activities (when we marketed FARESTON®) or any future activities (if we obtain approval and/or reimbursement from federal healthcare programs for our product candidates) could be subject to the penalty provisions of the pertinent laws and regulations.

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 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. Our research and development expenses were $17.2 million for the year ended December 31, 2016, $13.6 million for the year ended December 31, 2015, and $20.9 million for the year ended December 31, 2014.

Employees

As of December 31, 2016, we had 26 employees, 8 of whom were M.D.s, Pharm.D.s and/or Ph.D.s. None of our employees are subject to a collective bargaining agreement. We believe that we have good relations with our employees.

Available Information

We file electronically with the U.S. Securities and Exchange Commission, or SEC, our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934. We make available on our Web site at www.gtxinc.com, free of charge, copies of these reports as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. Further, copies of these reports are located at the SEC's Public Reference Room at 100 F Street, NE, Washington, D.C. 20549. Information on the operation of the Public Reference Room can be obtained by calling the SEC at 1-800-SEC-0330. The SEC maintains a Web site that contains reports, proxy statements, and other information regarding our filings at www.sec.gov. The information provided on our Web site is not part of this report, and is therefore not incorporated by reference unless such information is otherwise specifically referenced elsewhere in this report.

Reverse Stock Split

On December 5, 2016, we effected a one-for-ten reverse stock split of our outstanding common stock, or the Reverse Stock Split. The primary purpose of the Reverse Stock Split was to enable us to regain compliance with the $1.00 minimum bid price requirement for continued listing on The NASDAQ Capital Market, which compliance was regained on December 20, 2016. At the effective time of the Reverse Stock Split, every ten shares of our issued and outstanding common stock was automatically combined and reclassified into one issued and outstanding share of common stock. No fractional shares of our common stock were issued in the Reverse Stock Split, but in lieu thereof, each holder of our common stock who would otherwise have been entitled to a fraction of a share of our common stock in the Reverse Stock Split received a cash payment. In addition, as a result of the Reverse Stock Split, proportionate adjustments were made to the per share exercise price and/or the number of shares issuable upon the exercise or vesting of all stock options, restricted stock units and warrants issued by GTx and outstanding immediately prior to the effective time of the Reverse Stock Split, which resulted in a proportionate decrease in the number of shares of our common stock reserved for issuance upon exercise or vesting of such stock options, restricted stock units and warrants, and, in the case of stock options and warrants, a proportionate increase in the exercise price of all such stock options and warrants. In addition, the number of shares reserved for issuance under our equity compensation plans immediately prior to the effective time of the Reverse Stock Split was reduced proportionately. Unless otherwise noted, all share and per share information included in this report has been retroactively adjusted to give effect to the Reverse Stock Split.

Management

The following table sets forth information about our executive officers and other key clinical and regulatory officers as of March 17, 2017.

Name	Age	Position(s)
Executive Officers		
Marc S. Hanover	54	Chief Executive Officer
Robert J. Wills, Ph.D	63	Executive Chairman
Henry P. Doggrell	68	Vice President, Chief Legal Officer and Secretary
Diane C. Young, M.D	60	Vice President, Chief Medical Officer
Jason T. Shackelford	41	Vice President, Finance and Accounting, and Principal Financial and Accounting Officer
Other Key Clinical and Regulatory Officers		
Jeffrey G. Hesselberg	58	Vice President, Regulatory Affairs
Mary Ann Johnston, PharmD	45	Vice President, Clinical Development

Executive Officers of the Registrant

Marc S. Hanover, a co-founder of GTx, served as our President and Chief Operating Officer from our inception in September 1997 until his appointment as our permanent Chief Executive Officer in February 2015, and served as our acting Principal Financial Officer from December 31, 2013 until his appointment as our interim Chief Executive Officer on April 3, 2014. He also previously served as a member of our Board of Directors from September 1997 to August 2011. Prior to joining GTx, Mr. Hanover was a founder of Equity Partners International, Inc., a private equity firm in Memphis, Tennessee, and participated as a founder and investor in three healthcare companies. From 1985 to 1997, Mr. Hanover was a Senior Vice President and a member of the Executive Management Committee of National Bank of Commerce in Memphis, Tennessee. Mr. Hanover holds a B.S. in Biology from the University of Memphis and an MBA in Finance from the University of Memphis.

Robert J. Wills, Ph.D., joined GTx as Executive Chairman of the Board of Directors and as the Chairman of the Board's Scientific and Development Committee on March 2, 2015. Prior to joining GTx, Dr. Wills served as Vice President, Alliance Manager for Johnson & Johnson (J&J) and was responsible for managing strategic alliances for J&J's Pharmaceutical Group worldwide since 2002. Prior to this, Dr. Wills spent 22 years in pharmaceutical drug development, 12 of which were at J&J and 10 of which were at Hoffmann-La Roche Inc. Before assuming his alliance management role at J&J, Dr. Wills served as Senior Vice President Global Development at J&J where he was responsible for its late stage development pipeline and was a member of several internal commercial and research and development operating boards. Since 2015, Dr. Wills has served as the chairman of the board of Cymabay Therapeutics Inc. (NASDAQ: CBAY). Dr. Wills holds a B.S. in Biochemistry and a M.S. in Pharmaceutics from the University of Wisconsin and a Ph.D. in Pharmaceutics from the University of Texas.

Henry P. Doggrell currently serves as our Vice President, Chief Legal Officer and Secretary, after joining GTx in October 2001 as General Counsel and Secretary. From April 1998 to August 2001, Mr. Doggrell was Senior Vice President, Corporate Affairs at Buckeye Technologies, Inc., a specialty cellulose company, where he was responsible for matters including corporate finance, investor relations, mergers and acquisitions, intellectual property and licensing and strategic development. From 1996 to 1998, Mr. Doggrell served as General Counsel and Secretary of Buckeye Technologies. Prior to joining

Buckeye Technologies, Mr. Doggrell was a partner of the Baker, Donelson, Bearman, Caldwell and Berkowitz law firm from 1988 to 1996, where he served as a member of the law firm management committee and Chair of the firm's Corporate Securities department. Mr. Doggrell holds a B.S. in Commerce from the University of Virginia and a JD from Vanderbilt University.

Diane C. Young, M.D. was appointed Vice President and Chief Medical Officer at GTx in July 2015. Dr. Young is a board-certified medical oncologist with 25 years of industry experience in clinical development and medical affairs, most recently with Novartis where she spent 12 years in global and regional leadership roles in oncology drug development. Prior to Novartis, Dr. Young spent 10 years with J&J, where she served as Vice President, Global Development at R. W. Johnson Pharmaceutical Research Institute (now Johnson & Johnson Research and Development). At Novartis, Dr. Young held senior leadership positions involved in the development, regulatory approval and medical affairs activities for several products, including Glivec®, Zometa®, Femara®, Sandostatin®, Tasigna®, Jakavi® and Afinitor®, all of which are treatments or supportive therapies for cancer patients.

Jason T. Shackelford currently serves as our Vice President, Finance and Accounting, after joining GTx in July 2007 as Director, Accounting and Corporate Controller, and has served as our principal accounting officer since December 31, 2013 and as our principal financial and accounting officer since April 3, 2014. Prior to joining GTx, Mr. Shackelford was a Senior Audit Manager at KPMG LLP. Mr. Shackelford is a Certified Public Accountant and holds a Bachelor of Business Administration and Master of Accountancy from the University of Mississippi.

Other Key Clinical and Regulatory Officers of the Registrant

Jeffrey G. Hesselberg has served as the Vice President, Regulatory Affairs since May 2007. He joined GTx from ICOS Corporation, where from 1996 to May 2007 he served as Manager, Associate Director, and then Director of Regulatory Affairs. Most recently, Mr. Hesselberg worked on the successful development, launch and commercialization of Cialis® (tadalafil) for the treatment of erectile dysfunction. From 1984 to 1996, Mr. Hesselberg worked for Immunex Corporation and the Puget Sound Blood Center. Mr. Hesselberg holds a B.S. in Molecular Biology from the University of Wisconsin — Madison and a MBA from the University of Washington.

Mary Ann Johnston, PharmD, was appointed Vice President, Medical Affairs in November 2012 and currently serves as Vice President, Clinical Development. Before that, she served as Director, Medical Affairs and Team Leader, Medical Science Liaisons, heading up the field-based medical organization since 2009. Prior to joining GTx, Dr. Johnston was Director, Medical Science Liaisons and Managed Markets at Actelion Pharmaceuticals specializing in pulmonary arterial hypertension. Before joining the pharmaceutical industry, Dr. Johnston practiced as a clinical specialist at the University of Texas Medical Branch in Galveston where she served as an adjunct professor for the University of Houston and University of Texas schools of pharmacy with a clinical practice focused in cardiology and critical care. Dr. Johnston holds a Doctor of Pharmacy degree from Samford University McWhorter School of Pharmacy and completed a postdoctoral residency at the Department of Veterans Affairs Medical Center in Tuscaloosa, Alabama.

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.

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 December 31, 2016, we had an accumulated deficit of $531.2 million. Our net loss for the year ended December 31, 2016 was $17.7 million and we expect to incur significant operating losses for the foreseeable future as we continue our preclinical and 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 candidate, enobosarm (GTx-024), will require significant additional clinical development, financial resources and personnel in order to obtain necessary regulatory approvals for this product candidate and to develop it and our other SARMs into commercially viable products. A substantial portion of our efforts and expenditures were previously 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. The failure of the POWER trials to meet the primary statistical criterion for the co-primary endpoints agreed upon with the U.S. Food and Drug Administration, or FDA, significantly depressed our stock price and has harmed our future prospects. Our current strategy is focused on the further development of enobosarm for the treatment of patients with advanced androgen receptor, or AR, positive breast cancer. However, the development of enobosarm for the treatment of patients with advanced AR positive breast cancer is at a relatively early stage, is subject to the substantial risk of failure inherent in the development of early-stage product candidates, and will require significant additional financial resources and personnel in order for such development to continue. With regard to our remaining programs, our preclinical evaluation of our selective androgen receptor degrader, or SARD, technology, our preclinical evaluation of SARMs as a potential treatment of Duchenne muscular dystrophy, or DMD, and our clinical evaluation of enobosarm for the treatment of postmenopausal women with stress urinary incontinence, or SUI, will in each case require significant additional financial resources and personnel to continue our development of these programs. 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 any 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 placements of our securities, 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 fourth quarter of 2017 and to continue as a going concern thereafter, if we and/or any potential collaborators are unable to develop and commercialize SARMs or SARD technology, if development is further delayed or is eliminated, or if sales revenue from any SARM or

SARD products 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 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 to us when needed, we may not be able to continue as a going concern which may result in actions that could adversely impact our stockholders.

At December 31, 2016, we had cash, cash equivalents and short-term investments of $21.9 million. Based on our current business plan and assumptions, 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 fourth quarter of 2017. Accordingly, we will need to raise substantial additional capital in the near term order to fund our operations through and beyond the fourth quarter of 2017 and to continue as a going concern thereafter. 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. We believe, based on our current estimates of clinical trial expenditures and enrollment status, that our existing capital resources will be adequate to enable us to complete our ongoing open-label Phase 2 clinical trial of enobosarm in patients with estrogen receptor, or ER, positive and AR positive advanced breast cancer and our ongoing Phase 2 clinical trial of enobosarm in postmenopausal women with SUI. However, our existing capital resources will not be sufficient to allow us to complete our ongoing open-label Phase 2 clinical trial of enobosarm in patients with advanced AR positive TNBC and we will otherwise need to raise substantial additional capital in order to continue developing enobosarm for any of these indications. If we determine that our existing capital resources are not sufficient to enable us to complete our ongoing open-label Phase 2 clinical trial of enobosarm in patients with advanced AR positive TNBC, we may be unable or unwilling to enroll patients into the second stage of this trial even if we determine that the first stage milestone had been met. Accordingly, in order to enroll the second stage of and to complete this trial, we will need to obtain additional funding, which we may be unable to do in a timely manner or at all. Also, our clinical trials may continue to encounter technical, enrollment or other difficulties that could increase our development costs beyond our current estimates or delay our development timelines, and we could otherwise exhaust our available financial resources sooner than we expect. In any event, we need to raise substantial additional capital in order to:

- potentially enroll the second stage of and complete our ongoing open-label Phase 2 clinical trial of enobosarm in patients with advanced AR positive TNBC;
- undertake any further development of our SARMs beyond our ongoing Phase 2 clinical trials of enobosarm in breast cancer and SUI and our ongoing preclinical development activities related to the development of SARMs as a potential treatment for DMD;
- initiate and complete human clinical studies of our SARD program; and
- fund our operations and to continue as a going concern.

Our future funding requirements will depend on many factors, including:

- the scope, rate of progress and cost of our preclinical and clinical development programs, including our ongoing and any future clinical trials of enobosarm;

- 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;
- 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 product revenue for the foreseeable future. We also do not have any commitments for future external funding. Accordingly, we expect to continue our efforts to seek additional funds through potential collaboration, partnering or other strategic arrangements, through public or private equity offerings or debt financings, or a combination of the foregoing.

In addition, the accompanying financial statements have been prepared assuming that we will continue as a going concern. Accordingly, 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. However, because 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 fourth quarter of 2017, there is doubt raised about our ability to continue as a going concern. While we believe that we have the ability to successfully implement plans to mitigate the conditions that may raise doubt about our ability to continue as a going concern within one year after the date of this report, such plans include reducing or delaying expenditures by postponing or discontinuing planned clinical or preclinical development and implementing cost saving measures related to other research and development and general and administrative expenditures, which plans, if implemented, would materially harm our business. In any event, if we are unable to raise additional funds in the near term to fund our operations through and beyond the fourth quarter of 2017 and to continue as a going concern thereafter, we could be required to, among other things, make further reductions in our workforce, eliminate our ongoing AR positive TNBC clinical trial, discontinue further development of enobosarm and/or SARDs, 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.

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 SARMs and/or SARDs 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 completed a private

placement of common stock and warrants in March 2014, which was substantially dilutive, completed a subsequent private placement in November 2014 that represented additional dilution, and we again raised additional funds by issuing shares of common stock in a registered direct offering in October 2016. 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 our two prior enobosarm POWER trials to meet the primary statistical criterion for the co-primary endpoints agreed upon with the FDA, and may in the future be adversely impacted by the uncertainty regarding the prospects of our development of enobosarm for the treatment of patients with advanced AR positive breast cancer and our ability to advance the development of enobosarm or SARDs, if at all. 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, recent and potential future management turnover, and continued volatility and instability in the global financial markets. 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 would significantly harm our prospects.

Our current strategy is focused on the further development of SARMs. We have two ongoing Phase 2 clinical trials for the treatment of patients with advanced AR positive breast cancer and there continues to be a significant risk of failure inherent in the development of these product candidates. If the current clinical trials are successful, we will still need to conduct costly and time-consuming additional clinical trials of enobosarm for the treatment of patients with advanced AR positive breast cancer to determine whether enobosarm is an effective treatment for patients with advanced AR positive TNBC and ER positive/AR positive advanced breast cancer.

Preclinical studies, including studies of SARMs in animal models of disease, may not accurately predict the results of subsequent human clinical trials of enobosarm, including the results of our ongoing Phase 2 clinical trials of enobosarm in patients with advanced AR positive breast cancer. Furthermore, the positive results from our Phase 2 proof-of-concept clinical trial evaluating enobosarm 9 mg in women whose advanced breast cancer is both ER positive and AR positive does not ensure that our ongoing Phase 2 clinical trials of enobosarm in patients with advanced AR positive breast cancer will be successful or that any later trials will be successful. Likewise, the fact that we achieved clinical benefit in the 9 mg cohort for both the first and second stages of our ongoing Phase 2 clinical trial of enobosarm in patients whose advanced breast cancer is both ER positive and AR positive and achieved the first stage milestone in the 18 mg cohort in this trial does not ensure that either this trial or our ongoing Phase 2 clinical trial of enobosarm in patients with advanced AR positive TNBC will be successful. A number of companies in the pharmaceutical industry, including us and those with greater resources and experience than we have, have suffered significant setbacks in Phase 3 and later-stage clinical trials, even after receiving encouraging results in earlier clinical trials. Due to the uncertain and time-consuming clinical development and regulatory approval process, we may not be successful in developing enobosarm for the treatment of patients with advanced AR positive breast cancer, or in developing or partnering any of our product candidates, and it is possible that none of our current product candidates will ever become commercial 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 evaluating enobosarm 3 mg for

the prevention and treatment of muscle wasting in patients with advanced NSCLC. 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.

Our evaluation of our SARD program is at an early stage and to initiate and complete initial human clinical trials, we will require additional funding. In addition, our evaluation of SARMs as a potential treatment for SUI and DMD is at an early stage, and our ability to meaningfully advance development of SARMs as a potential treatment for SUI or DMD is subject to our ability to obtain additional funding, either through financing or by entering into new collaborative arrangements or other strategic transactions with third parties for any such further development.

Accordingly, our current strategy and near-term prospects are substantially dependent on the successful development of enobosarm for the treatment of patients with advanced AR positive breast cancer.

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 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.

In addition, in the first quarter of 2015, we entered into an exclusive worldwide license agreement with the University of Tennessee Research Foundation, or UTRF, to develop its proprietary SARD technology. However, our evaluation of the SARD program is at an early stage and it is possible that we may determine not to move forward with any meaningful preclinical development of our SARD program. Even if we do determine to move forward with any meaningful preclinical development of our SARD program, to initiate and complete initial human clinical trials, we will require additional funding. Accordingly, as a result of our unsuccessful research and preclinical development and/or our inability to obtain sufficient funding to meaningfully advance preclinical development of our SARD program, we may fail to realize the anticipated benefits of our licensing of this program.

Significant delays in clinical testing could materially impact our product development costs. We do not know whether our ongoing clinical trials will need to be modified or will be completed on schedule, if at all. For example, our ongoing Phase 2 clinical trial of enobosarm in patients with advanced AR positive TNBC is being conducted using a Simon's two-stage design, pursuant to which approximately half of the patients are enrolled in the first stage, and, upon achievement of a pre-specified minimal response rate, enrollment of the second stage would proceed. We have not commenced enrollment in

the second stage of the Phase 2 clinical trial of enobosarm in patients with advanced AR positive TNBC. Due to the slow rate of patient enrollment in this trial, our current capital resources may not be sufficient to enable us to complete the second stage of the TNBC trial, in which case, we may be unable or unwilling to enroll patients into the second stage of this trial even if we determine that the first stage milestone had been met. Accordingly, in order to enroll the second stage of and to complete this trial, we will need to obtain additional funding, which we may be unable to do in a timely manner or at all. In any event, 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, such as the slower than expected rate of enrollment we have experienced in our ongoing Phase 2 clinical trial of enobosarm in patients with advanced AR positive TNBC, resulting in significant delays, additional costs and/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 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, or HDL, have also been

observed in subjects treated with enobosarm. Lower levels of HDL could lead to increased risk of adverse cardiovascular events. In addition, in our Phase 2 proof-of-concept clinical trial evaluating enobosarm in a 9 mg daily dose for the treatment of patients with ER positive and AR positive metastatic breast cancer, bone pain of the chest cage, a serious adverse event, or SAE, was assessed as possibly related to enobosarm. Although doses up to 30 mg have been evaluated in short duration studies, doses of 9 mg and 18 mg currently being tested in our ongoing Phase 2 clinical trials may increase the risk or incidence of known potential side effects of SARMs, including elevations in hepatic enzymes and further reductions in HDL, in addition to the emergence of side effects that have not been seen to date.

In three Phase 2 clinical trials of GTx-758, we observed venous thromboembolic events (VTEs), 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, and in this trial, there was one reported incidence of a VTE and one reported incidence of a myocardial infarction, or MI, in patients enrolled in the 250 mg arm of the trial, resulting in the discontinuation of both patients from active treatment. We have determined to discontinue further development of GTx-758 and we do not expect to receive any return on our investment from this product candidate.

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 and to provide funding for such activities. 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 new collaborative arrangements or other strategic transactions with third parties or other financing alternatives. In this regard, if we decide to undertake any further development of our SARMs beyond our ongoing clinical trials and preclinical development, we would need to obtain additional funding for such development, either through financing or by entering into new collaborative arrangements or other strategic transactions with third parties for any such further development. Moreover, our ongoing Phase 2 clinical trial of enobosarm in patients with advanced AR positive TNBC is being conducted using a Simon's two-stage design, pursuant to which approximately half of the patients are enrolled in the first stage, and, upon achievement of a pre-specified minimal response rate, enrollment of the second stage would proceed. We have not commenced enrollment of the second stage of the Phase 2 clinical trial of enobosarm in patients with advanced AR positive TNBC. Due to the slow rate of patient enrollment in the TNBC trial, our current capital resources may not be sufficient to enable us to complete the second stage of this trial, in which case, we may be unable or unwilling to enroll patients into the second stage of this trial even if we determine that the first stage milestone had been met. Accordingly, in order to enroll the second stage of and to complete this trial, we will need to obtain additional funding, which we may be unable to do in a timely manner or at all. Likewise, to initiate and complete initial human clinical trials for our SARD program, we will require additional funding. In addition, our evaluation of SARMs as a potential treatment for SUI and DMD is at an early stage, and our ability to meaningfully advance development of SARMs as a potential treatment for SUI or DMD is subject to our ability to obtain additional funding. 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, either through financing or by entering into new collaborative arrangements or other strategic transactions with third parties for the further development of our product candidates, we will not be able to advance the development of our product candidates 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 collaborative 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. As of the date of this report, we have no ongoing collaborations for the development and commercialization of our product candidates. We may 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 SARM and SARD drug substance. If the contract manufacturers that we are currently utilizing to meet our supply needs for enobosarm or any future SARM or SARD 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 or SARD product candidates. 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 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 our product candidates.

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

Reliance on third-party manufacturers entails risks, to which we would not be subject if we manufactured our product candidates 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 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, or CROs, 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 licenses from UTRF, we may be unable to continue our business.

We have licensed intellectual property rights and technology from UTRF used in substantially all of our business. Our license agreements with UTRF, under which we were granted rights to SARM compounds and technologies, including enobosarm, and more recently, to SARD compounds and technology, may be terminated by UTRF if we are in breach of our obligations under, or fail to

perform any terms of, the relevant agreement and fail to cure that breach. If one or both of these agreements are terminated, then we may lose our rights to utilize the SARM and/or SARD technology and intellectual property covered by those agreements to market, distribute and sell licensed products, which may prevent us from continuing our business and may cause us to cease operations altogether.

If some or all of our or our licensor's 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 licensor owns or controls such valid and enforceable patents or trade secrets.

Even if our product candidates and the methods for treating patients for prescribed indications using these 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 licensor's 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 licensor, 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 licensor 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 licensor's 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 take many months to publish and patent applications can take many years to issue, there may be currently pending applications, unknown to us or our licensor, 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;
- 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 is 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 other toremifene-based products. Although we evaluated the potential submission of a MAA to the EMA seeking marketing approval of enobosarm 3 mg in the EU for the prevention and treatment of muscle wasting in patients with advanced NSCLC, based on input from the MHRA, we determined that the data from the POWER trials was not sufficient to support the filing and approval of a MAA without confirmatory data from another Phase 3 clinical trial of enobosarm 3 mg. As a result of this input, we elected not to submit a MAA in the absence of such confirmatory data. In addition, 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 would not accept a NDA for enobosarm 3 mg for the prevention and treatment of muscle wasting in patients with advanced NSCLC.

Additionally, there can be no assurance that the FDA will determine that the data from our ongoing or potential future clinical trials of enobosarm for the treatment of patients with advanced AR positive breast cancer 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 or potential future clinical trials of enobosarm, which could require us to abandon the development of enobosarm.

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 this Annual Report on Form 10-K 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.

Any products that we and/or any potential collaborators may develop, including enobosarm, 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 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, both governmental and private. 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, or Healthcare Reform Act. This health care reform legislation, among other initiatives, 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.

The future of the Healthcare Reform Act is currently uncertain. The Trump administration and Republican members of Congress recently introduced a plan to repeal and replace a number of provisions in the Healthcare Reform Act, including, for example, repeal of the individual mandate requiring most individuals to obtain health insurance or pay a tax penalty and significant changes to Medicaid coverage and funding. A repeal of significant portions of the Healthcare Reform Act would likely have a far-reaching effect on healthcare coverage and reimbursement. We cannot, however, predict the ultimate form, success or impact on the profitability of our product candidates of such a repeal and replace legislative initiative.

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 health care reform, as evidenced by the initial enactment of as well as the current proposed repeal and replacement of the Healthcare Reform Act in the United States. Aside from any repeal of the Healthcare Reform Act, 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. For example, there has been increasing legislative and enforcement interest in the United States with respect to specialty drug pricing practices. Specifically, there have been several recent U.S. Congressional inquiries and legislative and administrative initiatives at the federal and state levels intended to, among other things, bring more transparency to drug pricing and modify government program reimbursement for drugs. We cannot predict what health care reform initiatives may be adopted in the future. Further federal, state and foreign legislative and regulatory developments are likely, and we expect ongoing initiatives to increase pressure on drug pricing, which 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.

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 $25 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 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. We are developing enobosarm for the treatment of patients with advanced AR positive breast cancer. To our knowledge, no other SARMs are currently in development for the treatment of advanced AR positive breast cancer; however, other companies with SARMs in development for muscle wasting and cachexia could enter into a breast cancer program in the future. For example, Radius Health, Inc. has stated that it may test its SARM compound, RAD140, in a breast cancer indication in the future. A number of other compounds targeting the androgen axis in breast cancer could compete with enobosarm if one or more are approved for commercial sale in the indications for which enobosarm is being developed. 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. ARAs in development include XTANDI® (enzalutamide) being developed by Medivation Inc., which was recently acquired by Pfizer Inc., and Astellas Pharma, Inc., VT 464 being developed by Innocrin Pharmaceuticals Inc., and generic bicalutamide. Agents targeting pathways outside of the androgen axis also may compete with enobosarm in breast cancer as they are directed towards similar patient populations that may benefit from enobosarm. In ER positive breast cancer, a number of targeted therapies are being developed to be used in combination with other hormonal agents. These therapies include CDK 4/6 inhibitors (palbociclib being developed by Pfizer has recently been approved by FDA, and ribociclib (Novartis)

and abemaciclib (Lilly) are in Phase III trials), PI3K/AKT inhibitors (BKM120 and BYL719 being developed by Novartis, Taselisib being developed by Roche), and mTOR inhibitors (Everolimus being developed by Novartis (FDA approved)). In ER positive breast cancer, new selective estrogen receptor modulators and selective estrogen receptor degraders targeting the estrogen receptor are in development, including GDC-0910 (Roche), RAD 1901 (Radius Pharmaceuticals), and AZD9496 (Astra Zeneca). Additionally, we initiated a proof of concept study in advanced AR positive TNBC patients for which there are no currently approved therapies, beyond chemotherapy. However, a number of approaches for the treatment of TNBC are currently under investigation. Agents also targeting the androgen axis include XTANDI® (enzalutamide) being developed by Pfizer and Astellas Pharma, orteronel (TAK-700) being developed by Takeda, VT 464 being developed by Innocrin, and CR-1447 being developed by Curadis. Only a subset of the total TNBC population is AR positive; therefore, agents targeting TNBC as a whole may also compete with enobosarm if approved for commercial sale. These agents include: PI3K/AKT inhibitors (BKM120 and BYL719 being developed by Novartis, Taselisib being developed by Roche), IL6/JAK/Stat inhibitors (ruxolitinib being developed by Incyte), mTOR inhibitors (Everolimus being developed by Novartis), EGFR inhibitor (Neratinib being developed by Puma), and PARP inhibitors (Velaparib being developed by AbbVie), PD-1 inhibitors (pembrolizumab) being developed by Merck & Co. and MPDL3280A being developed by Roche.

We initiated a Phase 2 proof-of-concept clinical trial of enobosarm to treat postmenopausal women with SUI. There are a variety of treatments that may be used for SUI in women; however, currently, there are no available oral agents approved for the treatment of SUI. Behavioral modification and pelvic floor physical therapy are common initial treatment approaches. Bulking agents, including carbon coated beads (Durasphere® marketed by Coloplast Corp), calcium hydroxlapatite (Coaptite® marketed by BioForm Medical, Inc.) and silicon (Macroplastique® marketed by Cogentix Medical), can be injected into or around the urethra for treating intrinsic sphincter deficiency, a cause of SUI symptoms. Biologic bulking agents including patient-derived adipose stem cells and autologous muscle-derived stem cells (Cook Myosite) are being developed. Recently, an over-the-counter vaginal pessary (Impressa® marketed by Kimberly-Clark) has been approved for the temporary management of urine leakage in women with SUI. Finally, surgical procedures (e.g. sling; bladder neck suspension) have been demonstrated to be effective in some women.

We are also exploring the potential of SARMs to treat DMD. DMD is a rare genetic disorder which currently has no cure and leads to a progressive weakening of all the muscles in the body. A number of drugs are in various stages of development by pharmaceutical companies to meet the unmet medical need in DMD. These drugs may compete for patient enrollment during the clinical trial phase, should we be able to advance the development of SARMs as a potential treatment of DMD, or commercially if approved. The most advanced development is by those companies who are targeting the genetic mutation with exon skipping or codon blocking therapies including eteplirsen by Sarepta Therapeutics Inc. (which recently received FDA approval) and DS-1541b, by Daiichi Sankyo Co. Marathon Pharmaceuticals LLC recently received FDA approval for a glucocorticoid, deflazacort, which was recently acquired from Marathon by PTC Therapeutics. Santhera Pharmaceuticals has completed a Phase 3 trial with a synthetic analog of coenzyme Q_{10}, idebenone. Eli Lilly and Company completed a Phase 3 trial with tadalafil, a PDE5 inhibitor, although the study did not meet its primary endpoint. Pfizer Inc. is developing its anti-myostatin monoclonal antibody, PF-06252616, and is currently in a Phase 2 trial. Bristol Myers Squibb Company is developing BMS 986089, an anti-myostatin adnectin, and currently has a Phase 2 trial ongoing. Italfarmco S.p.A. has a Phase 2 trial ongoing with givinostat, an HDAC inhibitor. Summit Therapeutics PLC has initiated a Phase 2 trial with ezutromid, an utrophin upregulator. Cardero Therapeutics Inc. is planning a Phase 2 trial with epicatechin, a flavanol. In addition, Akashi Therapeutics is developing two compounds for DMD, one of which is a SARM. Tarix Orphan is developing TXA127, an angiotensin 1-7 peptide. Fibrogen is developing FG-3019, a monoclonal antibody which inhibits connective tissue growth factor. Catabasis Pharmaceuticals Inc. is

developing CAT-1004, an NF-KB inhibitor. ReveraGen Biopharma Inc. plans to begin Phase 2 trials in DMD with VPB 15, a novel glucocorticoid. Capricor Therapeutics has initiated a Phase 1/2 trial with CAP 1002, cardiosphere derived cells.

We have entered into an exclusive worldwide license agreement with UTRF to develop its proprietary SARD technology which we believe has the potential to provide compounds that can degrade multiple forms of the AR by inhibiting tumor growth in patients with CRPC, including those patients who do not respond or are resistant to current therapies. Drugs in commercial development having potentially similar approaches to removing the AR by degradation include Arvinas Inc.'s ARV-330, which is a chimera with an AR binding moiety on one end and an E3 ligase recruiting element on the other that is in preclinical development for the treatment of advanced prostate cancer and Androscience Corporation's androgen receptor degrader enhancer, or ARD, which is currently in development for acne and alopecia with the potential for development as a treatment for prostate cancer. Additionally, Essa Pharma Inc. is beginning early studies with EPI-506, an AR antagonist that targets the N-terminal domain of the AR. C4 Therapeutics, Inc. is developing degronimids as means to degrade the AR through the ligand binding domain associated degradation. CellCentric is developing therapies that target the histone methyltransferase enzyme to lower AR levels and Oric Pharmaceuticals is targeting the glucocorticoid receptor as a means to impact men that have CRPC. In addition to this specific potential mechanistic competition, there are various products approved or under clinical development in the broader space of treating men with advanced prostate cancer who have metastatic CRPC which may compete with our proposed initial clinical objective for our SARD compounds. Pfizer and Astellas Pharma market XTANDI® (enzalutamide), an oral androgen receptor antagonist, for the treatment of metastatic CRPC in men previously treated with docetaxel as well as those that have not yet received chemotherapy. Zytiga®, sold by Johnson & Johnson, has been approved for the treatment of metastatic CRPC. Similarly, Johnson & Johnson acquired Aragon Pharmaceuticals, Inc., which developed a second generation anti-androgen apalutamide (ARN-509) that is currently being evaluated in Phase 3 studies in men with progressive, advanced prostate cancer. Bayer HealthCare and Orion Corporation are currently performing a Phase 3 study of darolutamide (ODM-201) in men with CRPC without metastases and with a rising PSA examining safety and efficacy by measuring metastatic free survival. In addition to targeting the androgen receptor, therapeutic approaches are being developed to target the progesterone receptor in these patients by Arno Therapeutics Inc.

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 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, Growth and Other Aspects of Operations

Management transition creates uncertainties and could harm our business.

Over the past few years, we have experienced significant changes in executive leadership, and more could occur. For example, on April 3, 2014, Marc S. Hanover was appointed as our interim Chief Executive Officer and on February 12, 2015, Mr. Hanover was appointed as our permanent Chief Executive Officer. Also, on March 2, 2015, Robert J. Wills was appointed as our Executive Chairman and effective July 13, 2015, Diane C. Young joined us as our Vice President, Chief Medical Officer.

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. In any event, changes in our organization as a result of executive management transition may have a disruptive impact on our ability to implement our strategy and could have a material adverse effect on our business, financial condition and results of operations.

Our internal computer and information technology systems, or those of our CROs or other contractors or consultants, may fail or suffer security breaches, or could otherwise face serious disruptions, which could result in a material disruption of our product development efforts.

Despite the implementation of security measures, our internal computer systems and those of our CROs and other contractors and consultants are vulnerable to damage from computer viruses, unauthorized access, natural disasters, terrorism, and telecommunication and electrical failures. Such events could cause interruptions of our operations. For instance, the loss of preclinical data or data from our ongoing and potential future clinical trials involving our product candidates could result in delays in our development and regulatory filing efforts and significantly increase our costs. To the extent that any disruption or security breach were to result in a loss of, or damage to, our data, or inappropriate disclosure of confidential, proprietary or protected health information, we could incur liability and the development of our product candidates could be delayed. In addition, our information technology and other internal infrastructure systems, including corporate firewalls, servers, leased lines and connection to the Internet, face the risk of systemic failure that could disrupt our operations. A significant disruption in the availability of our information technology and other internal infrastructure systems could cause delays in our research and development work and could otherwise adversely affect our business.

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 former Chief Scientific Officer have resigned. Primarily as a result of our October 2013 workforce reduction, only 26 employees remained as employees of GTx as of December 31, 2016. 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 SARM and SARD programs, we may 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 SARM and SARD programs, we may need to hire experienced personnel to develop and commercialize our product candidates and to otherwise grow our business, and we may 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 December 31, 2016, we had only 26 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

The market price of our common stock has been volatile and may continue to be volatile in the future. This volatility may cause our stock price and the value of your investment to decline.

The market prices for securities of biotechnology companies, including ours, have been highly volatile and may continue to be so in the future. In this regard, the closing sale price for our common stock has varied between a high of $9.50 on November 18, 2016 and a low of $4.66 on January 15, 2016 in the twelve-month period ended December 31, 2016 (such prices as adjusted to give effect to the one-for-ten reverse stock split of our outstanding common stock effected on December 5, 2016, or the Reverse Stock Split). The market price of our common stock is likely to continue to be volatile and subject to significant price and volume fluctuations. 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:

- new or continued delays in the initiation, enrollment and/or completion of our ongoing and any future clinical trials of enobosarm, or negative, inconclusive or mixed results reported in any of our ongoing and any future clinical trials of enobosarm;
- our ability to raise additional capital to carry through with our preclinical and clinical development plans, including to potentially complete our ongoing Phase 2 clinical trial of enobosarm in patients with advanced AR positive TNBC, as well as our current and future operations, and the terms of any related financing arrangements;
- reports of unacceptable incidences of adverse events observed in any of our ongoing clinical trials of enobosarm;
- announcements regarding further cost-cutting initiatives or restructurings;
- uncertainties created by our past 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;
- 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 our clinical trials, including regulatory actions requiring or leading to a delay or stoppage of our ongoing clinical trials;
- 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;
- 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;
- The low trading volume of our common stock;
- changes in accounting principles; and
- additional losses of any of our key scientific or management personnel.

In addition, the stock markets in general, and the markets for biotechnology and pharmaceutical stocks in particular, have experienced significant volatility that has often been unrelated to the operating performance of particular companies. For example, negative publicity regarding drug pricing

and price increases by pharmaceutical companies, including as a result of statements on drug pricing by the Trump Administration, has negatively impacted, and may continue to negatively impact, the markets for biotechnology and pharmaceutical stocks. Likewise, as a result of significant changes in U.S. social, political, regulatory and economic conditions or in laws and policies governing foreign trade and health care spending and delivery, including the repeal and/or replacement of all or portions of the Healthcare Reform Act or greater restrictions on free trade stemming from Trump Administration policies, the financial markets could experience significant volatility that could also negatively impact the markets for biotechnology and pharmaceutical stocks. 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 December 31, 2016, our executive officers, directors and holders of 5% or more of our outstanding common stock, including their affiliated or associated entities, held approximately 76.8% of our outstanding common stock, and our executive officers and directors alone, including their affiliated or associated entities, held approximately 37.5% of our outstanding common stock as well as warrants to purchase up to an additional 2.5 million shares of 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 Capital Market. The NASDAQ Stock Market LLC, or NASDAQ, has minimum requirements that a company must meet in order to remain listed on The NASDAQ Capital Market. These requirements include maintaining a minimum closing bid price of $1.00 per share, or the Bid Price Requirement, and the closing bid price of our common stock has in the past been well below $1.00 per share. In this regard, on December 23, 2015, we received a letter from the staff, or Staff, of NASDAQ providing notification that, for the previous 30 consecutive business days, the closing bid price for our common stock was below the minimum $1.00 per share requirement for continued listing on The NASDAQ Capital Market, or the Bid Price Requirement. The notification had no immediate effect on the listing of our common stock. In accordance with NASDAQ listing rules, we were afforded 180 calendar days, or until June 20, 2016, to regain compliance with the Bid Price Requirement. On June 21, 2016, we received a letter from the Staff notifying us that we were eligible for an additional 180 calendar day period, or until December 19, 2016, to regain compliance with the minimum $1.00 Bid Price Requirement. In the letter, the Staff noted that our common stock had not regained compliance with the Bid Price Requirement during the initial 180-day compliance period that ended on June 20, 2016 and that we had submitted written notice of our intention to cure the Bid Price Requirement deficiency by effecting a reverse stock split prior to December 19, 2016, if necessary. On December 5, 2016, we effected the Reverse Stock Split, the primary purpose of which was to enable us to regain compliance with the Bid

Price Requirement, which compliance was regained on December 20, 2016. However, there can be no assurance that the market price of our common stock will remain in excess of the $1.00 minimum bid price for a sustained period of time. In any event, there can be no assurance that we will continue to meet the Bid Price Requirement, or any other NASDAQ continued listing requirement, in the future. If we fail to meet these requirements, including the Bid Price Requirement and requirements to maintain minimum levels of stockholders' equity or market values of our common stock, 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. We completed a study through December 31, 2014 to determine whether any Section 382 limitations exist and, as a result of this study and our analysis of subsequent ownership changes, we do not believe that any Section 382 limitations exist through December 31, 2016. 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, our recent registered direct offering of our common stock, future equity offerings and/or 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 15% or more 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 15% or more 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 December 31, 2016, the average daily trading volume of our common stock on The NASDAQ Capital Market was only 14,829 shares (as adjusted to give effect to the Reverse Stock Split). 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 December 31, 2016, we had 15,919,572 shares of common stock outstanding. In addition, as a result of the low trading volume of our common stock, which was exacerbated by the Reverse Stock Split, the trading of relatively small quantities of shares by our stockholders may disproportionately influence the market price of our common stock in either direction. The price for our shares could, for example, decline significantly in the event that a large number of our common shares are sold on the market without commensurate demand, as compared to an issuer with a higher trading volume that could better absorb those sales without an adverse impact on its stock price.

In October 2016, we completed a registered direct offering in which we sold 1.7 million shares of our common stock (as adjusted to give effect to the Reverse Stock Split). In November 2014, we completed a private placement of 6.4 million shares of our common stock and warrants to purchase 6.4 million shares of our common stock (as adjusted to give effect to the Reverse Stock Split). Similarly, in March 2014 we completed a private placement of 1.2 million shares of our common stock and warrants to purchase 1.0 million shares of our common stock (as adjusted to give effect to the Reverse Stock Split). Pursuant to the terms of a registration rights agreement we entered into in connection with the March 2014 private placement, we filed a registration statement under the Securities Act registering the resale of the 1.2 million shares of common stock we issued to the investors in the March 2014 private placement, which include J.R. Hyde, III, our largest stockholder, as well as the 1.0 million shares of common stock underlying the warrants we issued to those investors (which warrants subsequently expired unexercised). Likewise, pursuant to the terms of the securities purchase agreement we entered into in connection with the November 2014 private placement, we filed registration statements under the Securities Act registering the resale of the 6.4 million shares of common stock we issued to the investors in the November 2014 private placement, which included J.R. Hyde, III, as well as the additional 6.4 million shares of common stock subject to the warrants we issued to the investors in the November 2014 private placement. 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 790,000 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 investors in our 2014 private placements or in our 2016 registered direct offering of common stock, were to sell large blocks of shares in a short period of time, the market price of our common stock could drop substantially.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

We sublease approximately 26,000 square feet of office space located at 175 Toyota Plaza, Memphis, Tennessee, under an operating lease which expires on April 30, 2018. We believe that our facilities are currently adequate to meet our needs.

ITEM 3. LEGAL PROCEEDINGS

We are not currently involved in any material legal proceedings.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market for Registrant's Common Equity

Our common stock began trading on The NASDAQ Global Market under the symbol "GTXI" on February 3, 2004 and was transferred to The NASDAQ Capital Market on March 19, 2015. The following table presents, for the periods indicated, the high and low intraday sales prices per share of our common stock (as adjusted to give effect to the one-for-ten reverse stock split of our outstanding common stock effected on December 5, 2016) as reported on The NASDAQ Global Market prior to March 19, 2015 and The NASDAQ Capital Market subsequent to that date.

	2016		2015	
	High	Low	High	Low
First Quarter	$ 8.00	$ 2.90	$ 8.40	$ 6.00
Second Quarter	8.00	5.00	15.90	6.50
Third Quarter	11.19	5.00	15.90	6.60
Fourth Quarter	9.90	5.14	11.70	6.20

On March 17, 2017, the closing price of our common stock as reported on The NASDAQ Capital Market was $5.10 per share and there were approximately 81 holders of record of our common stock.

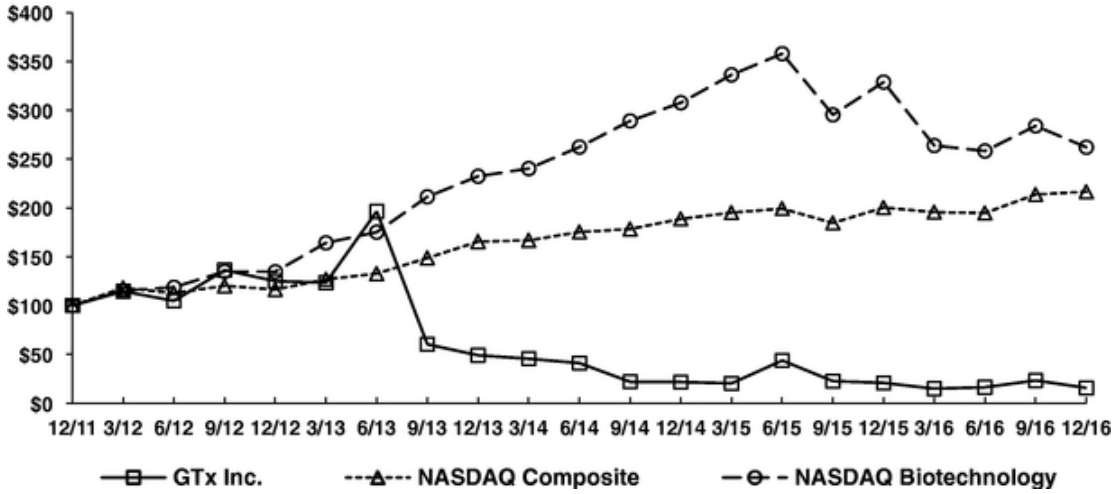
Performance Graph[1]

The rules of the SEC require that we include in our annual report to stockholders a line-graph presentation comparing cumulative stockholder returns on our common stock with a broad equity market index that includes companies whose equity securities are traded on the NASDAQ and either a published industry or line-of-business standard index or an index of peer companies selected by us. We have elected to use The NASDAQ Composite Index (which tracks the aggregate price performance of equity securities of companies traded on NASDAQ Stock Market) and The NASDAQ Biotechnology Index (consisting of a group of approximately 164 companies in the biotechnology sector) for purposes of the performance comparison that appears below.

The following graph shows the cumulative total stockholder return assuming the investment of $100.00 at the closing prices on December 31, 2011 on The NASDAQ Capital Market for: (1) our common stock; (2) The NASDAQ Composite Index and (3) The NASDAQ Biotechnology Index. All values assume reinvestment of the full amounts of all dividends. No dividends have been declared on our common stock. The closing sale price of our common stock on December 30, 2016 as reported on The NASDAQ Capital Market was $5.28.

The stockholder return shown on the graph below is not necessarily indicative of future performance, and we do not make or endorse any predictions as to future stockholder returns.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN*
Among GTx Inc., the NASDAQ Composite Index, and the NASDAQ Biotechnology Index



*$100 invested on 12/31/11 in stock or index, including reinvestment of dividends. Fiscal year ending December 31.

[1] The material in this section is not "soliciting material," is not deemed filed with the SEC and is not to be incorporated by reference in any filing of GTx, Inc. under the Securities Act of 1933 or the Securities Exchange Act of 1934 whether made before or after the date hereof and irrespective of any general incorporation language in such filing.

Dividend Policy

We have never declared or paid any cash dividends on our capital stock. We currently intend to retain any future earnings to fund the development and expansion of our business, and therefore we do not anticipate paying cash dividends on our common stock in the foreseeable future. Any future determination to pay dividends will be at the discretion of our Board of Directors.

ITEM 6. SELECTED FINANCIAL DATA

You should read the selected financial data below in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the audited financial statements, notes thereto and other financial information included elsewhere in this Annual Report on Form 10-K. The following selected financial data have been derived from our audited historical financial statements, certain of which are included elsewhere in the Annual Report on Form 10-K. Historical results are not indicative of the results to be expected in the future.

	Years Ended December 31,				
	2016	2015	2014	2013	2012
	(in thousands, except per share data)				
Statement of Operations Data:					
Expenses:					
Research and development expenses	$ 17,228	$ 13,607	$ 20,870	$ 32,318	$ 38,887
General and administrative expenses	8,705	8,234	9,478	11,281	10,845
Total expenses	25,933	21,841	30,348	43,599	49,732
Loss from operations	(25,933)	(21,841)	(30,348)	(43,599)	(49,732)
Other income (expense), net	46	57	(259)	1,488	(19)
Gain (loss) on change in fair value of warrant liability (a)	8,163	3,081	(8,804)	-	-
Loss from operations before income taxes	(17,724)	(18,703)	(39,411)	(42,111)	(49,751)
Income tax benefit	-	-	-	-	8,821
Net loss from continuing operations	(17,724)	(18,703)	(39,411)	(42,111)	(40,930)
Income from discontinued operations before income taxes	-	-	-	-	22,676
Income tax expense	-	-	-	-	(8,821)
Net income from discontinued operations	-	-	-	-	13,855
Net loss	$ (17,724)	$ (18,703)	$ (39,411)	$ (42,111)	$ (27,075)
Net loss per share — basic and diluted: (b)					
Net loss from continuing operations	$ (1.22)	$ (1.33)	$ (4.82)	$ (6.68)	$ (6.52)
Net income from discontinued operations	-	-	-	-	2.21
Net loss per share — basic	$ (1.22)	$ (1.33)	$ (4.82)	$ (6.68)	$ (4.31)
Net loss per share — diluted	$ (1.22)	$ (1.47)	$ (4.82)	$ (6.68)	$ (4.31)

	As of December 31,				
	2016	2015	2014	2013	2012
	(in thousands)				
Balance Sheet Data:					
Cash, cash equivalents and short-term investments (c)	$ 21,869	$ 29,256	$ 49,295	$ 14,729	$ 56,089
Working capital	19,687	1,717	17,359	10,604	47,320
Total assets	24,502	32,031	50,651	15,605	57,774
Accumulated deficit	(531,198)	(513,474)	(494,771)	(455,360)	(413,249)
Total stockholders' equity	19,891	1,859	17,829	10,684	47,701

(a) The gain (loss) on the change in fair value of warrant liability is related to the private placement of warrants completed in November 2014. See Note 6, *Stockholders' Equity*, for further information.

(b) Net loss per share — basic and diluted disclosures have been adjusted to give effect to the one-for-ten reverse stock split of our outstanding common stock effected on December 5, 2016.

(c) Cash, cash equivalents and short-term investments for the year ended December 31, 2016 includes the net proceeds of $13.7 million received from the registered direct offering of common stock completed in October 2016. Cash, cash equivalents and short-term investments for the year ended December 31, 2014 includes the net proceeds of $21.1 million and $42.8 million received from the private placements of common stock and warrants completed in March and November 2014, respectively. See Note 6, *Stockholders' Equity*, for further information.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis should be read in conjunction with our financial statements and related notes included elsewhere in this Annual Report on Form 10-K. This discussion contains forward-looking statements based upon current expectations that involve risks and uncertainties. Our actual results and the timing of selected events could differ materially from those anticipated in these forward-looking statements as a result of several factors, including those set forth under Part I, Item 1A "Risk Factors" and elsewhere in this Annual Report on Form 10-K. See "Special Note Regarding Forward-Looking Statements" in this Annual Report on Form 10-K.

On December 5, 2016, we effected a one-for-ten reverse stock split of our outstanding common stock, or the Reverse Stock Split. At the effective time of the Reverse Stock Split, every ten shares of our issued and outstanding common stock was automatically combined and reclassified into one issued and outstanding share of common stock. No fractional shares of our common stock were issued in the Reverse Stock Split, but in lieu thereof, each holder of our common stock who would otherwise have been entitled to a fraction of a share of our common stock in the Reverse Stock Split received a cash payment. In addition, as a result of the Reverse Stock Split, proportionate adjustments were made to the per share exercise price and/or the number of shares issuable upon the exercise or vesting of all stock options, restricted stock units and warrants issued by GTx and outstanding immediately prior to the effective time of the Reverse Stock Split, which resulted in a proportionate decrease in the number of shares of our common stock reserved for issuance upon exercise or vesting of such stock options, restricted stock units and warrants, and, in the case of stock options and warrants, a proportionate increase in the exercise price of all such stock options and warrants. In addition, the number of shares reserved for issuance under our equity compensation plans immediately prior to the effective time of the Reverse Stock Split was reduced proportionately. Unless otherwise noted, all share and per share information included in this report has been retroactively adjusted to give effect to the Reverse Stock Split.

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, and other serious medical conditions. Our current strategy is focused on the further development of selective androgen receptor modulators, or SARMs, a class of drugs that we believe has the potential to be used as a hormonal therapy for the treatment of advanced breast cancer, as well as the potential to treat other serious medical conditions where unmet medical needs in muscle-related diseases may benefit from increasing muscle mass, such as stress urinary incontinence, or SUI, and Duchenne muscular dystrophy, or DMD. In 2015, we entered into an exclusive worldwide license agreement with the University of Tennessee Research Foundation, or UTRF, to develop its proprietary selective androgen receptor degrader, or SARD, technology, which we believe has the potential to provide compounds that can degrade multiple forms of androgen receptor, or AR, by inhibiting tumor growth in patients with progressive castration-resistant prostate cancer, or CRPC, including those patients who do not respond to or are resistant to current therapies.

Business Highlights

Our lead SARM candidate, enobosarm (GTx-024), has to date been evaluated in 24 completed or ongoing clinical trials, including in six Phase 2 and two Phase 3 clinical trials, enrolling over 1,700 subjects, of which approximately 1,200 subjects were treated with enobosarm. 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 in 2014 positive results from a Phase 2 proof-of-concept, open-label clinical trial evaluating a 9 mg oral daily dose of enobosarm for the treatment of patients with estrogen receptor, or ER, positive and AR positive metastatic breast cancer who have previously responded to hormonal therapy. During the second half of 2015, we commenced enrollment in both a Phase 2 clinical trial designed to evaluate the efficacy and safety of a 9 mg and 18 mg dose of enobosarm in patients whose advanced breast cancer is both ER positive and AR positive and a Phase 2 proof-of-concept clinical trial designed to evaluate the efficacy and safety of an 18 mg dose of enobosarm in patients with advanced AR positive triple-negative breast cancer, or TNBC. Both of these clinical trials are being conducted utilizing a Simon's two-stage trial design. The Phase 2 clinical trial evaluating enobosarm in patients with ER positive, AR positive advanced breast cancer has completed enrollment of both stages of the clinical trial for both dose cohorts. We announced in November 2016 that enobosarm achieved the pre-specified primary efficacy endpoint in the 9 mg dose cohort. We expect to report top-line clinical results from this clinical trial in the third quarter of 2017. In our trial evaluating enobosarm in patients with advanced AR positive TNBC, we anticipate having sufficient data from the first stage of this trial in the second quarter of 2017 to allow us to make a determination as to whether we will continue the clinical trial and enroll patients into the second stage of this study. However, due to the slow rate of patient enrollment in this trial, our current capital resources may not be sufficient to enable us to complete the second stage of the TNBC trial, in which case, we may be unable or unwilling to enroll patients into the second stage of this trial even if we determine that the first stage milestone has been met.

We are also evaluating enobosarm and other compounds in our SARM portfolio for indications outside of oncology where unmet medical needs in muscle-related diseases may benefit from increasing muscle mass. In the first quarter of 2016, we initiated a Phase 2 proof-of-concept clinical trial of enobosarm to treat postmenopausal women with SUI. This is the first clinical trial to evaluate a SARM for the treatment of SUI. We currently anticipate obtaining data from this clinical trial in the third quarter of 2017 sufficient to enable us to determine if continued development of enobosarm in SUI is warranted. Continued development of enobosarm in SUI apart from our ongoing Phase 2 proof-of-concept clinical trial will require us to obtain additional funding. We have also evaluated several SARM compounds in preclinical models of DMD where a SARM's ability to increase muscle mass may prove beneficial to patients suffering from DMD, which is a rare disease characterized by progressive muscle degeneration and weakness.

With respect to SARDs, we believe this class of assets has the potential to treat prostate cancer, as well as other diseases such as benign prostatic hyperplasia and Kennedy's disease. We envision initially developing SARDs as a potentially novel treatment for men with CRPC, including those who do not respond or are resistant to currently approved therapies. Our evaluation of the SARD program is at an early stage. We are currently implementing an appropriate development program for SARDs and have selected lead SARD compounds that are undergoing further preclinical development, including formulation, pharmacokinetic and toxicology studies, required to support potential initial human clinical trials. While we plan to initiate a first in human clinical trial during the second half of 2017, we will require additional funding to initiate and complete any such clinical trial.

Our ability to pursue the continued development of SARMs and our SARD program is contingent upon our ability to obtain additional funding. Accordingly, we are actively seeking additional funding through the licensing, partnering or sale of certain assets to provide us the necessary resources for the development of our preclinical and clinical product candidates. We have discussions ongoing with several potential collaboration partners who have expressed interest in our SARM compounds for the treatment of breast cancer, SUI, and/or DMD, as well as our SARD technology.

Financial Highlights

Our net loss for the year ended December 31, 2016 was $17.7 million. We expect to incur significant operating losses for the foreseeable future as we continue our preclinical and clinical development activities and potentially seek 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 product revenue for the foreseeable future. We do not expect to obtain any 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 December 31, 2016, we had cash, cash equivalents and short-term investments of $21.9 million compared to $29.3 million at December 31, 2015. On October 14, 2016, we completed a registered direct offering of our common stock, in which we sold 1.7 million shares of our common stock for net proceeds to us of approximately $13.7 million.

Based on our current business plan and assumptions, 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 fourth quarter of 2017. Accordingly, we will need to raise substantial additional capital in the near term in order to fund our operations through and beyond the fourth quarter of 2017 and to continue as a going concern thereafter. 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. We believe, based on our current estimates of clinical trial expenditures and enrollment status, that our existing capital resources will be adequate to enable us to complete our ongoing open-label Phase 2 clinical trial of enobosarm in patients with ER positive and AR positive advanced breast cancer and our ongoing Phase 2 clinical trial of enobosarm in postmenopausal women with SUI. However, our existing capital resources will not be sufficient to allow us to complete our ongoing open-label Phase 2 clinical trial of enobosarm in patients with advanced AR positive TNBC and we will otherwise need to raise substantial additional capital in order to continue developing enobosarm for any of these indications. If we determine that our existing capital resources are not sufficient to enable us to complete our ongoing open-label Phase 2 clinical trial of enobosarm in patients with advanced AR positive TNBC, we may be unable or unwilling to enroll patients into the second stage of this trial even if we determine that the first stage milestone had been met. Accordingly, in order to enroll the second stage of and to complete this trial, we will need to obtain additional funding, which we may be unable to do in a timely manner or at all. Also, our clinical trials may continue to encounter technical, enrollment or other difficulties that could increase our development costs beyond our current estimates or delay our development timelines, and we could otherwise exhaust our available financial resources sooner than we expect. In any event, we need to raise substantial additional capital in order to:

- potentially enroll the second stage of and complete our ongoing open-label Phase 2 clinical trial of enobosarm in patients with advanced AR positive TNBC;

- undertake any further development of our SARMs beyond our ongoing Phase 2 clinical trials of enobosarm in breast cancer and SUI and our ongoing preclinical development activities related to the development of SARMs as a potential treatment for DMD;

- initiate and complete human clinical studies of our SARD program; and
- fund our operations and to continue as a going concern.

In addition, the accompanying financial statements have been prepared assuming that we will continue as a going concern. Accordingly, 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. However, because 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 fourth quarter of 2017, there is doubt raised about our ability to continue as a going concern. While we believe that we have the ability to successfully implement plans to mitigate the conditions that may raise doubt about our ability to continue as a going concern within one year after the date of this report, such plans include reducing or delaying expenditures by postponing or discontinuing planned clinical or preclinical development and implementing cost saving measures related to other research and development and general and administrative expenditures, which plans, if implemented, would materially harm our business. In any event, if we are unable to raise additional funds in the near term to fund our operations through and beyond the fourth quarter of 2017 and to continue as a going concern thereafter, we could be required to, among other things, make further reductions in our workforce, eliminate our ongoing AR positive TNBC clinical trial, discontinue further development of enobosarm and/or SARDs, 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.

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 product revenue for the foreseeable future. We also do not have any commitments for future external funding. Accordingly, we expect to continue our efforts to seek additional funds through potential collaboration, partnering or other strategic arrangements, 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 our POWER 1 and POWER 2 Phase 3 clinical trials of enobosarm for the prevention and treatment of muscle wasting in patients with advanced non-small cell lung cancer, or NSCLC, to meet the primary statistical criterion for the co-primary endpoints agreed upon with the FDA, and may in the future be adversely impacted by the uncertainty regarding the prospects of our development of enobosarm for the treatment of patients with advanced AR positive breast cancer and our ability to advance the development of enobosarm or SARDs, if at all. 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, recent and potential future management turnover, and continued volatility and instability in the global financial markets. 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 and supplies 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. Assuming we raise additional capital in the near term to fund our operations through the fourth quarter of 2017, we

expect that our research and development expenses for fiscal year 2017 will remain relatively consistent as compared to fiscal year 2016 primarily due to our ongoing Phase 2 clinical trials of enobosarm in two different breast cancer indications targeting the androgen receptor and for the treatment of SUI and ongoing preclinical development of the SARD program.

There is a substantial risk that any development program may not produce revenue. Moreover, because of uncertainties inherent in drug development, including those factors described in Part I, Item 1A "Risk Factors" of this Annual Report on Form 10-K, we and/or potential future collaborators may not be able to successfully develop and commercialize any of our product candidates.

The successful development and commercialization of our product candidates is highly uncertain. We cannot reasonably estimate or know the nature, timing and estimated costs of the efforts necessary to complete the development and commercialization of, or the period in which material net cash inflows are expected to commence from, any of our product candidates due to the numerous risks and uncertainties associated with developing and commercializing drugs, including the uncertainty of:

- the scope, rate of progress and cost of our preclinical and clinical development programs, including our ongoing and any future clinical trials of enobosarm;
- 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;
- 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.

Any failure to complete the development of our product candidates in a timely manner could have a material adverse effect on our operations, financial position and liquidity. A discussion of the risks and uncertainties associated with completing our development efforts on schedule, or at all, and some consequences of failing to do so, are set forth under Part I, Item 1A "Risk Factors" of this Annual Report on Form 10-K.

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. We expect our general and administrative expenses for fiscal year 2017 to be relatively consistent with fiscal year 2016.

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 financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States of America. 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 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, valuation of warrants, income taxes, intangible assets, long-term service contracts, share-based compensation, 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 at the end of this Annual Report on Form 10-K, we believe that the following accounting policies are most critical to aid you in fully understanding and evaluating our reported financial results.

Warrant Liability

In November 2014, we issued warrants to purchase 6,430,948 shares of our common stock. At that time, we classified these warrants as a liability on our balance sheet since the warrants contained certain terms that could have required us (or our successor) to purchase the warrants for cash in an amount equal to the value (as calculated utilizing a contractually-agreed Black-Scholes-Merton option pricing valuation model) of the unexercised portion of the warrants in connection with certain change of control transactions occurring on or prior to December 31, 2016, with such cash payment capped at an amount equal to $1.25 per unexercised share underlying each warrant. As a result of the provision of the warrant requiring cash settlement upon certain change of control transactions, we were required to account for these warrants as a liability at fair value and the estimated warrant liability was required to be revalued at each balance sheet date until the earlier of the exercise of the warrants, the modification to remove the provision that could require cash settlement upon certain change of control transactions or the expiration of such provision on December 31, 2016. Effective March 25, 2016, each of the warrants was amended by agreement of the warrant holders to remove the provision that could require cash settlement upon certain change of control transactions. These warrants were no longer accounted for as a liability at March 31, 2016. We recorded a non-cash reclassification of the warrant fair value to stockholders' equity based on the warrants' fair value as of the March 25, 2016 modification date, with no further adjustments to the fair value of these warrants being required.

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.

Share-Based Compensation

We have stock option and equity incentive plans that provide for the purchase or acquisition of our common stock by certain of our employees and non-employees. We measure 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 stock options 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 restricted stock units, or RSUs, granted to employees. We estimate the fair value of RSUs using the closing price of our stock on the grant date. The fair value of RSUs is amortized on a straight-line basis over the requisite service period of the awards. The amount of share-based compensation expense recognized is reduced ratably over the vesting period by an estimate of the percentage of RSUs granted that are expected to be forfeited or canceled before becoming fully vested.

The following table summarizes share-based compensation expense included within the statements of operations for the years ended December 31, 2016, 2015 and 2014:

	Years ended December 31,		
	2016	2015	2014
	(in thousands)		
Research and development expenses	$ 1,260	$ 1,210	$ 2,512
General and administrative expenses	1,829	1,523	2,041
Total share-based compensation	$ 3,089	$ 2,733	$ 4,553

Share-based compensation expense recorded in the statement of operations as general and administrative expense for the years ended December 31, 2016, 2015 and 2014 included share-based compensation expense related to deferred compensation arrangements for our non-employee directors of $132,000, $113,000 and $125,000, respectively. At December 31, 2016, the total compensation cost related to non-vested stock options not yet recognized was approximately $3.7 million with a weighted average expense recognition period of 3.09 years. At December 31, 2016, the total compensation cost related to non-vested RSUs not yet recognized was approximately $2.0 million with a weighted average expense recognition period of 1.05 years.

Income Taxes

We account 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 December 31, 2016 and 2015, net of the valuation allowance, the net deferred tax assets were reduced to zero.

Recent Accounting Pronouncements

In March 2016, the Financial Accounting Standards Board issued Accounting Standards Update 2016-09, *Improvements to Employee Share Based Payment Accounting*. This guidance addresses the income tax effects of stock-based payments and eliminates the windfall pool concept, as all of the tax effects related to stock-based payments will now be recorded at settlement (or expiration) through the income statement. The new guidance also permits entities to make an accounting policy election for the impact of forfeitures on the recognition of expense for stock-based payment awards. Forfeitures can be estimated or recognized when they occur. The standard is effective for annual periods beginning after December 15, 2016 and interim periods within that reporting period. We believe the adoption of this guidance will not have a material impact on our financial position or results of operations.

Results of Operations

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 in future periods.

Proposed Candidate / Proposed Indication	Program	Years Ended December 31,		
		2016	2015	2014
		(in thousands)		
Enobosarm Treatment of women with ER positive / AR positive advanced breast cancer (9 mg and 18 mg)	**SARM**	$ 7,316	$ 4,885	$ 3,506
Enobosarm Treatment of women with advanced AR positive TNBC (18 mg)	**SARM**	4,853	4,945	878
Enobosarm Treatment of postmenopausal women with SUI (3 mg)	**SARM**	1,286	-	-
Enobosarm Prevention and treatment of muscle wasting in patients with advanced non-small cell lung cancer (3 mg)	**SARM**	-	-	12,025
GTx-758 Secondary hormonal therapy in men with metastatic and non-metastatic CRPC	**Selective ER alpha agonist**	699	1,667	4,201
Other research and development		3,074	2,110	260
Total research and development expenses		$ 17,228	$ 13,607	$ 20,870

Comparison of Years Ended December 31, 2016 and 2015

Research and development expenses increased 27% to $17.2 million for the year ended December 31, 2016 from $13.6 million for the year ended December 31, 2015.

Research and development expenses for enobosarm for the treatment of women with ER positive, AR positive advanced breast cancer increased for the year ended December 31, 2016 from the prior year due primarily to the timing and nature of activities related to conducting the ongoing Phase 2 clinical trial evaluating enobosarm 9 mg and enobosarm 18 mg in this indication, which commenced enrollment during the third quarter of 2015 and related to cash bonuses paid to employees upon the achievement of certain development milestones. The prior year period consisted primarily of expenses related to preparatory activities for the ongoing Phase 2 clinical trial for the treatment of women with ER positive and AR positive advanced breast cancer and expenses related to the previous Phase 2 proof-of-concept clinical trial evaluating enobosarm 9 mg in women who have previously responded to hormonal therapy for the treatment of their metastatic breast cancer.

Research and development expenses for enobosarm for the treatment of women with advanced AR positive TNBC decreased slightly for the year ended December 31, 2016 from the prior year due to the timing and nature of activities related to conducting the ongoing Phase 2 clinical trial, which commenced enrollment during the fourth quarter of 2015. The prior year period consisted primarily of expenses related to preparatory activities for this clinical trial.

Research and development expenses for enobosarm for the treatment of postmenopausal women with SUI during the year ended December 31, 2016 consisted of expenses related to the Phase 2 proof-of-concept clinical trial of enobosarm to treat postmenopausal women with SUI that initiated enrollment in the first quarter of 2016.

Research and development expenses related to the completed Phase 2 clinical trial to evaluate GTx-758 as secondary hormonal therapy in men with metastatic CRPC decreased for the year December 31, 2016 compared to the prior year due to the timing of patient activities and related management expenses as this trial was initiated in the third quarter of 2012 and enrollment was completed during the first quarter of 2015. We have determined to discontinue further development of GTx-758 and will not be making any further investments in this program.

"Other research and development" expenses for the year ended December 31, 2016 increased from the prior year primarily due to the ongoing preclinical development of our SARD compounds, that was initiated in 2015, and activities relating to evaluating enobosarm and other compounds in our SARM portfolio for indications outside of oncology.

Comparison of Years Ended December 31, 2015 and 2014

Research and development expenses decreased 35% to $13.6 million for the year ended December 31, 2015 from $20.9 million for the year ended December 31, 2014.

Research and development expenses for enobosarm for the treatment of ER positive, AR positive advanced breast cancer during the year ended December 31, 2015 consisted of expenses for preparatory activities related to, and the initiation of, the Phase 2 clinical trial evaluating enobosarm 9 mg and 18 mg for the treatment of women whose advanced breast cancer is both ER positive and AR positive, which preparatory activities began in the fourth quarter of 2014, as well as expenses related to our Phase 2 proof-of-concept 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 for the treatment of their metastatic breast cancer. The prior year consisted primarily of expenses related

to our Phase 2 proof-of-concept clinical trial evaluating enobosarm 9 mg that began in the second quarter of 2013.

Research and development expenses for enobosarm for the treatment of women with advanced AR positive TNBC increased for the year ended December 31, 2015 from the prior year due to preparatory activities related to, and the initiation of, our Phase 2 proof-of-concept clinical trial of enobosarm 18 mg for the treatment of women with advanced AR positive TNBC, which preparatory activities began in the fourth quarter of 2014.

There were no research and development expenses for enobosarm for the prevention and treatment of muscle wasting in patients with advanced NSCLC for the year ended December 31, 2016 or 2015. As we previously announced in August 2013, data from our two POWER Phase 3 clinical trials evaluating enobosarm 3 mg daily for the prevention and treatment of muscle wasting in patients with advanced NSCLC failed to meet the primary statistical criterion pre-specified for the co-primary endpoints of lean body mass and physical function, and the FDA will not accept a new drug application for enobosarm for this indication. Additionally, we subsequently determined that data from the POWER trials is not sufficient to support the filing and approval of a marketing authorization application, or MAA, by the European Medicines Agency without confirmatory data from another Phase 3 clinical trial of enobosarm 3 mg and we do not intend to submit a MAA in the absence of such confirmatory data. Accordingly, we ceased spending on this indication. The year ended December 31, 2014 included expenses for activities related to satisfying the prerequisites necessary for our then-planned regulatory submission in Europe for enobosarm 3 mg, including conducting seven Phase 1 clinical trials.

Research and development expenses related to our Phase 2 clinical trial to evaluate GTx-758 as secondary hormonal therapy in men with metastatic CRPC decreased for the year ended December 31, 2015 from the prior year due to the timing of patient activities and related management expenses as this trial was initiated in the third quarter of 2012 and enrollment was completed during the first quarter of 2015.

Additionally, research and development expenses for each product candidate in the year ended December 31, 2014 included expenses related to cash bonuses and stock option and RSU grants made to employees as part of our efforts to retain essential employees continuing with us following our October 2013 workforce reduction.

"Other research and development" expenses for the year ended December 31, 2015 increased from the prior year primarily due primarily to initial activities to identify one or more potential lead SARD compounds that could potentially be advanced into preclinical and clinical development and activities related to evaluating enobosarm and other compounds in our SARM portfolio for indications outside of oncology.

General and Administrative Expenses

General and administrative expenses increased 6% to $8.7 million for the year ended December 31, 2016 from $8.2 million for the year ended December 31, 2015. The increase in the year ended December 31, 2016 from the prior year was due primarily to cash bonuses paid to employees upon the achievement of certain development milestones of the Phase 2 clinical trial of enobosarm for the treatment of women with ER positive, AR positive advanced breast cancer. This increase was offset by decreases in insurance and legal fees from the prior year period.

General and administrative expenses decreased 13% to $8.2 million for the year ended December 31, 2015 from $9.5 million for the year ended December 31, 2014. The decrease in the year ended December 31, 2015 from the prior year was due primarily to expenses in the prior year period related to cash bonuses and stock option and RSU grants made to the employees as part of our efforts to retain essential employees continuing with us following our October 2013 workforce reduction. Additionally, insurance and legal fees decreased from the prior year period.

Other Income (Expense), Net

Other income, net for the year ended December 31, 2016 was $46,000 and consisted of foreign currency transaction gains and losses, interest earned on our cash, cash equivalents and short-term investments, and other non-operating income or expense compared to other expense, net of $57,000 for the year ended December 31, 2015. Other expense for the year ended December 31, 2014 included an allocation of the total expenses related to the private placement of common stock and warrants completed in November 2014 as the warrants issued were accounted for as a liability. The remaining expenses were reflected as a reduction of equity.

Gain (Loss) on Change in Fair Value of Warrant Liability

Until March 2016, we recognized a warrant liability due to certain provisions of the warrants issued as part of the November 2014 private placement of common stock and warrants. The warrants were required to be accounted for as a liability at fair value and the fair value was to be revalued at each balance sheet date until the earlier of the exercise of the warrants, the modification to remove the provision that could require cash settlement upon certain change of control transactions or the expiration of such provision on December 31, 2016. The resulting non-cash gain or loss on the fair value revaluation at each balance sheet date was recorded as non-operating income in our statement of operations. When the warrants were revalued at fair value as of December 31, 2014, an increase in fair value of $8.8 million was recorded for the year then ended as a non-cash loss on the change in fair value of warrant liability. When the warrants were revalued at fair value as of December 31, 2015, the decrease in fair value for the year then ended of $3.1 million was recorded as a non-cash gain on the change in fair value of warrant liability in our statement of operations.

Effective March 25, 2016, each of the warrants was amended by agreement of the warrant holders to remove the provision that could require cash settlement upon certain change of control transactions. These warrants were no longer accounted for as a liability at March 31, 2016. The Company recorded a non-cash reclassification of the warrant fair value to stockholders' equity based on the warrants' fair value as of the March 25, 2016 modification date, with no further adjustments to the fair value of these warrants being required. At that time a non-cash gain of $8.2 million was recorded on the change in fair value of the warrant liability in our statement of operations.

Liquidity and Capital Resources

We have financed our operations to date primarily through public offerings and private placements of our securities, as well as payments from our former collaborators. We have incurred significant losses since our inception in 1997 as we have devoted substantially all of our resources to research and development, including our clinical trials. As of December 31, 2016, we had an accumulated deficit of $531.2 million, which resulted primarily from:

- our research and development activities associated with:
    - the preclinical development of our SARD program;

- the preclinical and clinical development of our SARM compounds, including enobosarm;
- the preclinical and clinical development of GTx-758 for the treatment of advanced prostate cancer;
- the development of our discontinued toremifene 80 mg product candidate to reduce fractures and treat other estrogen deficiency side effects of androgen deprivation therapy in men with prostate cancer, including two Phase 2 clinical trials, a Phase 3 clinical trial, and the preparation and submission of a NDA to the FDA;
- the development of our discontinued toremifene 20 mg product candidate for the prevention of prostate cancer in high risk men with high grade prostatic intraepithelial neoplasia, including a Phase 2b clinical trial and a Phase 3 clinical trial; and
- the preclinical development of other product candidates; and

- general and administrative expenses.

We expect to incur significant operating losses for the foreseeable future as we continue our preclinical and 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. We do not expect to obtain any 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 December 31, 2016, we had cash, cash equivalents and short-term investments of $21.9 million, compared to $29.3 million at December 31, 2015 and $49.3 million at December 31, 2014.

On October 14, 2016, we completed a registered direct offering of our common stock consisting of 1.7 million shares of its common stock for net proceeds of approximately $13.7 million. The purchasers in the registered direct offering consisted of certain existing GTx stockholders and certain members of the GTx management team and board of directors.

On November 14, 2014, we completed a private placement of units consisting of an aggregate of 6.4 million shares of our common stock and warrants to purchase an aggregate of 6.4 million shares of our common stock for net proceeds of approximately $42.8 million. The purchasers in the private placement included certain existing GTx stockholders and certain members of the GTx management team and board of directors. The warrants became exercisable on May 6, 2015 and will continue to be exercisable for four years thereafter.

On March 6, 2014, we completed a private placement of units consisting of 1.2 million shares of common stock and warrants to purchase 1.0 million shares of our common stock for net proceeds of approximately $21.1 million. The purchasers in the private placement included an existing GTx stockholder and member of the GTx board of directors. The warrants, which had a one year term, expired unexercised on March 6, 2015.

The following table shows a summary of our cash flows for the periods indicated:

	Years Ending December 31,		
	2016	2015	2014
	(in thousands)		
Net cash used in operating activities	$ (20,778)	$ (20,035)	$ (28,759)
Net cash provided by (used in) investing activities	2,151	16,211	(31,220)
Net cash provided by financing activities	13,481	-	63,330
Net (decrease) increase in cash and cash equivalents	$ (5,146)	$ (3,824)	$ 3,351

Net cash used in operating activities in all periods resulted primarily from funding our operations.

Net cash provided by investing activities for the year ended December 31, 2016 primarily resulted from the maturities of short-term investments of $37.6 million offset by the purchase of short-term investments of $35.4 million. Net cash provided by investing activities for the year ended December 31, 2015 primarily resulted from the maturities of short-term investments of $71.4 million offset by the purchase of short-term investments of $55.2 million. Net cash used in investing activities for the year ended December 31, 2014 primarily resulted from purchase of short-term investments of $41.9 million, partially offset by proceeds from the maturities of short-term investments of $10.7 million.

Net cash provided by financing activities for the year ended December 2016 reflected net proceeds of $13.7 million from the issuance of common stock related to the October 2016 registered direct offering, partially offset by $208,000 of employee withholding tax payments related to vested RSUs. There was no cash provided by or used in financing activities for the year ended December 31, 2015. Net cash provided by financing activities for the year ended December 2014 reflected aggregate net proceeds of $63.9 million from the issuance of common stock and warrants related to the March and November 2014 private placements, partially offset by $617,000 of employee withholding tax payments related to vested RSUs.

Based on our current business plan and assumptions, 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 fourth quarter of 2017. Accordingly, we will need to raise substantial additional capital in the near term in order to fund our operations through and beyond the fourth quarter of 2017 and to continue as a going concern thereafter. 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. We believe, based on our current estimates of clinical trial expenditures and enrollment status, that our existing capital resources will be adequate to enable us to complete our ongoing open-label Phase 2 clinical trial of enobosarm in patients with ER positive and AR positive advanced breast cancer and our ongoing Phase 2 clinical trial of enobosarm in postmenopausal women with SUI. However, our existing capital resources will not be sufficient to allow us to complete our ongoing open-label Phase 2 clinical trial of enobosarm in patients with advanced AR positive TNBC and we will otherwise need to raise substantial additional capital in order to continue developing enobosarm for any of these indications. If we determine that our existing capital resources are not sufficient to enable us to complete our ongoing open-label Phase 2 clinical trial of enobosarm in patients with advanced AR positive TNBC, we may be unable or unwilling to enroll patients into the second stage of this trial even if we determine that the first stage milestone had been met. Accordingly, in order to enroll the second stage of and to complete this trial, we will need to obtain additional funding, which we may be unable to do in a timely manner or at all. Also, our clinical trials may continue to encounter technical,

enrollment or other difficulties that could increase our development costs beyond our current estimates or delay our development timelines, and we could otherwise exhaust our available financial resources sooner than we expect. In any event, we need to raise substantial additional capital in order to:

- potentially enroll the second stage of and complete our ongoing open-label Phase 2 clinical trial of enobosarm in patients with advanced AR positive TNBC;
- undertake any further development of our SARMs beyond our ongoing Phase 2 clinical trials of enobosarm in breast cancer and SUI and our ongoing preclinical development activities related to the development of SARMs as a potential treatment for DMD;
- initiate and complete human clinical studies of our SARD program; and
- fund our operations and to continue as a going concern.

Our estimate of the period of time or events through which our financial resources will be adequate to support our projected operating requirements is a forward-looking statement and involves risks and uncertainties, and actual results could vary as a result of a number of factors, including the factors discussed under Part I, Item 1A "Risk Factors" section of this Annual Report on Form 10-K. Because of the numerous risks and uncertainties associated with the development and potential commercialization of our product candidates and other research and development activities, including risks and uncertainties that could impact the rate of progress of our development activities, we are unable to estimate with certainty the amounts of increased capital outlays and operating expenditures associated with the future development of our product candidates, if any. Our future funding requirements will depend on many factors, including:

- the scope, rate of progress and cost of our preclinical and clinical development programs, including our ongoing and any future clinical trials of enobosarm;
- 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;
- 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 product revenue for the foreseeable future. We also do not have any commitments for future external funding. Accordingly, we expect to continue our efforts to seek

additional funds through potential collaboration, partnering or other strategic arrangements, through public or private equity offerings or debt financings, or a combination of the foregoing.

In addition, the accompanying financial statements have been prepared assuming that we will continue as a going concern. Accordingly, 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. However, because 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 fourth quarter of 2017, there is doubt raised about our ability to continue as a going concern. While we believe that we have the ability to successfully implement plans to mitigate the conditions that may raise doubt about our ability to continue as a going concern within one year after the date of this report, such plans include reducing or delaying expenditures by postponing or discontinuing planned clinical or preclinical development and implementing cost saving measures related to other research and development and general and administrative expenditures, which plans, if implemented, would materially harm our business. In any event, if we are unable to raise additional funds in the near term to fund our operations through and beyond the fourth quarter of 2017 and to continue as a going concern thereafter, we could be required to, among other things, make further reductions in our workforce, eliminate our ongoing AR positive TNBC clinical trial, discontinue further development of enobosarm and/or SARDs, 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.

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 SARMs and/or SARDs 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 completed a private placement of common stock and warrants in March 2014, which was substantially dilutive, completed a subsequent private placement in November 2014 that represented additional dilution, and we again raised additional funds by issuing shares of common stock in a registered direct offering in October 2016. 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 our two prior enobosarm POWER trials to meet the primary statistical criterion for the co-primary endpoints agreed upon with the FDA, and may in the future be adversely impacted by the uncertainty regarding the prospects of our development of enobosarm for the treatment of patients with advanced AR positive breast cancer and our ability to advance the development of enobosarm or SARDs, if at all. 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, recent and potential future management turnover, and continued volatility and instability in the global financial markets. As a result of these and other factors, we cannot be certain that additional funding will be available on acceptable terms, or at all.

Contractual Obligations

At December 31, 2016, we had contractual obligations as follows:

	Payment Due by Period (in thousands)				
Contractual Obligations[1]	**Total**	**Less than 1 year**	**1-3 years**	**4-5 years**	**More than 5 years**
Operating lease obligations[2]	$ 634	$ 475	$ 159	$ -	$ -

(1) This table does not include any royalty obligations under our SARM and SARD license agreements with UTRF as the timing and likelihood of such payments are not known. In addition to the minimum payments due under our SARM and SARD license agreements, we may be required to pay royalties on any net sales of product if we receive regulatory approval for a SARM, including enobosarm, or SARD product candidate and successfully market the product. Additionally, if we sublicense rights under our SARM or SARD license agreements, we also are obligated to pay a sublicense royalty on any licensing fee or milestone payments we may receive from a sublicensee.

(2) Our long-term commitment under the operating lease consists of payments relating to a sublease for office space at 175 Toyota Plaza, Memphis, Tennessee. The sublease for the premises at 175 Toyota Plaza expires on April 30, 2018.

Off-Balance Sheet Arrangements

We have not engaged in any off-balance sheet arrangements, including the use of standard finance, special purpose entities or variable interest entities.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Our exposure to market risk for changes in interest rates relates to our cash equivalents on deposit in highly liquid money market funds and investments in Federal Deposit Insurance Corporation insured certificates of deposit. The primary objective of our cash investment activities is to preserve principal while at the same time maximizing the income we receive from our invested cash without significantly increasing risk of loss. We do not use derivative financial instruments in our investment portfolio. The effect of a hypothetical decrease of ten percent in the average yield earned on our cash equivalents and short-term investments would have resulted in an immaterial decrease in our interest income for the year ended December 31, 2016.

In addition, we have exposure to fluctuations in certain foreign currencies in countries in which we conduct clinical trials. Most of our foreign expenses incurred are associated with initiating or conducting clinical trials for enobosarm and GTx-758 at clinical trial sites in Europe. Consequently, changes in exchange rates could result in material exchange losses and could unpredictably, materially and adversely affect our financial position, results of operations and cash flows. A hypothetical 10% increase or decrease in foreign exchange rates would result in an immaterial change in our financial assets and liabilities denominated in euros. This potential change is based on a sensitivity analysis performed on our financial position at December 31, 2016. Actual results may differ materially. We have elected not to hedge our exposure to foreign currency fluctuations.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Our financial statements and the reports of our independent registered public accounting firm are included in this Annual Report on Form 10-K beginning on page F-1. The index to these reports and our financial statements is included in Part IV, Item 15 below.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

Not applicable.

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

We maintain disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) of the Securities 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.

Management's Report on Internal Control Over Financial Reporting

We, as management of GTx, Inc., are responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Securities Exchange Act Rule 13a-15(f). Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with United States generally accepted accounting principles. Any system of internal control, no matter how well designed, has inherent limitations, including the possibility that a control can be circumvented or overridden and misstatements due to error or fraud may occur and not be detected. Also, because of changes in conditions, internal control effectiveness may vary over time. Accordingly, even an effective system of internal control will provide only reasonable assurance that the objectives of the internal control system are met.

Under the supervision and with the participation of management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2016 using the criteria for effective internal control over financial reporting as described in "Internal Control — Integrated Framework," issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Based on this evaluation, we concluded that, as of December 31, 2016, our internal control over financial reporting was effective. The effectiveness of our internal control over financial reporting has been audited by Ernst & Young LLP, independent registered public accounting firm.

Attestation Report of the Independent Registered Public Accounting Firm

Ernst & Young LLP, an independent registered public accounting firm, has issued an audit report on our internal control over financial reporting, which report is included elsewhere herein.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting during the fourth quarter of 2016 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

PART III

Certain information required by Part III is omitted from this Annual Report on Form 10-K because we will file our definitive proxy statement for our 2017 Annual Meeting of Stockholders with the U.S. Securities and Exchange Commission pursuant to Regulation 14A (the "2017 Proxy Statement") not later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K, and certain information included in the 2017 Proxy Statement is incorporated herein by reference.

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

(1) The information required by this Item concerning our directors and nominees for director, including information with respect to our audit committee and audit committee financial experts, may be found under the section entitled "Proposal No. 1 — Election of Directors" and "Additional Information About the Board of Directors and Certain Corporate Governance Matters" appearing in the 2017 Proxy Statement. Such information is incorporated herein by reference.

(2) The information required by this Item concerning compliance with Section 16(a) of the Securities Exchange Act of 1934 may be found in the section entitled "Section 16(a) Beneficial Ownership Reporting Compliance" appearing in the 2017 Proxy Statement. Such information is incorporated herein by reference.

(3) The information required by this Item concerning our executive officers is set forth in the section entitled "Management — Executive Officers of the Registrant" in Part I, Item 1 of this Form 10-K.

(4) Our Board has adopted a Code of Business Conduct and Ethics applicable to all officers, directors and employees as well as Guidelines on Governance Issues. These documents are available on our Web site (www.gtxinc.com) under "Investors" at "Corporate Governance." We will provide a copy of these documents to any person, without charge, upon request, by writing to us at GTx, Inc., Chief Legal Officer, 175 Toyota Plaza, Suite 700, Memphis, Tennessee 38103. We intend to satisfy the disclosure requirement under Item 5.05 of Form 8-K regarding an amendment to, or waiver from, a provision of the Code of Business Conduct and Ethics by posting such information on our Web site at the address and the location specified above.

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item concerning director and executive compensation is incorporated herein by reference to the information from the 2017 Proxy Statement under the sections entitled "Executive Compensation" and "Director Compensation."

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

(1) The information required by this Item with respect to security ownership of certain beneficial owners and management is incorporated herein by reference to the information from the 2017 Proxy Statement under the section entitled "Security Ownership of Certain Beneficial Owners and Management."

(2) The information required by this Item with respect to securities authorized for issuance under our equity compensation plans is incorporated herein by reference to the information from the 2017 Proxy Statement under the section entitled "Equity Compensation Plan Information."

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

(1) The information required by this Item concerning related party transactions is incorporated herein by reference to the information from the 2017 Proxy Statement under the section entitled "Related Party Transactions and Indemnification."

(2) The information required by this Item concerning director independence is incorporated herein by reference to the information from the 2017 Proxy Statement under the section entitled "Additional Information About the Board of Directors and Certain Corporate Governance Matters — Director Independence."

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this Item is incorporated herein by reference to the information from the 2017 Proxy Statement under the section entitled "Proposal No. 2 — Ratification of Appointment of Independent Registered Public Accounting Firm."

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a)(1) Index to Financial Statements

Page	Description
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F-5	Balance Sheets at December 31, 2016 and 2015
F-6	Statements of Operations for the Years Ended December 31, 2016, 2015 and 2014
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F-8	Statements of Cash Flows for the Years Ended December 31, 2016, 2015 and 2014
F-9	Notes to Financial Statements

(a)(2) Financial statement schedules are omitted as they are not applicable.

(a)(3) See Item 15(b) below.

(b) Exhibits — The following exhibits are included herein or incorporated herein by reference:

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	Certificate of Amendment of Restated Certificate of Incorporation of GTx, Inc.	10-Q	000-50549	3.4	05/11/2015
3.5	Certificate of Amendment of Restated Certificate of Incorporation of GTx, Inc.	8-K	000-50549	3.1	12/05/2016
3.6	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, 3.3, 3.4, 3.5 and 3.6	-	-	-	-
4.2	Specimen of Common Stock Certificate	S-1	333-109700	4.2	12/22/2003

Exhibit Number	Exhibit Description	Incorporation By Reference			
		Form	SEC File No.	Exhibit	Filing Date
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 among Registrant, 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. Hyde, III and Pittco Associates, L.P. dated March 6, 2014	10-K	000-50549	4.5	03/12/2014
4.6	Amended and Restated Registration Rights Agreement among Registrant, J.R. Hyde, III and The Pyramid Peak Foundation, dated August 4, 2014	10-Q	000-50549	4.6	08/05/2014
4.7	Consent, Waiver and Amendment Agreement between Registrant and J.R. Hyde, III and Pittco Associates, L.P., dated August 4, 2014	10-Q	000-50549	4.8	08/05/2014
4.8	Form of Common Stock Warrant, issued by Registrant pursuant to the Purchase Agreement, dated November 9, 2014, between Registrant and the purchasers identified in Exhibit A therein	10-K	000-50549	4.9	03/16/2015
4.9	Form of Warrant Amendment Agreement entered into effective as of March 25, 2016 between Registrant and each holder of a Common Stock Warrant originally issued on November 14, 2014	10-Q	000-50549	4.9	05/10/2016
10.1†	Consolidated, Amended, and Restated License Agreement dated July 24, 2007, between Registrant and University of Tennessee Research Foundation	10-Q	000-50549	10.40	11/09/2007
10.2	First Amendment, dated December 29, 2008, to the Consolidated, Amended and Restated License Agreement dated July 24, 2007 between the Registrant and University of Tennessee Research Foundation	10-K	000-50549	10.47	03/03/2009
10.3*	Form of Indemnification Agreement	S-1	333-109700	10.12	12/22/2003

Exhibit Number	Exhibit Description	Incorporation By Reference			
		Form	SEC File No.	Exhibit	Filing Date
10.4*+	Genotherapeutics, Inc. 1999 Stock Option Plan, as amended through December 10, 2009 (refiled to reflect reverse stock split effected on December 5, 2016), and Form of Stock Option Agreement	-	-	-	-
10.5*+	GTx, Inc. 2000 Stock Option Plan, as amended through December 10, 2009 (refiled to reflect reverse stock split effected on December 5, 2016), and Form of Stock Option Agreement	-	-	-	-
10.6*+	GTx, Inc. 2001 Stock Option Plan, as amended through November 3, 2009 (refiled to reflect reverse stock split effected on December 5, 2016), and Form of Stock Option Agreement	-	-	-	-
10.7*+	GTx, Inc. 2002 Stock Option Plan, as amended through November 3, 2009 (refiled to reflect reverse stock split effected on December 5, 2016), and Form of Stock Option Agreement	-	-	-	-
10.8*	GTx, Inc. 2004 Equity Incentive Plan, as originally adopted, and Form of Stock Option Agreement	S-1	333-109700	10.5	01/15/2004
10.9*	GTx, Inc. 2004 Equity Incentive Plan, as amended effective April 30, 2008	8-K	000-50549	10.6	05/06/2008
10.10*+	GTx, Inc. 2004 Equity Incentive Plan, as amended effective November 4, 2008 (refiled to reflect reverse stock split effected on December 5, 2016) and Form of Stock Option Agreement	-	-	-	-
10.11*	GTx, Inc. 2004 Non-Employee Directors' Stock Option Plan and Form of Stock Option Agreement, as originally adopted	S-1	333-109700	10.6	01/15/2004
10.12*	Amended and Restated GTx, Inc. 2004 Non-Employee Directors' Stock Option Plan, effective April 26, 2006	8-K	000-50549	10.1	04/27/2006
10.13*	Form of Stock Option Agreement under the Amended and Restated GTx, Inc. 2004 Non-Employee Directors' Stock Option Plan	10-Q	000-50549	10.35	08/09/2006

Exhibit Number	Exhibit Description	Incorporation By Reference			
		Form	SEC File No.	Exhibit	Filing Date
10.14*+	Amended and Restated GTx, Inc. 2004 Non-Employee Directors' Stock Option Plan, as amended effective November 4, 2008 (refiled to reflect reverse stock split effected on December 5, 2016)	-	-	-	-
10.15*	GTx, Inc. 2013 Equity Incentive Plan, as originally adopted	S-8	333-188377	99.1	05/06/2013
10.16*+	GTx, Inc. 2013 Equity Incentive Plan, as amended effective May 6, 2015 (refiled to reflect reverse stock split effected on December 5, 2016)	-	-	-	-
10.17*	Form of Stock Option Grant Notice and Option Agreement under the GTx, Inc. 2013 Equity Incentive Plan (Standard Form)	10-Q	000-50549	10.2	07/22/2013
10.18*	Form of Retention Stock Option Grant Notice and Option Agreement under the GTx, Inc. 2013 Equity Incentive Plan	10-Q	000-50549	10.3	11/12/2013
10.19*	Form of Retention Restricted Stock Unit Grant Notice and Restricted Stock Unit Award Agreement under the GTx, Inc. 2013 Equity Incentive Plan	10-Q	000-50549	10.4	11/12/2013
10.20*	Form of Restricted Stock Unit Grant Notice and Restricted Stock Unit Award Agreement under the GTx, Inc. 2013 Equity Incentive Plan	10-Q	000-50549	10.5	05/11/2015
10.21*+	GTx, Inc. 2013 Non-Employee Director Equity Incentive Plan, as originally adopted (refiled to reflect reverse stock split effected on December 5, 2016)	-	-	-	-
10.22*	Form of Stock Option Grant Notice and Option Agreement under the GTx, Inc. 2013 Non-Employee Director Equity Incentive Plan	10-Q	000-50549	10.4	07/22/2013
10.23*	Employment Agreement dated February 12, 2015, between Registrant and Robert J. Wills	10-Q	000-50549	10.4	05/11/2015
10.24*	Employment Agreement dated July 13, 2015, between Registrant and Diane C. Young	10-Q	000-50549	10.1	11/09/2015

Exhibit Number	Exhibit Description	Incorporation By Reference			
		Form	SEC File No.	Exhibit	Filing Date
10.25*	Amended and Restated Employment Agreement dated February 12, 2015, between Registrant and Marc S. Hanover	10-K	000-50549	10.25	03/16/2015
10.26*	Amended and Restated Employment Agreement dated February 14, 2013, between Registrant and Henry P. Doggrell	10-K	000-50549	10.22	03/05/2013
10.27*	Employment Agreement dated October 1, 2013 between Registrant and Jason T. Shackelford	10-K	000-50549	10.29	03/16/2015
10.28*+	Employment Agreement dated January 6, 2017 between Registrant and Jason T. Shackelford	-	-	-	-
10.29*	Form of Retention Benefits Letter Agreement for Mitchell S. Steiner and Marc S. Hanover	10-Q	000-50549	10.1	11/12/2013
10.30*	Form of Retention Benefits Letter Agreement for Jason T. Shackelford and Henry P. Doggrell	10-Q	000-50549	10.2	11/12/2013
10.31*	Amended and Restated GTx, Inc. Executive Bonus Compensation Plan, effective November 4, 2008	10-K	000-50549	10.53	03/03/2009
10.32*	2016 Compensation Information for Registrant's Executive Officers	10-Q	000-50549	10.1	05/10/2016
10.33*	Directors' Deferred Compensation Plan, as amended and restated effective February 14, 2013	10-K	000-50549	10.28	03/05/2013
10.34*+	Directors' Deferred Compensation Plan, as amended and restated effective February 18, 2016 (refiled to reflect reverse stock split effected on December 5, 2016)	-	-	-	-
10.35*	Non-Employee Director Compensation Policy of GTx, Inc., effective January 1, 2016	10-K	000-50549	10.39	03/15/2016
10.36	Lease Agreement, dated March 7, 2001, between The University of Tennessee and TriStar Enterprises, Inc.	S-1	333-109700	10.13	10/15/2003
10.37	Sublease Agreement dated October 1, 2000, as amended, between Registrant and TriStar Enterprises, Inc.	S-1	333-109700	10.14	10/15/2003

Exhibit Number	Exhibit Description	Incorporation By Reference			
		Form	SEC File No.	Exhibit	Filing Date
10.38	Sublease Agreement dated April 1, 2005, as amended, between Registrant and TriStar Enterprises, Inc.	10-Q	000-50549	10.27	07/27/2005
10.39	Sublease Agreement dated October 1, 2009 between Registrant and University of Tennessee Research Foundation	10-K	000-50549	10.55	03/15/2010
10.40	Memorandum of Understanding Concerning the Lease Agreement between The University of Tennessee Research Foundation and the Registrant as Amended July 20, 2009	10-Q	000-50549	10.59	08/09/2011
10.41	Second Memorandum of Understanding Concerning the Lease Agreement between Registrant and The University of Tennessee Research Foundation as Amended July 20, 2009	10-Q	000-50549	10.5	07/22/2013
10.42	Third Memorandum of Understanding, made effective as of October 1, 2013, Concerning the Lease Agreement between Registrant and The University of Tennessee Research Foundation as Amended July 20, 2009	10-Q	000-50549	10.5	11/12/2013
10.43	Sublease Agreement, dated December 17, 2007, by and between the Registrant and ESS SUSA Holdings, LLC	10-K	000-50549	10.46	03/11/2008
10.44	First Amendment, dated July 21, 2008, to the Sublease and Parking Sublicense Agreements dated December 17, 2007 by and between the Registrant and ESS SUSA Holdings, LLC	10-K	000-50549	10.54	03/03/2009
10.45	Second Amendment to Sublease and Parking Sublicense Agreements dated January 1, 2011 by and between the Registrant and ESS SUSA Holdings, LLC	10-K	000-50549	10.57	03/08/2011
10.46	Lease agreement, dated April 13, 2015, between Registrant and Hertz Memphis Three LLC	10-Q	000-50549	10.1	08/10/2015

Exhibit Number	Exhibit Description	Incorporation By Reference			
		Form	SEC File No.	Exhibit	Filing Date
10.47	Purchase Agreement, dated November 9, 2014, between Registrant and the purchasers identified in Exhibit A therein	8-K	000-50549	10.1	11/10/2014
10.48	Form of Subscription Agreement for October 2016 registered direct offering	8-K	000-50549	10.1	10/12/2016
23.1+	Consent of Independent Registered Public Accounting Firm	-	-	-	-
24.1+	Power of Attorney (included on the signature pages hereto)	-	-	-	-
31.1+	Certification of Chief 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 Chief 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	-	-	-	-
101.PRE+	XBRL Taxonomy Extension Presentation Linkbase Document	-	-	-	-

† Confidential treatment has been granted with respect to certain portions of this exhibit. This exhibit omits the information subject to this confidentiality request. Omitted portions have been filed separately with the SEC.

* Indicates a management contract or compensation plan or arrangement.

+	Filed herewith
(1)	This certification accompanies the Form 10-K 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-K), irrespective of any general incorporation language contained in such filing.

ITEM 16. FORM 10-K SUMMARY

None provided.

SIGNATURES

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

GTx, Inc.

By /s/ Marc S. Hanover

Marc S. Hanover
Chief Executive Officer
(Principal Executive Officer)

Date: March 24, 2017

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENT, that each person whose signature appears below constitutes and appoints Marc S. Hanover and Jason T. Shackelford, and each of them, acting individually, as his attorney-in-fact, each with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

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

/s/ Marc S. Hanover Marc S. Hanover	Chief Executive Officer (Principal Executive Officer)	March 24, 2017
/s/ Jason T. Shackelford Jason T. Shackelford	Vice President, Finance and Accounting and Principal Financial and Accounting Officer (Principal Financial and Accounting Officer)	March 24, 2017
/s/ Robert J. Wills Robert J. Wills, B.S., M.S., Ph.D.	Executive Chairman of the Board of Directors	March 24, 2017
/s/ Michael G. Carter Michael G. Carter, M. D.	Director	March 24, 2017
/s/ J. Kenneth Glass J. Kenneth Glass	Director	March 24, 2017

/s/ J. R. Hyde, III J. R. Hyde, III	Director	March 24, 2017
/s/ Garry A. Neil Garry A. Neil, M.D.	Director	March 24, 2017
/s/ Kenneth S. Robinson Kenneth S. Robinson, M.D.	Director	March 24, 2017

GTx, Inc.

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MANAGEMENT'S REPORT ON
INTERNAL CONTROL OVER FINANCIAL REPORTING

We, as management of GTx, Inc., are responsible for establishing and maintaining adequate internal control over financial reporting, as such term is defined in Securities Exchange Act Rule 13a-15(f). Internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with United States generally accepted accounting principles. Any system of internal control, no matter how well designed, has inherent limitations, including the possibility that a control can be circumvented or overridden and misstatements due to error or fraud may occur and not be detected. Also, because of changes in conditions, internal control effectiveness may vary over time. Accordingly, even an effective system of internal control will provide only reasonable assurance that the objectives of the internal control system are met.

Under the supervision and with the participation of management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2016 using the criteria for effective internal control over financial reporting as described in "Internal Control — Integrated Framework," issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework). Based on this evaluation, we concluded that, as of December 31, 2016, our internal control over financial reporting was effective. The effectiveness of our internal control over financial reporting has been audited by Ernst & Young LLP, independent registered public accounting firm who also audited the Company's financial statements included in this Annual Report on Form 10-K. Ernst & Young LLP's report on the Company's internal control over financial reporting is included in this Annual Report on the 10-K.

/s/ Marc S. Hanover

Marc S. Hanover
Chief Executive Officer
Principal Executive Officer

/s/ Jason T. Shackelford

Jason T. Shackelford
Vice President, Finance and Accounting
Principal Financial and Accounting Officer

Memphis, Tennessee
March 24, 2017

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of GTx, Inc.

We have audited GTx, Inc.'s internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), (the COSO criteria). GTx, Inc.'s management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company's internal control over financial reporting is a process designed 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. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, GTx, Inc. maintained, in all material respects, effective internal control over financial reporting as of December 31, 2016, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the balance sheets of GTx, Inc. as of December 31, 2016 and 2015, and the related statements of operations, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2016 and our report dated March 24, 2017 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Memphis, Tennessee
March 24, 2017

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of GTx, Inc.

We have audited the accompanying balance sheets of GTx, Inc. as of December 31, 2016 and 2015, and the related statements of operations, stockholders' equity and cash flows for each of the three years in the period ended December 31, 2016. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of GTx, Inc. at December 31, 2016 and 2015, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2016, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), GTx, Inc.'s internal control over financial reporting as of December 31, 2016, based on criteria established in Internal Control — Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework), and our report dated March 24, 2017 expressed an unqualified opinion thereon.

/s/ Ernst & Young LLP

Memphis, Tennessee
March 24, 2017

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

	December 31, 2016	December 31, 2015
ASSETS		
Current assets:		
Cash and cash equivalents	$ 8,910	$ 14,056
Short-term investments	12,959	15,200
Prepaid expenses and other current assets	2,429	2,633
Total current assets	24,298	31,889
Property and equipment, net	81	5
Intangible assets, net	123	137
Total assets	$ 24,502	$ 32,031
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 1,220	$ 382
Warrant liability	-	27,349
Accrued expenses and other current liabilities	3,391	2,441
Total current liabilities	4,611	30,172
Commitments and contingencies		
Stockholders' equity:		
Common stock, $0.001 par value: 60,000,000 and 400,000,000 shares authorized at December 31, 2016 and December 31, 2015, respectively; 15,919,572 and 14,037,411 shares issued and outstanding at December 31, 2016 and December 31, 2015, respectively	16	14
Additional paid-in capital	551,073	515,319
Accumulated deficit	(531,198)	(513,474)
Total stockholders' equity	19,891	1,859
Total liabilities and stockholders' equity	$ 24,502	$ 32,031

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

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

	Years Ended December 31,		
	2016	**2015**	**2014**
Expenses:			
Research and development expenses	$ 17,228	$ 13,607	$ 20,870
General and administrative expenses	8,705	8,234	9,478
Total expenses	25,933	21,841	30,348
Loss from operations	(25,933)	(21,841)	(30,348)
Other income (expense), net	46	57	(259)
Gain (loss) on change in fair value of warrant liability	8,163	3,081	(8,804)
Net loss	$ (17,724)	$ (18,703)	$ (39,411)
Net loss per share:			
Basic	$ (1.22)	$ (1.33)	$ (4.82)
Diluted	$ (1.22)	$ (1.47)	$ (4.82)
Weighted average shares outstanding:			
Basic	14,559,541	14,036,468	8,180,770
Diluted	14,559,541	14,777,404	8,180,770

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

GTx, Inc.
STATEMENTS OF STOCKHOLDERS' EQUITY
For the Years Ended December 31, 2016, 2015 and 2014
(in thousands, except share data)

	Stockholders' Equity				
	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount			
Balances at January 1, 2014	6,318,539	$ 6	$ 466,038	$ (455,360)	$ 10,684
Issuance of common stock and warrants in March 2014 private placement, net of offering costs	1,197,605	1	21,134	-	21,135
Issuance of common stock and warrants in November 2014 private placement, net of offering costs	6,431,111	6	21,478	-	21,484
Vesting of restricted stock units, net of shares withheld for tax payments	85,309	1	(617)	-	(616)
Directors' deferred compensation	-	-	125	-	125
Share-based compensation	-	-	4,428	-	4,428
Net loss	-	-	-	(39,411)	(39,411)
Balances at December 31, 2014	14,032,564	14	512,586	(494,771)	17,829
Issuance of common stock under deferred compensation arrangements	4,847	-	-	-	-
Directors' deferred compensation	-	-	113	-	113
Share-based compensation	-	-	2,620	-	2,620
Net loss	-	-	-	(18,703)	(18,703)
Balances at December 31, 2015	14,037,411	14	515,319	(513,474)	1,859
Issuance of common stock in October 2016 registered direct offering, net of offering costs	1,728,395	2	13,690	-	13,692
Vesting of restricted stock units, net of shares withheld for tax payments	154,170	-	(208)	-	(208)
Directors' deferred compensation	-	-	132	-	132
Share-based compensation	-	-	2,957	-	2,957
Warrant liability reclassification	-	-	19,186	-	19,186
Settlement of fractional shares upon reverse stock split	(404)	-	(3)	-	(3)
Net loss	-	-	-	(17,724)	(17,724)
Balances at December 31, 2016	15,919,572	$ 16	$ 551,073	$ (531,198)	$ 19,891

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

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

	Years Ended December 31,		
	2016	**2015**	**2014**
Cash flows from operating activities:			
Net loss	$ (17,724)	$ (18,703)	$ (39,411)
Adjustments to reconcile net loss to net cash used in operating activities:			
(Gain) loss on change in fair value of warrant liability	(8,163)	(3,081)	8,804
Private placement expenses recorded as other income (expense), net	-	-	297
Share-based compensation	2,957	2,620	4,428
Directors' deferred compensation	132	113	125
Depreciation and amortization	28	43	102
Changes in assets and liabilities:			
Prepaid expenses and other assets	204	(1,458)	(577)
Accounts payable	838	(130)	(296)
Accrued expenses and other liabilities	950	561	(2,231)
Net cash used in operating activities	(20,778)	(20,035)	(28,759)
Cash flows from investing activities:			
Purchase of property and equipment	(90)	(4)	(5)
Purchase of short-term investments, held to maturity	(35,404)	(55,219)	(41,905)
Proceeds from maturities of short-term investments, held to maturity	37,645	71,434	10,690
Net cash provided by (used in) investing activities	2,151	16,211	(31,220)
Cash flows from financing activities:			
Net proceeds from the issuance of common stock and warrants	13,692	-	63,949
Tax payments related to shares withheld for vested restricted stock units	(208)	-	(617)
Settlement of fractional shares upon reverse stock split	(3)	-	-
Payments on capital lease and financed equipment obligations	-	-	(2)
Net cash provided by financing activities	13,481	-	63,330
Net (decrease) increase in cash and cash equivalents	(5,146)	(3,824)	3,351
Cash and cash equivalents, beginning of period	14,056	17,880	14,529
Cash and cash equivalents, end of period	$ 8,910	$ 14,056	$ 17,880

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

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

1. Business and Going Concern

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, 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 class of drugs that the Company believes has the potential to be used as a novel hormonal therapy for the treatment of advanced breast cancer, as well as the potential to treat other serious medical conditions. The Company announced during the second quarter of 2014 positive results from a Phase 2 proof-of-concept, open-label clinical trial evaluating a 9 mg oral daily dose of enobosarm for the treatment of patients with estrogen receptor ("ER") positive and androgen receptor ("AR") positive metastatic breast cancer who have previously responded to hormonal therapy. The Company commenced enrollment in 2015 in a Phase 2 clinical trial designed to evaluate the efficacy and safety of enobosarm in patients whose advanced breast cancer is both ER positive and AR positive. During 2015, the Company also commenced enrollment in a Phase 2 proof-of-concept clinical trial designed to evaluate the efficacy and safety of enobosarm in patients with advanced AR positive triple-negative breast cancer ("TNBC").

The Company is also evaluating enobosarm and other compounds in its SARM portfolio for indications outside of oncology where unmet medical needs in muscle-related diseases may benefit from increasing muscle mass. In the first quarter of 2016, the Company initiated a Phase 2 proof-of-concept clinical trial of enobosarm to treat postmenopausal women with Stress Urinary Incontinence ("SUI"). The Company has also evaluated several SARM compounds, including enobosarm, in preclinical models of Duchenne Muscular Dystrophy ("DMD") where a SARM's ability to increase muscle mass may prove beneficial to patients suffering from DMD. Based on the Company's SARM data from these preclinical efforts, the Company has initiated discussions with potential collaboration partners to further develop a SARM for the treatment of DMD.

In March 2015, the Company entered into an exclusive license agreement with the University of Tennessee Research Foundation ("UTRF") to develop UTRF's proprietary selective androgen receptor degrader ("SARD") technology which may have the potential to provide compounds that can degrade multiple forms of AR to treat those patients who do not respond or are resistant to current therapies by inhibiting tumor growth in patients with progressive castration-resistant prostate cancer ("CRPC"). The Company is currently implementing an appropriate development program for SARDs and has selected lead SARD compounds that are undergoing further preclinical development, including formulation, pharmacokinetic and toxicology studies, required to support initial human clinical trials.

The Company's ability to pursue the continued development of SARMs and its SARD program is contingent upon its ability to obtain additional funding. Accordingly, the Company is actively seeking additional funding through the licensing, partnering or sale of certain assets to provide the Company with the necessary resources for the development of its preclinical and clinical product candidates.

Based on its current business plan and assumptions, 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 fourth quarter of 2017. Accordingly, the Company will

GTx, Inc.
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need to raise substantial additional capital in the near term in order to fund its operations through and beyond the fourth quarter of 2017 and to continue as a going concern thereafter. Alternatively, the Company could modify its current business plan to preserve cash and continue as a going concern while evaluating future plans and activities. In addition, the Company has based its cash sufficiency estimates on its current business plan and its assumptions that may prove to be wrong. The Company could utilize its available capital resources sooner than it currently expects, and it could need additional funding to sustain its operations even sooner than currently anticipated. The Company believes, based on its current estimates of clinical trial expenditures and enrollment status, that the Company's existing capital resources will be adequate to enable it to complete its ongoing open-label Phase 2 clinical trial of enobosarm in patients with ER positive, AR positive advanced breast cancer and its ongoing Phase 2 clinical trial of enobosarm in postmenopausal women with SUI. However, the Company's existing capital resources will not be sufficient to allow it to complete its ongoing open-label Phase 2 clinical trial of enobosarm in patients with advanced AR positive TNBC and the Company will otherwise need to raise substantial additional capital in order to continue developing enobosarm for any of these indications. If the Company determines that its existing capital resources are not sufficient to enable it to complete its ongoing open-label Phase 2 clinical trial of enobosarm in patients with advanced AR positive TNBC, the Company may be unable or unwilling to enroll patients into the second stage of this trial even if the Company determines that the first stage milestone had been met. Accordingly, in order to enroll the second stage of and to complete this trial, the Company will need to obtain additional funding, which the Company may be unable to do in a timely manner or at all. Also, the Company's clinical trials may continue to encounter technical, enrollment or other difficulties that could increase its development costs beyond its current estimates or delay its development timelines, and the Company could otherwise exhaust its available financial resources sooner than the Company expects. In any event, the Company will need to raise substantial additional capital in order to:

- potentially enroll the second stage of and complete the Company's ongoing open-label Phase 2 clinical trial of enobosarm in patients with advanced AR positive TNBC;
- undertake any further development of the Company's SARMs beyond its ongoing Phase 2 clinical trials of enobosarm in breast cancer and SUI and its ongoing preclinical development activities related to the development of SARMs as a potential treatment for DMD;
- initiate and complete human clinical studies of the Company's SARD program; and
- fund the Company's operations and to continue as a going concern.

The Company has evaluated its capital resources and current business plans in accordance with the adoption of Accounting Standards Update (ASU) No. 2014-15, *Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern*, ("ASU 2014-15"), which is effective for the Company for the year ended December 31, 2016. ASU 2014-15 requires the assessment of an entity's ability to continue as a going concern for a period of one year after the date the entity's financial statements are issued and to provide related footnote disclosures, if necessary. As the Company currently estimates, based on its current business plan and assumptions, 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 fourth quarter of 2017, the Company has evaluated its ability to continue as a going concern for one year after the date these financial statements are issued.

GTx, Inc.
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Pursuant to the guidance in ASU 2014-15, the Company believes that it has the ability to successfully implement plans to mitigate the conditions that may raise doubt about its ability to continue as a going concern as a significant portion of the Company's current business plan consists of uncommitted spending. The Company's plans for mitigation include reducing or delaying expenditures by postponing or discontinuing planned clinical or preclinical development and implementing cost saving measures related to other research and development and general and administrative expenditures. If the Company is unable to raise substantial additional capital through the licensing, partnering or sale of certain assets or through a third party financing, the Company believes it is probable that these plans could be effectively implemented to successfully mitigate the considerations regarding the Company's ability to continue as a going concern for one year after the date these financial statements are issued.

Therefore, these financial statements do not include any adjustments or charges that might be necessary should the Company be unable to continue as a going concern, such as charges related to impairment of its assets, the recoverability and classification of assets or the amounts and classification of liabilities or other similar adjustments.

2. Significant Accounting Policies

Basis of Presentation

The accompanying financial statements have been prepared in accordance with U.S. generally accepted accounting principles ("U.S. GAAP"). Additionally, GTx operates in one business segment.

On December 5, 2016, the Company effected a one-for-ten reverse stock split of its common stock through an amendment to its restated certification of incorporation. As of the effective time of the reverse stock split, every ten shares of the Company's issued and outstanding common stock were automatically combined and reclassified into one issued and outstanding share of common stock, without any change in par value per share. The amendment to the Company's restated certification of incorporation also reduced the number of authorized shares of common stock from 400,000,000 to 60,000,000 shares. The reverse stock split affected all shares of the Company's common stock outstanding immediately prior to the effective time of the reverse stock split. Additionally, as a result of the reverse stock split, proportionate adjustments were made to the per share exercise price and/or the number of shares issuable upon the exercise or vesting of all stock options, restricted stock units and warrants issued by the Company and outstanding immediately prior to the effective time, which resulted in a proportionate decrease in the number of shares of the Company's common stock reserved for issuance upon exercise or vesting of such stock options, restricted stock units and warrants, and, in the case of stock options and warrants, a proportionate increase in the exercise price of all such stock options and warrants. In addition, the number of shares reserved for issuance under the Company's equity compensation plans immediately prior to the effective time was reduced proportionately. No fractional shares were issued as a result of the reverse stock split. Stockholders who have otherwise been entitled to receive a fractional share received a cash payment in lieu thereof.

As the par value per share of the Company's common stock remained unchanged at $0.001 per share, a total of $144 was retroactively reclassified from common stock to additional paid-in capital in the Company's balance sheets and statements of stockholders' equity. All references to shares of common stock, all per share data, and all warrant, stock option and restricted stock unit ("RSU")

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

activity for all periods presented in these financial statements and notes to financial statements have been adjusted to reflect the reverse stock split on a retroactive basis.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP 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 financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual amounts and results could differ from those estimates.

Cash and Cash Equivalents

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

Short-term Investments

At December 31, 2016 and 2015, short-term investments consisted of Federal Deposit Insurance Corporation ("FDIC") insured certificates of deposit with original maturities of greater than three months and less than one year.

Property and Equipment

Property and equipment is stated at cost. Amortization of leasehold improvements is recognized over the shorter of the estimated useful life of the leasehold improvement or the lease term. Depreciation is computed using the straight-line method over the estimated useful lives as follows:

Office equipment	3 to 5 years
Leasehold improvements	3 to 7 years
Furniture and fixtures	5 years
Computer equipment and software	3 years

Warrant Liability

In November 2014, the Company issued warrants to purchase 6,430,948 shares of its common stock. The Company classified these warrants as a liability on its balance sheet since the warrants contained certain terms that could have required the Company (or its successor) to purchase the warrants for cash in an amount equal to the value (as calculated utilizing a contractually-agreed Black-Scholes-Merton option pricing valuation model ("Black-Scholes Model")) of the unexercised portion of the warrants in connection with certain change of control transactions occurring on or prior to December 31, 2016, with such cash payment capped at an amount equal to $1.25 per unexercised share underlying each warrant. As a result of the provision of the warrants requiring cash settlement upon certain change of control transactions, the Company was required to account for these warrants as a liability at fair value and the estimated warrant liability was required to be revalued at each balance sheet date until the earlier of the exercise of the warrants, the modification to remove the provision that could require cash settlement upon certain change of control transactions or the expiration of such

provision on December 31, 2016. Effective March 25, 2016, each of the warrants was amended by agreement of the warrant holders to remove the provision that could require cash settlement upon certain change of control transactions. These warrants were no longer accounted for as a liability as of March 31, 2016. The Company recorded a non-cash reclassification of the warrant fair value to stockholders' equity based on the warrants' fair value as of the March 25, 2016 modification date, with no further adjustments to the fair value of these warrants being required.

Fair Value of Financial Instruments and Warrant Liability

The carrying amounts of the Company's financial instruments (which include cash, cash equivalents, short-term investments, and accounts payable) and its prior warrant liability approximate their fair values. The fair value of the warrant liability was estimated using the Black-Scholes-Merton Model. See Note 6, *Stockholders' Equity*, for additional disclosure on the valuation methodology and significant assumptions. The Company's financial assets and liabilities are classified within a three-level fair value hierarchy that prioritizes the inputs used to measure fair value, which is defined as follows:

Level 1 — Quoted prices in active markets for identical assets or liabilities that the Company has the ability to access at the measurement date

Level 2 — Inputs other than quoted prices in active markets that are observable for the asset or liability, either directly or indirectly

Level 3 — Inputs that are unobservable for the asset or liability

There were no assets or liabilities measured at fair value on a recurring basis as of December 31, 2016. Liabilities measured at fair value on a recurring basis as of December 31, 2015 included only the Company's warrant liability of $27,349, which was classified within Level 3 of the hierarchy. A non-cash gain of $8,163 related to the change in the fair value of the warrant liability was recognized during the year ended December 31, 2016 in the Company's statement of operations.

As the Company has the positive intent and ability to hold its certificates of deposit classified as short-term investments 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.

Concentration of Risk

Financial instruments that potentially subject the Company to a concentration of credit risk consist of cash and cash equivalents and short-term investments. The Company has established guidelines relating to diversification and maturities of its cash equivalents and short-term investments which are designed to manage risk. The Company's cash and cash equivalents consist of bank deposits, certificates of deposit, and money market mutual funds. Bank deposits may at times be in excess of FDIC insurance limits. The Company's short-term investments consist of FDIC insured certificates of deposit with original maturities of greater than three months and less than one year.

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

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.

Patent Costs

The Company expenses patent costs, including legal expenses, in the period in which they are incurred. Patent expenses are included in general and administrative expenses in the Company's statements of operations.

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 December 31, 2016 and December 31, 2015, net of the valuation allowance, the net deferred tax assets were reduced to zero. See Note 8, *Income Taxes*, for further discussion.

Share-Based Compensation

The Company has stock option and equity incentive plans that provide for the purchase or acquisition of the Company's common stock by certain of the Company's employees and non-employees. 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 is required to provide service in exchange for the award. See Note 3, *Share-Based Compensation*, for further discussion.

Other Income (Expense), Net

Other income (expense), net consists of foreign currency transaction gains and losses, interest earned on the Company's cash, cash equivalents and short-term investments, interest expense, and other non-operating income or expense. Other income (expense), net for the year ended December 31, 2014 also included expenses related to the private placement of common stock and warrants completed in November 2014 as the warrants issued were initially accounted for as a liability.

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

Basic and Diluted Net Loss Per Share

Basic and diluted net income (loss) per share attributable to common stockholders is calculated based on the weighted average number of common shares outstanding during the period. Diluted net income (loss) per share gives effect to the dilutive potential of common stock consisting of stock options, unvested RSUs and common stock warrants. For the year ended December 31, 2015, since the average market price of the shares underlying common stock warrants exceeded the exercise price of the warrants, and the presumed exercise of such warrants were dilutive to the net loss per share for the period, adjustments to net loss for the period were required to remove the change in fair value of the warrant liability.

The following table sets forth the computation of the Company's net loss per share is as follows:

	Years Ended December 31,		
	2016	**2015**	**2014**
Basic and diluted net loss per share			
Numerator:			
Net loss — basic	$ (17,724)	$ (18,703)	$ (39,411)
Adjustments for the gain on change in fair value of the warrant liability	-	(3,081)	-
Net loss — diluted	$ (17,724)	$ (21,784)	$ (39,411)
Denominator:			
Weighted average shares outstanding — basic	14,559,541	14,036,468	8,180,770
Dilutive warrants	-	556,372	-
Dilutive restricted stock units	-	184,379	-
Dilutive stock options	-	185	-
Weighted average shares outstanding — diluted	14,559,541	14,777,404	8,180,770
Net loss per share:			
Basic	$ (1.22)	$ (1.33)	$ (4.82)
Diluted	$ (1.22)	$ (1.47)	$ (4.82)
Weighted average shares outstanding:			
Basic	14,559,541	14,036,468	8,180,770
Diluted	14,559,541	14,777,404	8,180,770

Weighted average potential shares of common stock of 8,162,347, 838,745, and 2,462,877 were excluded from the calculation of diluted net loss per share for the years ended December 31, 2016, 2015 and 2014, respectively, as inclusion of the potential shares would have had an anti-dilutive effect on the net loss per share for the periods. At December 31, 2016, the Company had 15,919,572 shares of common stock outstanding.

GTx, Inc.
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Comprehensive Loss

For all periods presented, there were no differences between net loss and comprehensive loss.

Recent Accounting Pronouncements

In August 2014, the Financial Accounting Standards Board issued Accounting Standard Update 2014-15, *Disclosure of Uncertainties about an Entity's Ability to Continue as a Going Concern*. The new guidance is intended to define management's responsibility to evaluate whether there is substantial doubt about an organization's ability to continue as a going concern within one year of the date the financial statements are issued and to provide related footnote disclosure. This new guidance was effective for the year ended December 31, 2016 and interim periods thereafter.

Subsequent Events

The Company has evaluated all events or transactions that occurred after December 31, 2016 up through the date the financial statements were issued. There were no material recognizable or nonrecognizable subsequent events during the period evaluated.

3. Share-Based Compensation

Share-based payments include stock option and RSU grants under the Company's stock option and equity incentive plans and deferred compensation arrangements for the Company's non-employee directors.

The Company has granted and continues to grant to employees and non-employees options to purchase common stock under various plans at prices equal to the fair market value of its common stock on the dates the options are granted as determined in accordance with the terms of the applicable plan. The options have a term of ten years from the grant date and generally vest over three years from the grant date for director and non-employee options and over periods of up to five years from the grant date for employee options. Under the terms of the Company's stock option and equity incentive plans, employees generally have three months after the employment relationship ends to exercise all vested options except in the case of voluntary retirement, disability or death, where post-termination exercise periods are generally longer. The Company issues new shares of common stock upon the exercise of options. The Company estimates the fair value of stock option awards as of the date of the grant by applying the Black-Scholes Model. The application of this valuation model involves assumptions that are judgmental and highly sensitive in the determination of compensation expense.

The fair value of each stock option is amortized into compensation expense on a straight-line basis between the grant date for the award and each vesting date. 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.

Additionally, the Company periodically grants RSUs to its employees. The Company estimates the fair value of RSUs using the closing price of its common stock on the grant date. The fair value of the RSUs is amortized on a straight-line basis over the requisite service period of the awards. The amount of share-based compensation expense recognized is reduced ratably over the vesting period by an

GTx, Inc.
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estimate of the percentage of RSUs granted that are expected to be forfeited or canceled before becoming fully vested.

The following table summarizes share-based compensation expense included within the statements of operations for each of the three years in the period ended December 31, 2016:

	Years Ended December 31,		
	2016	2015	2014
Research and development expenses	$ 1,260	$ 1,210	$ 2,512
General and administrative expenses	1,829	1,523	2,041
Total share-based compensation	$ 3,089	$ 2,733	$ 4,553

Share-based compensation expense recorded in the statement of operations as general and administrative expense for the years ended December 31, 2016, 2015 and 2014 included share-based compensation expense related to deferred compensation arrangements for the Company's non-employee directors of $132, $113 and $125, respectively. See Note 9, *Directors' Deferred Compensation Plan*, for further discussion of deferred compensation arrangements for the Company's non-employee directors.

For the years ended December 31, 2016, 2015 and 2014, the weighted average grant date fair value per share of stock options granted was $5.45, $5.72 and $10.35, respectively. The key assumptions used in determining the grant date fair value of options granted in 2016, 2015 and 2014, and a summary of the methodology applied to develop each assumption is as follows:

	Years Ended December 31,		
	2016	2015	2014
Expected price volatility	91.3%	89.6%	86.5%
Risk-free interest rate	2.0%	1.6%	2.3%
Weighted average expected life in years	6.9 years	6.0 years	6.9 years
Dividend yield	0%	0%	0%

Expected Price Volatility — This is a measure of the amount by which a price has fluctuated or is expected to fluctuate. The Company based its determination of expected volatility on its historical stock price volatility. An increase in the expected price volatility will increase compensation expense.

Risk-Free Interest Rate — This is determined using U.S. Treasury rates where the term is consistent with the expected life of the stock options. An increase in the risk-free interest rate will increase compensation expense.

Expected Life — This is the period of time over which the options granted are expected to remain outstanding and is determined by calculating the average of the vesting term and the contractual term of the options. The Company has utilized this method due to the lack of historical option exercise information related to the Company's stock option and equity incentive plans. Options granted have a maximum term of ten years. An increase in the expected life will increase compensation expense.

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Dividend Yield — The Company has not made any dividend payments nor does it have plans to pay dividends in the foreseeable future. An increase in the dividend yield will decrease compensation expense.

The following is a summary of stock option transactions for all of the Company's stock option and equity incentive plans for the three year period ended December 31, 2016:

	Number of Shares	Weighted Average Exercise Price Per Share
Options outstanding at January 1, 2014	644,524	$ 65.79
Options granted	309,450	13.43
Options forfeited or expired	(143,537)	85.04
Options exercised	-	-
Options outstanding at December 31, 2014	810,437	42.39
Options granted	36,500	7.71
Options forfeited or expired	(48,628)	75.36
Options exercised	-	-
Options outstanding at December 31, 2015	798,309	38.80
Options granted	363,500	6.94
Options forfeited or expired	(71,829)	54.65
Options exercised	-	-
Options outstanding at December 31, 2016	1,089,980	27.13
Options vested and expected to vest at December 31, 2016	1,049,750	27.82

The following table summarizes information about stock options outstanding at December 31, 2016:

	Options Outstanding			Options Exercisable	
Exercise Price	Number Outstanding	Weighted Average Remaining Contractual Life (years)	Weighted Average Exercise Price	Number Exercisable	Weighted Average Exercise Price
$5.80 - $7.60	383,200	8.97	$ 6.98	14,586	$ 7.29
$7.80 - $18.80	383,600	7.11	14.89	131,619	17.69
$26.50 - $204.00	323,180	3.46	65.54	290,883	68.39
	1,089,980	6.68	27.13	437,088	51.08

At December 31, 2016, the aggregate intrinsic value of all outstanding options was zero with a weighted average remaining contractual term of 6.68 years. Of the Company's outstanding options, 437,088 options were exercisable and had a weighted average remaining contractual term of 4.38 years and no aggregate intrinsic value. Additionally, the Company's vested and expected to vest options had a weighted average remaining contractual term of 6.61 years and no aggregate intrinsic value.

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There were no options exercised during the years ended December 31, 2016 and 2015. At December 31, 2016, the total compensation cost related to non-vested options not yet recognized was $3,684, with a weighted average expense recognition period of 3.09 years. Shares available for future issuance under the Company's stock option and equity incentive plans were 702,043 at December 31, 2016. On January 1, 2017, shares available for future issuance under the 2013 equity incentive plan and 2013 non-employee director equity incentive plan increased by an aggregate of 686,783 shares in accordance with the automatic increase provisions of such plans.

During the year ended December 31, 2015, the Company granted 820,000 RSUs to employees, which had a weighted average grant date fair value per share of $7.20, of which a portion of each award vests annually over a three year period from the date of grant. During the year ended December 31, 2016, the Company granted 11,000 RSUs to employees, which had a weighted average grant date fair value per share of $6.40, and vest in full on January 1, 2018.

The following is a summary of the RSU transactions for all of the Company's equity incentive plans for the three year period ended December 31, 2016:

	Number of Shares
Nonvested RSUs outstanding at January 1, 2014	122,500
RSUs granted	-
RSUs vested	(122,500)
RSUs forfeited	-
Nonvested RSUs outstanding at December 31, 2014	-
RSUs granted	820,000
RSUs vested	-
RSUs forfeited	-
Nonvested RSUs outstanding at December 31, 2015	820,000
RSUs granted	11,000
RSUs vested	(184,001)
RSUs forfeited	(62,000)
Nonvested RSUs outstanding at December 31, 2016	584,999
Nonvested RSUs expected to vest at December 31, 2016	571,639

At December 31, 2016, the total compensation cost related to non-vested RSUs not yet recognized was $2,007, with a weighted average expense recognition period of 1.05 years. The number of RSUs vested during 2014 and 2016 included 37,191 and 29,829 shares, respectively, that were withheld on behalf of the Company's employees to satisfy the statutory tax withholding requirements.

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4. Property and Equipment, Net

Property and equipment, net consisted of the following:

	December 31,	
	2016	2015
Computer equipment and software	$ 1,298	$ 1,435
Furniture and fixtures	853	853
Leasehold improvements	355	355
Office equipment	211	211
	2,717	2,854
Less: accumulated depreciation	(2,636)	(2,849)
	$ 81	$ 5

Depreciation and amortization expense for the years ended December 31, 2016, 2015 and 2014 was $14, $27, and $88, respectively. Of these amounts, $2, $1 and $1, respectively, were included in research and development expenses in the statements of operations.

5. Accrued Expenses and Other Current Liabilities

Accrued expenses and other current liabilities consisted of the following:

	December 31,	
	2016	2015
Clinical trials	$ 2,628	$ 1,899
General and administrative	413	281
Research and development	346	246
Employee compensation	4	15
	$ 3,391	$ 2,441

6. Stockholders' Equity

Authorized Capital

On December 5, 2016, the Company filed a Certificate of Amendment to the Company's Restated Certificate of Incorporation with the Secretary of State of the State of Delaware to effect a one-for-ten reverse stock split of its outstanding common stock and to effect a reduction in the number of authorized shares of common stock from 400,000,000 to 60,000,000 shares. The Company's certificate of incorporation currently authorizes the Company to issue 60,000,000 shares of common stock, $0.001 par value per share, and 5,000,000 shares of preferred stock, $0.001 par value per share. See Note 2, *Significant Accounting Policies — Reverse Stock Split*, for further discussion.

Common Stock and Associated Warrant Liability

On October 14, 2016, the Company completed a registered direct offering of its common stock. Under the terms of the offering, the Company sold 1,728,395 shares of its common stock for net proceeds of $13,692, after deducting offering expenses.

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On November 14, 2014, the Company completed a private placement of units consisting of an aggregate of 6,431,111 shares of common stock and warrants to purchase an aggregate of 6,430,948 shares of its common stock for net proceeds of $42,814, after deducting offering expenses. The net proceeds from the private placement were allocated to the common stock and warrants based upon the fair value method. Similarly, the offering expenses were allocated between the common stock and warrants with the portion allocated to common stock offset against the proceeds allocated to stockholders' equity, whereas the portion allocated to the warrants was expensed immediately. The warrants have a per share exercise price of $8.50, became exercisable on May 6, 2015 and will continue to be exercisable for four years thereafter. Prior to May 6, 2015, each warrant was subject to net cash settlement if, at the time of any exercise, there was then an insufficient number of authorized and reserved shares of common stock to effect a share settlement of the warrant. Under the terms of the warrants, as of May 6, 2015, the net cash settlement feature of the warrants automatically became inoperative; accordingly, the warrants are exercisable only for shares of the Company's common stock. The warrants, however, also contained certain terms that could have required the Company (or its successor) to purchase the warrants for cash in an amount equal to the value (as calculated utilizing a contractually-agreed Black-Scholes Model) of the unexercised portion of the warrants in connection with certain change of control transactions occurring on or prior to December 31, 2016, with the cash payment capped at an amount equal to $1.25 per unexercised share underlying each warrant. Due to the provision of the warrants that could have required cash settlement upon certain change of control transactions, the Company was required to account for these warrants as a liability at fair value using the Black-Scholes Model and the estimated warrant liability was required to be revalued at each balance sheet date until the earlier of the exercise of the warrants, the modification to remove the provision that could require cash settlement upon certain change of control transactions or the expiration of such provision on December 31, 2016. Effective March 25, 2016, each of the warrants was amended by agreement of the warrant holders to remove the provision that could require cash settlement upon certain change of control transactions. These warrants were no longer accounted for as a liability at March 31, 2016. The Company recorded a non-cash reclassification of the warrant fair value to stockholders' equity based on the warrants' fair value as of the March 25, 2016 modification date, with no further adjustments to the fair value of these warrants being required.

The fair value of the warrants on the March 25, 2016 modification date of $19,186 was estimated using the Black-Scholes Model with the following assumptions: expected volatility of 101%, risk-free interest rate of 1.1%, expected life of approximately 3.1 years and no dividends. The fair value of the warrants at December 31, 2015 of $27,349 was estimated using the Black-Scholes Model with the following assumptions: expected volatility of 98%, risk-free interest rate of 1.4%, expected life of approximately 3.4 years and no dividends. The decrease in fair value from December 31, 2015 to March 25, 2016 of $8,163 was recorded as a non-cash gain on the change in fair value of warrant liability in the Company's statement of operations for the year ended December 31, 2016.

On March 6, 2014, the Company completed a private placement of units consisting of an aggregate of 1,197,605 shares of common stock and warrants to purchase an aggregate of 1,017,964 shares of its common stock for net proceeds of $21,135, after deducting offering expenses. The net proceeds from the private placement were allocated to the common stock and warrants based upon their relative fair values. The warrants, which had a one year term, expired unexercised on March 6, 2015.

Each of these completed offerings included certain existing GTx stockholders and/or certain members of the GTx management team and/or board of directors.

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7. License Agreements

University of Tennessee Research Foundation License Agreements

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 has been 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.

In accordance with the terms of the SARM License Agreement that the Company entered into with UTRF in July 2007, the Company paid a one-time up-front fee of $290, which was recorded as an intangible asset by the Company. This intangible asset, net at December 31, 2016 and 2015 was $123 and $137, respectively.

The Company and UTRF also entered into a license agreement in March 2015 pursuant to which the Company was granted exclusive worldwide rights in all existing SARD technologies owned or controlled by UTRF, including all improvements thereto (the "SARD License Agreement"). Under the SARD License Agreement, the Company is obligated to employ active, diligent efforts to conduct preclinical research and development activities for the SARD program to advance one or more lead compounds into clinical development. The Company is also obligated to pay UTRF annual license maintenance fees, low single-digit royalties on net sales of products and additional royalties on sublicense revenues, depending on the state of development of a clinical product candidate at the time it is sublicensed.

8. Income Taxes

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax

GTx, Inc.
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purposes. The principal components of the Company's net deferred income tax assets and liabilities consisted of the following:

	December 31,	
	2016	**2015**
Deferred income tax assets:		
Net federal and state operating loss carryforwards	$ 155,446	$ 146,433
Research and development credits	13,928	13,245
Share-based compensation	6,876	7,088
Depreciation and amortization	43	58
Other	-	37
Total deferred tax assets	176,293	166,861
Deferred income tax liabilities:		
Other	336	251
Total deferred tax liabilities	336	251
Net deferred tax assets	175,957	166,610
Valuation allowance	(175,957)	(166,610)
	$ -	$ -

Realization of deferred income tax assets is dependent upon future earnings, if any, the timing and amount of which are uncertain. Accordingly, due to the Company's history of net operating losses, the net deferred tax assets have been fully offset by a valuation allowance. The valuation allowance increased by $9,347, $8,101 and $9,648 in 2016, 2015 and 2014, respectively.

At December 31, 2016, the Company had net federal operating loss carryforwards of approximately $402,090, which expire from 2018 to 2036 if not utilized. The Company had state operating loss carryforwards of approximately $365,664, which expire from 2017 to 2036 if not utilized. The Company also had research and development credits at December 31, 2016 of approximately $13,928, which expire from 2020 to 2036 if not utilized.

Both of the net federal and state operating loss carryforwards include approximately $2,354 of deductions related to the exercise of stock options. This amount represents an excess tax benefit and has not been included in the gross deferred income tax asset reflected for net federal and state operating loss carryforwards. If utilized, the benefits from these deductions will be recorded as an adjustment to additional paid in capital.

The Company will recognize the impact of a tax position in the financial statements if that position is more likely than not of being sustained on audit based on the technical merits of the position. As of December 31, 2016, the Company had no unrecognized tax benefits. Utilization of the Company's net operating loss carryforwards may be subject to a substantial annual limitation due to ownership change limitations provided by Section 382 of the Internal Revenue Code of 1986, as amended, and similar state provisions. The annual limitations may result in the expiration of net operating loss carryforwards before utilization. The Company completed a study of its net operating losses through December 31,

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2014 to determine whether such amounts are likely to be limited by Section 382. As a result of this study and its analysis of subsequent ownership changes, the Company does not currently believe any Section 382 limitation exists through December 31, 2016. However, any future ownership changes under Section 382 may limit the Company's ability to fully utilize these tax benefits. The Company has not yet conducted an in-depth study of its research and development credits, although the Company periodically reviews assumptions used in its calculations to reflect its best estimate of expected credit. An in-depth study may result in an increase or decrease to the Company's research and development credits and until such study is conducted of the Company's research and development credits, no amounts are being presented as an uncertain tax position. The Company's net deferred income tax assets have been fully offset by a valuation allowance. Therefore, future changes to the Company's unrecognized tax benefits would be offset by an adjustment to the valuation allowance and there would be no impact on the Company's balance sheet, statement of operations, or cash flows. The Company does not expect its unrecognized tax benefits to change significantly over the next 12 months.

The Company is currently open to audit under the statute of limitations by the Internal Revenue Service and the appropriate state income taxing authorities for all years due to the net loss carryforwards from those years. The Company is currently not under examination by the Internal Revenue Service or any other taxing authorities. The Company has not recorded any interest and penalties on any unrecognized tax benefits since its inception.

9. Directors' Deferred Compensation Plan

Non-employee directors may defer all or a portion of their fees under the Company's Directors' Deferred Compensation Plan until termination of their status as directors. Deferrals can be made into a cash account, a stock account, or a combination of both. Stock accounts will be paid out in the form of Company common stock, except that any fractional shares will be paid out in cash valued at the then current market price of the Company's common stock. Cash accounts and stock accounts under the Directors' Deferred Compensation Plan are credited with interest or the value of any cash and stock dividends, respectively. Non-employee directors are fully vested in any amounts that they elect to defer under the Directors' Deferred Compensation Plan.

For the years ended December 31, 2016, 2015 and 2014, the Company incurred non-employee director fee expense of $257, $229 and $247, respectively, of which $132, $113 and $125 was deferred into stock accounts and will be paid in common stock following separation from service as a director. At December 31, 2016, 54,605 shares of the Company's common stock had been credited to individual director stock accounts under the Directors' Deferred Compensation Plan, and no amounts had been credited to individual director cash accounts under the Directors' Deferred Compensation Plan.

10. 401(k) Plan

The Company sponsors a 401(k) retirement savings plan that is available to all eligible employees. The plan is intended to qualify under Section 401(k) of the Internal Revenue Code of 1986, as amended. The plan provides that each participant may contribute up to a statutory limit of their pre-tax compensation which was $18 for employees under age 50 and $24 for employees 50 and older in calendar year 2016. Employee contributions are held in the employees' name and invested by the plan's trustee. The plan also permits the Company to make matching contributions, subject to established limits. The Company elected to match a portion of employee's contributions to the plan in the amount of $200, $189 and $200 in 2016, 2015 and 2014, respectively.

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11. Commitments and Contingencies

Operating Lease Commitments

Prior to April 30, 2015, the Company subleased office space under a sublease that was accounted for as an operating lease. Upon expiration of this lease, the Company entered into a new office lease with respect to the Company's current office space. The new office lease term commenced on May 1, 2015 with a three year term ending on April 30, 2018, with an option to extend the lease for an additional three years. Total rent expense under the operating leases was approximately $495, $501 and $513 for the years ended December 31, 2016, 2015 and 2014, respectively. As of December 31, 2016, future annual minimum payments under operating lease arrangements were $475 and $159 for the year ended December 31, 2017 and 2018, respectively.

12. Quarterly Financial Data (Unaudited)

The following is a summary of the quarterly results of operations for the years ended December 31, 2016 and 2015:

	2016 Quarters Ended			
	March 31	**June 30**	**September 30**	**December 31**
Expenses:				
Research and development expenses	$ 3,971	$ 4,058	$ 4,614	$ 4,585
General and administrative expenses	2,114	1,999	2,313	2,279
Total expenses	6,085	6,057	6,927	6,864
Loss from operations	(6,085)	(6,057)	(6,927)	(6,864)
Other income (expense), net	28	5	13	-
Gain (loss) on change in fair value of warrant liability (a)	8,163	-	-	-
Net loss	$ 2,106	$ (6,052)	$ (6,914)	$ (6,864)
Net income (loss) per share:				
Basic	$ 0.15	$ (0.43)	$ (0.49)	$ (0.44)
Diluted	$ 0.15	$ (0.43)	$ (0.49)	$ (0.44)
Weighted average shares outstanding:				
Basic	14,152,204	14,174,914	14,189,226	15,713,210
Diluted	14,344,816	14,174,914	14,189,226	15,713,210

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	2015 Quarters Ended			
	March 31	**June 30**	**September 30**	**December 31**
Expenses:				
Research and development expenses	$ 2,948	$ 2,956	$ 3,824	$ 3,879
General and administrative expenses	2,111	2,005	2,039	2,079
Total expenses	5,059	4,961	5,863	5,958
Loss from operations	(5,059)	(4,961)	(5,863)	(5,958)
Other income (expense), net	27	25	9	(4)
Gain (loss) on change in fair value of warrant liability (a)	2,648	(43,016)	40,720	2,729
Net loss	$ (2,384)	$ (47,952)	$ 34,866	$ (3,233)
Net income (loss) per share:				
Basic	$ (0.17)	$ (3.42)	$ 2.48	$ (0.23)
Diluted	$ (0.17)	$ (3.42)	$ (0.38)	$ (0.40)
Weighted average shares outstanding:				
Basic	14,033,587	14,037,411	14,037,411	14,037,411
Diluted	14,033,587	14,037,411	15,485,212	14,952,920

(a) The gain (loss) on change in fair value of warrant liability is related to the private placement of warrants completed in November 2014. See Note 6, *Stockholder's Equity*, for further information.

GENOTHERAPEUTICS, INC.

STOCK OPTION PLAN

1. PURPOSE.

(a) The purpose of the Genotherapeutics, Inc. Stock Option Plan (the "***Plan***") is to provide a means by which selected key employees and directors (if declared eligible under paragraph 4) of Genotherapeutics, Inc. (the "***Company***"), and its Affiliates, as defined in subparagraph 1(b), may be given an opportunity to benefit from increases in value of the stock of the Company. The Plan will be effected solely through the granting of nonstatutory stock options.

(b) The word "***Affiliate***" as used in the Plan means any parent corporation or subsidiary corporation of the Company, as those terms are defined in Sections 424 (e) and (f), respectively, of the Internal Revenue Code of 1986, as amended from time to time (the "***Code***").

(c) The Company, by means of the Plan, seeks to retain and reward the services of persons now or later employed by or serving as directors of the Company, to secure and retain the services of persons capable of filling such positions, and to provide incentives for such persons to exert maximum efforts for the success of the Company.

2. ADMINISTRATION.

(a) The Plan shall be administered by a Committee appointed by the Board of Directors of the Company composed of not fewer than 3 members, (the "***Committee***").

(b) The Committee shall have the power, subject to, and within the limitations of, the express provisions of the Plan and to such resolutions, not inconsistent with the provisions of the Plan, as may be adopted from time to time by the Board of Directors:

(i) To determine from time to time which of the persons eligible under the Plan shall be granted nonqualified stock options ("***Option Awards***") and the number of shares with respect to which Option Awards shall be granted to each such person.

(ii) To construe and interpret the Plan and Option Awards granted under it, and to establish, amend and revoke rules and regulations for its administration. The Committee, in the exercise of this power, may correct any defect, omission or inconsistency in the Plan or in any Option Award, in a manner and to the extent it shall deem necessary or expedient to make the Plan fully effective.

(iii) To amend the Plan as provided in paragraph 11.

(iv) Generally, to exercise such powers and to perform such acts as the Committee deems necessary or expedient to promote the best interests of the Company.

(c) The Board of Directors may abolish the Committee at any time and revest in the Board of Directors the administration of the Plan.

3. SHARES SUBJECT TO THE PLAN.

(a) Subject to the provisions of paragraph 9 relating to adjustments upon changes in stock, the stock that may be issued pursuant to Option Awards granted under the Plan shall not exceed in the aggregate Three Hundred (300) shares of the Company's common stock. If any option or right granted under the Plan shall for any reason expire or otherwise terminate without having been exercised in full or which is settled in cash, the stock not issued under such option or right shall again become available to the Plan.

(b) The stock subject to the Plan may be unissued shares or reacquired shares, bought on the market or otherwise.

4. ELIGIBILITY.

Option Awards may be granted only to directors, officers or employees of the Company or its Affiliates.

5. TERMS OF OPTION AWARDS.

Each Option Award shall be in such form and shall contain such terms and conditions as the Committee shall deem appropriate. The provisions of separate options need not be identical, but each option shall include (through incorporation of provisions hereof by reference in the option or otherwise) the substance of each of the following provisions:

(a) The term of any option shall be ten (10) years from the date it was granted.

(b) The exercise price of each Option Award shall be not less than one hundred percent (100%) of the fair market value of the stock subject to the option on the date the option is granted; *provided*, *however*, that the Committee shall have the discretion to grant options to one or more persons and in such proportions and at such higher exercise price as the Committee may determine. Fair market value shall be determined by the Committee on such basis as it deems appropriate.

(c) The purchase price of stock acquired pursuant to an option shall be paid, to the extent permitted by applicable statutes and regulations, either (i) in cash at the time the option is exercised, or (ii) at the discretion of the Committee, determined either at the time of the grant or exercise of the option, (A) by delivery to the Company of other common stock of the Company, (B) according to a deferred payment or other arrangement (which may

include, without limiting the generality of the foregoing, the use of other common stock of the Company) with the person to whom the option is granted or to whom the option is transferred pursuant to subparagraph 5(d), or (C) in any other form of legal consideration that may be acceptable to the Committee.

(d) Unless otherwise expressly stated in the option, an Option Award shall not be transferable except by will or by the laws of descent and distribution, and shall be exercisable

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during the lifetime of the person to whom the option is granted only by such person, nor shall an Option Holder have the right or power to anticipate, accelerate, convey, assign or otherwise alienate, hypothecate, pledge or otherwise encumber any Option Award or the shares subject to the Option Award.

(e) Shares of stock subject to any Option Award shall vest as follows: (i) one-third (1/3) of such shares shall vest on the third anniversary of the date of grant of such Option Award; (ii) an additional one-third (1/3) of such shares shall vest on the fourth anniversary of the date of grant of such Option Award; and (iii) the final one-third (1/3) of such shares shall vest on the fifth anniversary of the date of grant of such Option Award. In the case of any Option Award granted to a person using different exercise prices, this paragraph shall be applied separately to the shares granted at each option price.

(f) Shares sold to a third party shall be subject to a thirty day right of first refusal by the Company at the same price and terms as offered by any third party pursuant to a bona fide offer, and may not be sold prior to an offer of sale to the Company on such terms. Further, shares acquired through exercise of an Option Award shall be subject to the terms and conditions of the Voting and Shareholder Agreement dated May 13, 1999, between the Company and its stockholders, as amended from time to time (the "***Stockholders Agreement***").

(g) In the event of a participant's termination of employment or service as a director, as applicable, by reason of voluntary retirement (at or after age sixty-five (65) or after age fifty-five with no fewer than ten (10) years of service), death, permanent and total disability, involuntary termination (other than a termination for cause but including any involuntary termination as the result of a Change in Control, as addressed in paragraph (h) below), with respect to such participant's Option Award(s) (i) the Committee may in its sole, absolute and final discretion elect to vest any or all shares not otherwise vested under the terms of the Plan, and (ii) any vested shares subject to an Option Award may be exercised within ten (10) years following the date of grant of such Option Award. In the event of an Option Award holder's employment or status as a director, as applicable, is terminated under any other circumstances, (i) any nonvested Option Award shall be forfeited immediately, and (ii) the date of such termination of employment shall be the last day on which any vested Option Award may be exercised.

For purposes of this section, a permanent and total disability shall mean the occurrence of the following conditions: (i) the Option Award holder's physical or mental incapacity (excluding infrequent and temporary absences due to ordinary illness) of properly performing the principal functions which had been typically assigned to him by the Company, (ii) such incapacity shall exist or be expected to exist with a reasonable degree of medical certainty for more than ninety (90) days in the aggregate during any consecutive twelve (12) month period, and (iii) either the Option Award holder or the Company shall have given the other thirty (30) days written notice of intent to terminate employment or service as a director because of disability. In the event the Company and Option Award holder are in material disagreement regarding the Participant's physical or mental condition, the Company shall authorize a panel of three (3) physicians selected by the Company to examine the Participant to determine conclusively, by a majority, whether the Participant is disabled for purposes of the Plan.

For purposes of this section, a termination for cause shall mean the termination of an individual's status as an employee or director of the Company, as applicable, as the result of (i) fraud or dishonesty in connection with the business of the Company; (ii) gross negligence in the performance of duties for the Company; (iii) willful failure in carrying out duties as an employee or director; or (iv) arrest and conviction of a felony involving moral turpitude, whether or not in connection with the business of the Company; *provided* that (iii) above shall not apply if the Option Award holder has been assigned by the Company to duties which are not comparable to such holder's function and compensation at the Company, or which are non-executive or demeaning assignments, or if the Company has given such participant demeaning and unreasonable pay cuts.

(h) In the event of a Change in Control of the Company, all shares subject to all Option Awards shall become one hundred percent (100%) vested and shall be converted to cash, options or stock of equivalent value in the surviving organization under terms and condition which substantially preserve the economic status of the participants, as determined by the Committee. For purposes of this paragraph, a Change in Control shall mean:

(i) a sale or other disposition of more than fifty percent (50%) of the issued and outstanding voting stock of the Company, in a single transaction or in a series of transactions. For such purposes, "***Voting Stock***" shall mean capital stock of the Company 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 Company.

(ii) a merger or consolidation of the Company 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 are not holders of the Voting Stock immediately prior to giving effect to such transaction;

(iii) a sale or other disposition of all or substantially all of the Company's assets in a single transaction or in a series of transactions (including, without limitation, any liquidation or dissolution of the Company).

A Change of Control shall not include any of the following events:

(i) any transfer or issuance of stock of the Company to one or more of the Company's lenders (or to any agents or representatives thereof) in exchange for debt of the Company owed to any such lenders;

(ii) any transfer of stock of the Company to or by any person or entity, including but not limited to one or more of the Company'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 Company and/or its subsidiaries; or

(iii) any transfer or issuance to any person or entity, including but not limited to one or more of the Company's lenders (or to any agents or representatives thereof), in connection with the workout or restructuring of the Company's debts to any one of the

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Company's lenders, including but not limited to the issuance of new stock in exchange for any equity contribution to the Company in connection with the workout or restructuring of such debt.

(iv) any transfer of stock by a stockholder of the Company which is a partnership or corporation to the partners or stockholders in such stockholder.

(i) In the event of an initial public offering of the Company, Option Awards shall be convertible to options in shares of the newly public company, under terms and conditions which substantially preserve the rights and options of the participant. Any resulting registration of options or shares shall be effected at Company expense.

(j) If provided in the Option Award, each Option Award shall carry the right to receive any dividend or dividend equivalent on vested shares, under such terms and conditions as may be specified in the Option Award.

(k) Notwithstanding any other provisions of the Plan, any vested but unexercised Option Award shares shall be forfeited upon the Option Award holder's "***Competition***" with the Company. For this purpose, Competition shall be determined by the Committee, and shall exist if the Option Award holder directly or indirectly (i) engages or has a financial interest in, (ii) becomes an officer, employee, director, partner, advisor or consultant of or to, (iii) has an equity interest in, or (iv) in any way materially assists any person, corporation, entity or business whose existing or planned products or activities compete in whole or in part with the existing or planned products or activities of the Company. The sole fact of ownership by an Option Award holder of less than two percent (2%) of the stock of a publicly traded company which may have product lines which compete with product lines of this Company shall not be treated as Competition. Any determination by the Committee under this section shall be final and conclusive, unless overruled by the Board.

(l) Notwithstanding any other provision of the Plan or any Option Award to the contrary, any and all sales of shares to the Company or any Affiliate are contingent upon and subject to the terms and conditions of any bank loan covenants by the Company or any Affiliate.

6. COVENANTS OF THE COMPANY.

(a) During the term of any Option Award granted under the Plan, the Company shall keep available at all times for issuance or sale the number of shares of stock required to satisfy such Option Award.

(b) The Company shall seek to obtain from each regulatory commission or agency having jurisdiction over the Plan such authority, if any, as may be required to issue and sell shares of stock upon grant or exercise of Option Awards under the Plan; *provided*, *however*, that this undertaking shall not require the Company to register under the Securities Act of 1933, as amended (the "***Securities Act***"), either the Plan, any Option Award granted under the Plan or any stock issued or issuable pursuant to any such Option Awards. If, after reasonable efforts, the Company is unable to obtain from any such regulatory commission or agency the authority which counsel for the Company deems necessary for the lawful issuance and sale of stock under the Plan, the Company shall be relieved from any liability for failure to issue and sell stock upon exercise of such Option Awards unless and until such authority is obtained.

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7. USE OF PROCEEDS FROM STOCK.

Proceeds from the sale of stock pursuant to Option Awards granted under the Plan shall constitute general funds of the Company.

8. MISCELLANEOUS.

(a) The Committee shall have the power to accelerate the time during which an Option Award may be exercised or the time during which an option or stock acquired pursuant to an Option Award will vest, notwithstanding the provisions in the Option Award stating the time during which it may be exercised or the time during which stock acquired pursuant thereto will vest.

(b) Neither a recipient of an Option Award nor any person to whom an Option Award is transferred under subparagraph 5(d) shall be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares subject to such Option Award unless and until such person has satisfied all requirements for exercise of the Option Award pursuant to its terms and is thereby entitled to receive shares of stock.

(c) Throughout the term of any Option Award granted pursuant to the Plan, the Company shall make available to the holder of such Option Award upon request, not later than one hundred twenty (120) days after the close of each fiscal year of the Company during the option term, upon request, such financial and other information regarding the Company as comprises the annual report to the shareholders of the Company provided for in the bylaws of the Company.

(d) Nothing in the Plan or any instrument executed or Option Award granted pursuant thereto shall confer upon any recipient any right to continue in the employ of the Company or any Affiliate or to limit the Company's right to terminate the employment or directorship of any participant with or without cause. In the event that an Option Award recipient is permitted or otherwise entitled to take a leave of absence, the Company shall have the unilateral right to (i) determine whether such leave of absence will be treated as a termination of employment for purposes of his or her Option Award, and (ii) suspend or otherwise delay the time or times at which the shares subject to the Option Award would otherwise vest.

(e) To the extent provided by the terms of any Option Award, the recipient may satisfy any federal, state or local tax withholding obligation relating to the exercise or receipt of such Option Award by any of the following means or by a combination of such means: (i) tendering a cash payment: (ii) authorizing the Company to withhold from the shares of the common stock otherwise issuable to the participant as a result of the exercise or receipt of the Option Award cash or a number of shares having a fair market value less than or equal to the amount of the withholding tax obligation; or

(iii) delivering to the Company owned and unencumbered shares of the common stock having a fair market value less than or equal to the amount of the withholding tax obligation.

(f) In connection with each Option Award made pursuant to the Plan, the Company may require as a condition precedent to its obligation to issue or transfer shares to an eligible participant, or to evidence the removal of any restrictions on transfers or lapse of any

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repurchase right, that such participant make arrangements satisfactory to the Company to insure that the amount of any federal or other withholding tax required to be withheld with respect to such sale or transfer, or such removal or lapse, is made available to the Company for timely payment of such tax.

(g) The Company may, as a condition of transferring any stock pursuant to the Plan, require any person who is to acquire such stock (i) to give written assurances satisfactory to the Company as to the optionee's knowledge and experience in financial and business matters, and that he or she is capable of evaluating, alone or together with the purchaser representative, the merits and risks of acquiring the stock; and (ii) to give written assurances satisfactory to the Company stating that such person is acquiring the stock for such person's own account and not with any present intention of selling or otherwise distributing the stock. These requirements, and any assurances given pursuant to such requirements, shall be inoperative if (i) the issuance of the shares has been registered under a then currently effective registration statement under the Securities Act, or (ii) as to any particular requirement, a determination is made by counsel for the Company that such requirement need not be met in the circumstances under the then applicable securities laws.

(h) The Committee shall determine or cause to be determined the fair market value of the stock of the Company from time to time, as required for purposes of this Plan.

9. ADJUSTMENTS UPON CHANGES IN STOCK.

If any change is made in the stock subject to the Plan, or subject to any Option Award granted under the Plan (through merger, consolidation, reorganization, recapitalization, stock dividend, dividend in property other than cash, stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or otherwise), the Plan and outstanding Option Awards will be appropriately adjusted in the class(es) and maximum number of shares subject to the Plan and the class(es) and number of shares and price per share of stock subject to outstanding Option Awards.

10. AMENDMENT OF THE PLAN.

(a) The Committee at any time, and from time to time, may amend the Plan subject to and within the limitations of any resolutions approved by the Board of Directors.

(b) The Committee in its discretion shall determine at the time of each amendment of the Plan whether or not to submit such amendment to the Board of Directors of the Company for approval.

(c) Rights and obligations under any Option Award granted before amendment of the Plan shall not be altered or impaired by any amendment of the Plan unless (i) the Company requests the consent of the person to whom the Option Award was granted and (ii) such person consents in writing.

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11. TERMINATION OR SUSPENSION OF THE PLAN.

(a) The Committee may suspend or terminate the Plan at any time. No Option Awards may be granted under the Plan while the Plan is suspended or after it is terminated. Upon the termination of the Plan, all Option Awards shall become fully vested.

(b) Rights and obligations under any Option Award granted while the Plan is in effect shall not be altered or impaired by suspension or termination of the Plan, except with the consent of the person to whom the Option Award was granted.

12. EFFECTIVE DATE OF PLAN.

The Plan shall be effective as of November 18, 1999 upon execution by the President of the Company, following approval by the Plan Committee.

IN WITNESS WHEREOF, the President of the Company has executed this Plan as of the 26th day of August, 1999.

GENOTHERAPEUTICS, INC.

By: /s/ Marc S. Hanover
Name: Marc S. Hanover
Title: CFO / Secretary

APPROVED:

PLAN COMMITTEE

/s/ John H. Pontius

/s/ Marc S. Hanover

/s/ Mitchell S. Steiner

FIRST AMENDMENT
GTX, INC.
1999 STOCK OPTION PLAN

WHEREAS, GTx, Inc. (the "***Company***") adopted the Genotherapeutics, Inc. Stock Option Plan (the "***1999 Plan***") effective August 26, 1999;

WHEREAS, Section 5(f) of the 1999 Plan contains a provision that subjects any shares acquired pursuant to the exercise of an option to a 30 day right of first refusal in favor of the Company (the "***Right of First Refusal***");

WHEREAS, it was the intent of the Company that the Right of First Refusal would end at such time as the Company completed its initial public offering of common stock;

WHEREAS, the Compensation Committee believes it to be in the best interests of the Company to amend Section 5(f) of the Company's 1999 Plan to reflect the Company's intent; and

WHEREAS, the Compensation Committee of the Company has approved such amendment.

NOW, THEREFORE, BE IT RESOLVED, the 1999 Plan is hereby amended, effective as of the date hereof, as follows:

1. That Section 5(f) of the 1999 Plan is hereby deleted in its entirety and replaced with the following:

(f) Prior to such time as the Company's shares of common stock are first sold to the public in an offering registered pursuant to Section 5 of the Securities Act of 1933, as amended (the "***Initial Public Offering***"), any such shares of stock acquired though the exercise of an option shall be subject to a thirty (30) day right of first refusal by the Company at the same price and terms as offered by any third party pursuant to a bona fide offer, and may not be sold prior to an offer to sell to the Company on such terms. Further, shares acquired through exercise of an Option Award shall be subject to the terms and conditions of the Voting and Shareholder Agreement dated April 15, 1999, between the Company and its stockholders, as amended from time to time (the "***Stockholders Agreement***").

In Witness Whereof, the Company has caused this First Amendment to the 1999 Plan to be executed on October 2, 2003.

GTX, INC.

By: /s/ Henry P. Doggrell
Name: Henry P. Doggrell
Title: General Counsel/Secretary

SECOND AMENDMENT
TO THE GTX, INC.
1999 STOCK OPTION PLAN

WHEREAS, GTx, Inc. (the "***Company***") adopted the Genotherapeutics, Inc. Stock Option Plan (the "***1999 Plan***") effective August 26, 1999;

WHEREAS, the Compensation Committee believes it to be in the best interests of the Company to amend Section 5(g) of the Company's 1999 Plan;

WHEREAS, the Compensation Committee of the Company has approved such amendments; and

WHEREAS, the contemplated amendments are not "***material amendments***" as contemplated by Nasdaq Marketplace Rule 4350(i)(1)(A).

NOW, THEREFORE, BE IT RESOLVED, the 1999 Plan is hereby amended, effective as of the date hereof, as follows:

1. That the last sentence of the first paragraph in Section 5(g) of the 1999 Plan is hereby deleted in its entirety and replaced with the following:

(g) In the event an Option Award holder's employment or status as a director, as applicable, is terminated under any other circumstances, (i) any nonvested Option Award shall be forfeited immediately, and (ii) the Option Award holder shall have until the earlier to occur of (A) a period of ninety (90) days from the date of termination or (B) the expiration of the term of the Option Award to exercise such Option Award.

IN WITNESS WHEREOF, the Company has caused this Second Amendment to the 1999 Plan to be executed on March 18, 2004.

GTX, INC.

By: /s/ Henry P. Doggrell

Name: Henry P. Doggrell
Title: General Counsel/Secretary

THIRD AMENDMENT TO THE
GTX, INC.
1999 STOCK OPTION PLAN

WHEREAS, GTx, Inc. (the "***Company***") adopted the Genotherapeutics, Inc. Stock Option Plan (the "***1999 Plan***") effective August 26, 1999;

WHEREAS, the Compensation Committee believes it to be in the best interests of the Company to amend the Company's 1999 Plan to clarify certain existing provisions in light of final regulations issued under Section 409A of the Internal Revenue Code of 1986, as amended;

WHEREAS, the Compensation Committee of the Company has approved such amendments; and

WHEREAS, the contemplated amendments are not "material amendments" as contemplated by Nasdaq Marketplace Rule 4350(i)(1)(A).

NOW, THEREFORE, BE IT RESOLVED, the 1999 Plan is hereby amended, effective as of the date hereof, as follows:

1. That Section 1(b) of the 1999 Plan is hereby deleted in its entirety and replaced with the following:

(b) The word "Affiliate" as used in the Plan means any subsidiary corporation of the Company, as such term is defined in Section 424(f) of the Internal Revenue Code of 1986, as amended from time to time (the "***Code***").

2. That Section 5(b) of the 1999 Plan is hereby deleted in its entirety and replaced with the following:

(b) The exercise price of each Option Award shall be not less than one hundred percent (100%) of the fair market value of the stock subject to the option on the date the option is granted; *provided*, *however*, that the Committee shall have the discretion to grant options to one or more persons in such proportions and at such higher exercise price as the Committee may determine. Notwithstanding the foregoing, an Option Award may be granted with an exercise price lower than one hundred percent (100%) of the fair market value of the stock subject to the option on the date the option is granted if such Option Award is granted pursuant to an assumption of or substitution for another option pursuant to a Change in Control (as defined in section 5(h) of the Plan) and in a manner consistent with the provisions of Sections 409A and 424(a) of the Code. Fair market value means, as of any date, the value of the Company's common stock determined as follows:

i) If the common stock is listed on any established stock exchange or traded on the Nasdaq Global Market or any other established market, the fair market value of a share of common stock shall be the closing sales price for such stock as quoted on such exchange or market (or the exchange or market with the greatest

volume of trading in the common stock) on the date of determination, as reported in *The Wall Street Journal* or such other source as the Committee deems reliable.

ii) Unless otherwise provided by the Committee, if there is no closing sales price for the common stock on the date of determination, then the fair market value shall be the closing sales price on the last preceding date for which such quotation exists.

iii) In the absence of such markets for the common stock, the fair market value shall be determined by the Committee in good faith and in a manner that complies with Section 409A of the Code.

3. That the following will be added to the 1999 Plan as Section 8(i):

(i) To the extent permitted by applicable law, the Committee, in its sole discretion, may determine that the delivery of common stock upon the exercise of all or a portion of any Option Award may be deferred and may establish programs and procedures for deferral elections to be made by persons receiving options. Deferrals by persons will be made in accordance with Section 409A of the Code.

4. That the following will be added to the 1999 Plan as Section 8(j):

(j) To the extent that the Committee determines that any Option Award granted hereunder is subject to Section 409A of the Code, the agreement evidencing such Option Award shall incorporate the terms and conditions necessary to avoid the consequences specified in Section 409A(a)(1) of the Code. To the extent applicable, this Plan and the agreements evidencing Option Awards shall be interpreted in accordance with Section 409A of the Code, including without limitation any applicable guidance that may be issued or amended in the future.

5. That Section 10(c) of the 1999 Plan is hereby deleted in its entirety and replaced with the following:

(b) Rights and obligations under any Option Award granted before amendment of the Plan shall not be altered or impaired by any amendment of the Plan unless (i) the Company requests the consent of the person to whom the Option Award was granted and (ii) such person consents in writing. Notwithstanding the foregoing, subject to the limitations of applicable law, if any, the Committee may amend the terms of any one or more Option Awards without the consent of the person to whom the Option Award was granted if necessary to bring the Option Award into compliance with Section 409A of the Code.

IN WITNESS WHEREOF, the Company has caused this Third Amendment to the 1999 Plan to be executed on November 4, 2008.

GTX, INC.

By: /s/ Henry P. Doggrell
Name: Henry P. Doggrell
Title: General Counsel/Secretary

FOURTH AMENDMENT
TO THE GTX, INC.
1999 STOCK OPTION PLAN

WHEREAS, GTx, Inc. (the "***Company***") adopted the Genotherapeutics, Inc. Stock Option Plan (the "***1999 Plan***") effective August 26, 1999;

WHEREAS, the Compensation Committee believes it to be in the best interest of the Company to interpret the Plan to provide a consistent definition of the terms "voluntary retirement" and "Retirement" with respect to any stock option awards granted thereunder;

WHEREAS, the Compensation Committee believes that this Fourth Amendment will also benefit the optionees under the 1999 Plan by clarifying the applicable requirements for determining "voluntary retirement" and "Retirement" and that this Fourth Amendment will not alter or impair any rights or obligations the optionees have under any stock option award granted thereunder;

WHEREAS, the Compensation Committee has approved this Fourth Amendment; and

WHEREAS, the contemplated amendments are not "material amendments" as contemplated by Nasdaq Marketplace Rule 5635(c) and IM-5635-1.

NOW, THEREFORE, BE IT RESOLVED, the 1999 Plan and any stock option award issued pursuant thereto are hereby interpreted and amended as follows:

The definition of "voluntary retirement" and "Retirement" with respect to the 1999 Plan and any stock option award issued pursuant thereto shall be amended and interpreted to mean "any voluntary termination of employment by the Optionee after having reached the age of sixty-five (65) years or after having reached the age of fifty-five (55) years if the Optionee has no fewer than five (5) years of service with the Company."

IN WITNESS WHEREOF, the Company has caused this Fourth Amendment to the 1999 Plan to be executed on December 10, 2009.

GTX, INC.

By: /s/ Henry P. Doggrell
Name: Henry P. Doggrell
Title: General Counsel/Secretary

NONQUALIFIED STOCK OPTION SUBSCRIPTION AGREEMENT

THIS NONQUALIFIED STOCK OPTION SUBSCRIPTION AGREEMENT (this "***Agreement***"), dated as of the day of , , is made by and between **GTX, INC.** (the "***Company***"), a Delaware corporation, and the Employee of the Company whose name appears on the signature page hereof (hereinafter referred to as the "***Optionee***").

WHEREAS, pursuant to the 1999 Stock Option Plan, as amended (the "***Plan***"), the terms of which are hereby incorporated by reference, the Company intends to provide incentives to certain key Employees of the Company by providing them with opportunities for ownership of shares of Common Stock; and

WHEREAS, a duly constituted committee of the Board of Directors of the Company (hereinafter referred to as the "***Committee***") appointed to administer the Plan has determined that it would be to the advantage and best interest of the Company and its stockholders to grant the Option provided for herein to the Optionee under the Plan and has advised the Company thereof and instructed the undersigned officers to issue said Option;

NOW, THEREFORE, in consideration of the mutual covenants herein contained and other good and valuable consideration, receipt of which is hereby acknowledged, the parties hereto do hereby agree as follows:

ARTICLE 1

DEFINITIONS

Whenever the following terms are used in this Agreement, they shall have the meaning specified below unless the Plan indicates to the contrary.

1.1 Cause. "***Cause***" used in connection with the termination of employment of the Optionee shall mean a termination of employment of the Optionee by the Company or any of its Subsidiaries due to (i) fraud or dishonesty of the Optionee in connection with the business of the Company; (ii) gross negligence of the Optionee in the performance of duties for the Company; (iii) willful failure by the Optionee in carrying out duties as an employee; or

(iv) arrest and conviction of the Optionee for a felony involving moral turpitude, whether or not in connection with the business of the Company; *provided* that (iii) above shall not apply if the Optionee has been assigned by the Company to duties which are not comparable to such Optionee's function and compensation at the Company, or which are non-executive or demeaning assignments, or if the Company has given such Optionee demeaning and unreasonable pay cuts.

1.2 Change in Control. "***Change in Control***" shall have the meaning given in Section 3.3.

1.3 Code. "***Code***" shall mean the Internal Revenue Code of 1986, as amended.

1.4 Common Stock. "***Common Stock***" shall mean the common capital stock of the Company.

1.5 Exchange Act. "***Exchange Act***" shall mean the Securities Exchange Act of 1934, as amended, and all rules and regulations promulgated thereunder.

1.6 Exercise Price. "***Exercise Price***" shall mean the price per Option Share as set forth on the signature page hereof.

1.7 Grant Date. "***Grant Date***" shall mean the date on which the Option provided for in this Agreement was granted.

1.8 IPO. "***IPO***" shall mean the date on which the Company's shares of Common Stock are first sold to the public in an offering registered pursuant to Section 5 of the Securities Act of 1933, as amended.

1.9 Option. "***Option***" shall mean any stock option to purchase Common Stock of the Company granted under this Agreement.

1.10 Option Shares. "***Option Shares***" shall mean the number of shares of Common Stock for which this Option is granted as set forth upon the signature page hereof.

1.11 Permanent Disability. "***Permanent Disability***" of the Optionee shall mean the occurrence of the following conditions: (i) the optionee's physical or mental incapacity (excluding infrequent and temporary absences due to ordinary illness) prevents the optionee from properly performing the essential functions of his or her job which had been typically assigned to him or her by the Company, with or without reasonable accommodation, (ii) such incapacities shall exist or be expected to exist within a reasonable degree of medical certainty for more than ninety (90) days in the aggregate during any consecutive twelve (12) month period, (iii) the delivery of a report to the Company determining the existence of the incapacities with respect to the optionee and describing in detail the incapacities which satisfy the requirements of the foregoing subsections (i) and (ii), which report shall be signed by a medical doctor duly licensed to practice medicine in either the state of Tennessee or the state in which the optionee resides and which report must be received by the Company while the optionee is still employed by the Company, *provided*, *however*, if the Committee determines the report to be inadequate or inaccurate, the Committee may select two additional independent medical doctors and request each to provide a report meeting the above specifications, and the determination of a majority of the three medical doctors shall be conclusive and binding on the optionee and the Company, and the optionee shall cooperate with the Company's request and submit to such medical examinations, and (iv) either the optionee or the Company shall have given the other thirty (30) days written notice of intent to terminate employment or service because of permanent and total disability.

1.12 Permitted Transferee. "***Permitted Transferee***" shall have the meaning given in Section 5.2(b).

1.13 Person. "***Person***" means any individual, corporation, partnership, joint venture, limited liability company, association, joint-stock company, trust or unincorporated organization.

1.14 Plan. "***Plan***" shall mean the 1999 Stock Option Plan of GTx, Inc.

1.15 Retirement. "***Retirement***" shall mean any voluntary termination of employment by the Optionee after having reached the age of sixty-five (65) years (or after having reached the age of fifty-five (55) years if the Optionee has no fewer than five (5) years of service with the Company).

ARTICLE 2

GRANT OF OPTION

2.1 Grant of Option. For good and valuable consideration, on and as of the date hereof, the Company irrevocably grants to the Optionee the Option to purchase any part or all of an aggregate of the number of Option Shares set forth on the signature page hereof upon the terms and conditions set forth in this Agreement.

2.2 Consideration to the Company. In consideration of the granting of this Option by the Company, the Optionee agrees to render faithful and efficient services to the Company with such duties and responsibilities as the Company shall from time to time prescribe. Nothing in this Agreement or in the Plan shall confer upon the Optionee any right to continue in the employ or service of the Company or shall interfere with or restrict in any way the rights of the Company, which are hereby expressly reserved, to discharge the Optionee at any time for any reason whatsoever, with or without Cause.

2.3 Adjustments in Option. Subject to Section 9 of the Plan, in the event that the outstanding shares of the Common Stock subject to the Option are changed into or exchanged for a different number or kind of shares of capital stock or other securities of the Company, or of another corporation, by reason of a reorganization, merger, consolidation, recapitalization, reclassification, stock split, stock dividend, combination of shares or otherwise, the Committee shall make an appropriate adjustment in the number and kind of shares of Option Shares. Such adjustment in the Option shall be made without change in the total price applicable to the unexercised portion of the Option (except for any change in the aggregate price resulting from rounding-off of shares, quantities or prices) and with any necessary corresponding adjustment in the Exercise Price. No fractional shares shall be issued, and any fractional

shares resulting from computations pursuant to Section 9 of the Plan shall be eliminated from the respective Options. Any such adjustment made by the Committee shall be final and binding upon the Optionee, the Company and all other interested persons.

2.4 Tax Treatment. The Option hereby granted is intended to be a Supplemental Stock Option as defined in the Plan (hereinafter referred to as a "***Nonqualified Stock Option***") and not an Incentive Stock Option as described in Section 422 of the Code.

ARTICLE 3

PERIOD OF EXERCISABILITY

3.1 General Rule. The Option will become exercisable as to the following percentages of the Option Shares on the following anniversaries of the Grant Date provided that the Optionee is then employed by the Company on such anniversary:

Third anniversary	33%
Fourth anniversary	67%
Fifth anniversary	100%

3.2 Termination of Employment and Nonvested Options. In the event the Optionee's employment or service with the Company is terminated (other than a termination for Cause but including any involuntary termination as the result of a Change in Control, as described below), by reason of Retirement, death, or Permanent Disability, the Committee may in its sole, absolute and final discretion elect to vest any or all shares subject to the Option, that are not otherwise vested pursuant to the terms of the Plan. In the event the Optionee's employment or service is terminated under any other circumstances, any portion of the Option that is has not vested shall be forfeited immediately.

3.3 Change in Control. Notwithstanding Section 3.1, unless the Optionee is terminated for Cause, the Option will become exercisable in full in the event of any voluntary or involuntary termination of the Optionee's employment or service occurring simultaneously with or at any time after any of the following events (a "***Change in Control***"):

(a) the sale or other disposition of all or substantially all of the assets of the Company in a single transaction or in a series of transactions (including, without limitation, any liquidation or dissolution of the Company);

(b) the sale or other disposition of more than fifty percent (50%) of the issued and outstanding voting stock of the Company, in a single transaction or in a series of transactions. For such purposes, "***voting stock***" shall mean the capital stock of the Company 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 Company; or

(c) a merger or consolidation of the Company 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 date of the grant of this Option of at least 20% of the voting stock of the Company.

A Change in Control shall not include:

(1) any transfer or issuance of stock of the Company to one or more of the Company's lenders (or to any agents or representatives thereof) in exchange for debt of the Company owed to any such lenders;

(2) any transfer of stock of the Company to or by any person or entity, including but not limited to one or more of the Company'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 Company and/or its subsidiaries;

(3) any transfer or issuance to any person or entity, including but not limited to one or more of the Company's lenders (or to any agents or representatives thereof), in

connection with the workout or restructuring of the Company's debts to any one of the Company's lenders, including but not limited to the issuance of new stock in exchange for any equity contribution to the Company in connection with the workout or restructuring of such debt; or

(4) any transfer of stock by a stockholder of the Company, which is a partnership or corporation to the partners, or stockholders in such stockholder.

3.4 Optional Vesting/Accelerated Exercise in connection with a Change of Control. In the event a Change in Control appears likely to occur, the Committee may, in its sole and absolute discretion, send written notice to the Optionee at least ten (10) days prior to the contemplated date of any Change in Control specifying (a) that the Option will become exercisable in full on the date of the Change in Control, (b) that any portion or all of the Option which thereby becomes exercisable and any portion or all of the Option which was already exercisable will immediately thereafter expire on the same date and (c) that to prevent the lapse of the Option, the Optionee must exercise the Option no later than such date. Except as may otherwise be expressly provided in such written notice, any acceleration of the exercisability of the Option and any attempted exercise of the Option by the Optionee shall be null and void if the Change in Control does not occur within thirty (30) days of the date contemplated in the notice.

3.5 Expiration of Option. Any portion of the Option, which has become exercisable will nevertheless expire and will no longer be exercisable to any extent by anyone on the earliest to occur of the following events:

(a) the tenth anniversary of the Grant Date;

(b) the earlier of (A) three (3) months after termination of employment (specifically including a termination of employment after a Change in Control), unless such termination is for Cause or results from Retirement, death, Permanent Disability or (B) the term of the Option as set forth in the Plan;

(c) twelve (12) months after termination of employment on account of Permanent Disability, *provided* that if Optionee shall die within such time without having fully exercised all vested Options, Optionee's estate shall have an additional twelve (12) months from Optionee's date of death to exercise such Options;

(d) eighteen (18) months after termination of employment on account of Optionee's death or within eighteen (18) months after Optionee's termination of employment if Optionee qualifies under clause (b) but dies within three (3) months after his or termination of employment without having exercised all of his or her vested Options;

(e) the earlier of five (5) years after the date of the Retirement of Optionee, or the term of the Option as set forth in the Plan;

(f) at the close of business on the date of the termination of the Optionee's employment by the Company for Cause; and

(g) if the Committee so determines and gives written notice as provided in Section 3.4, upon the Effective Date of any Change in Control.

3.6 Non-competition. Notwithstanding any other provisions of this Agreement, any Option outstanding, including any vested but unexercised Option, shall be forfeited upon the Optionee's "Competition" with the Company. For this purpose, Competition shall be determined by the Committee and shall exist if the Optionee, directly or indirectly (i) engages or has a financial interest in, (ii) becomes an officer, employee, director, partner, advisor or consultant of or to, (iii) has an equity interest in, or (iv) in any way materially assists any person, corporation, entity or business whose existing or planned products or activities compete in whole or in part with the existing or planned products or activities of the Company. The sole fact of ownership by an Optionee of less than two percent (2%) of the stock of a publicly traded company which may have product lines which compete with product lines of the Company shall not be treated as Competition. Any determination by the Committee under this section shall be final and conclusive, unless overruled by the Board.

ARTICLE 4

EXERCISE OF OPTION

4.1 Person Eligible to Exercise. During the lifetime of the Optionee, only the Optionee or the Optionee's guardian or conservator may exercise the Option or any portion thereof, and after the death of the Optionee, any portion of the Option may, prior to the time when the Option becomes unexercisable under Section 3.5, be exercised by the Optionee's personal representative or by any person empowered to do so under the Optionee's will or under the then applicable laws of descent and distribution; *provided, however*, at any time after the transfer of the Option or any portion thereof pursuant to Section 5.2, the transferred portion of the Option may be exercised only by the transferee.

4.2 Partial Exercise. Any exercisable portion of the Option or the entire Option, if then wholly exercisable, may be exercised in whole or in part at any time prior to the time when the Option or portion thereof becomes unexercisable under Section 3.5; *provided, however*, that any partial exercise shall be for whole shares only.

4.3 Manner of Exercise. The Option, or any exercisable portion thereof, may be exercised solely by delivery to the Secretary of the Company or his or her office all of the following prior to the time when the Option or such portion becomes unexercisable under Section 3.5:

(a) Notice in writing signed by the Optionee or the other person then entitled to exercise the Option or portion thereof, stating that the Option or portion thereof is thereby exercised, such notice complying with all applicable rules established by the Committee; and

(b) Full payment of the Exercise Price (as provided in Section 4.4), for the shares with respect to which such Option or portion thereof is exercised; and

(c) Such representations and documents as the Committee deems reasonably necessary or advisable to effect compliance with all applicable laws, including provisions of the

Securities Act of 1933, as amended, and any other federal, state or foreign securities laws or regulations following an IPO; and

(d) Full payment to the Company (as provided in Section 4.4) of all amounts, if any, which, under federal, state or local law, it is required to withhold upon exercise of the Option; and

(e) If the Option or portion thereof shall be exercised pursuant to Section 4.1 by any person or persons other than the Optionee, appropriate proof of the right of such person or persons to exercise the Option.

Notwithstanding the foregoing, the Optionee may give notice exercising the Option subject to the condition or conditions that any then contemplated Change in Control will actually occur and that the Option will become exercisable because of the Change in Control with respect to the Option Shares for which notice of exercise is given. In such an event, full payment of the Exercise Price with respect to all Option Shares need not be made until the date of the Change in Control.

4.4 Payment. The Exercise Price and any tax withholding shall be payable in cash, by check, or by any combination thereof. Except as otherwise provided by the Committee before the Option is exercised: (i) all or a portion of the Exercise Price or any tax withholding may be paid by delivery of shares of Common Stock acceptable to the Committee and having an aggregate Fair Market Value (valued as of the date of exercise) that is equal to the amount of cash that would otherwise be required; and (ii) the Exercise Price or any tax withholding may be paid by authorizing a third party to sell shares of Common Stock (or a sufficient portion of the shares) to be acquired upon the exercise of the Option and remit to the Company a sufficient portion of the sale proceeds to pay the entire Exercise Price and any tax withholding resulting from such exercise.

4.5 Conditions to Issuance of Stock Certificates. The shares of Common Stock deliverable upon the exercise of the Option, or any portion thereof, may be either previously authorized but unissued shares or issued shares that have then been reacquired by the Company. Such shares shall be fully paid and nonassessable. The Company shall not be required to issue or deliver any certificate or certificates for shares of Common Stock purchased upon the exercise of the Option or portion thereof prior to fulfillment of all of the following conditions:

(a) The admission of such shares to listing on all stock exchanges, if any, on which such class of Common Stock is then listed;

(b) The completion of any registration or other qualification of such shares under any state or federal law or under rulings or regulations of the SEC or of any other governmental regulatory body, which the Committee shall, in its absolute discretion deem necessary or advisable;

(c) The obtaining of approval or other clearance from any state or federal governmental agency which the Committee shall determine to be necessary or advisable; and

(d) The payment to the Company of all amounts, if any, which, under federal, state or local law, it is required to withhold upon exercise of the Option.

4.6 Rights as Stockholder. The holder of the Option shall not be, nor have any of the rights or privileges of, a stockholder of the Company in respect of any shares purchasable upon the exercise of the Option or any portion thereof unless and until certificates representing such shares shall have been issued by the Company in the name of such holder. No adjustment shall be made for cash dividends for which the record date is prior to the date such stock certificate is issued.

4.7 Issuance of Certificate; Legend. The stock certificate or certificates deliverable to the Optionee upon the exercise of the Option may, at the request of the Optionee at the time of exercise, be issued in his or her name alone or in his or her name and the name of another person as joint tenants with right of survivorship. The Committee may, in its absolute discretion, also take whatever additional actions it deems appropriate to effect compliance with all applicable provisions of the Securities Act of 1933, as amended, and any other federal, state or foreign securities laws or regulations including, without limitation, placing legends on share certificates and issuing stock-transfer orders to transfer agents and registrars.

ARTICLE 5

MISCELLANEOUS

5.1 Administration. The Committee shall have the power to interpret the Plan and this Agreement and to adopt such rules for the administration, interpretation and application of the Plan as are consistent therewith and to interpret or revoke any such rules. No member of the Committee shall be personally liable for any action, determination or interpretation made in good faith with respect to the Plan or the Option. The Board of Directors of the Company in its absolute discretion may at any time and from time to time exercise any and all rights and duties of the Committee under the Plan and this Agreement.

5.2 Transferability of Option. **(a)** Except as provided in subsection (b), neither the Option nor any interest or right therein or part thereof shall be subject to disposition by transfer, alienation, anticipation, encumbrance or any other means whether such disposition be voluntary or involuntary or by operation of law by judgment, levy, attachment, garnishment or any other legal or equitable proceedings (including bankruptcy), and any attempted disposition thereof shall be null and void and of no effect; *provided*, *however*, that this Section 5.2 shall not prevent transfers by will or by the applicable laws of descent and distribution.

(b) The Committee may, in its discretion, establish forms and procedures for the transfer of all or any portion of such Option by the Optionee to (i) Immediate Family Members (as defined hereinafter), (ii) a trust or trusts for the exclusive benefit of the Optionee and such Immediate Family Members, or (iii) a partnership or limited liability company in which the Optionee and such Immediate Family Members are the only partners or members (collectively such Optionee's "***Permitted Transferees***"), *provided* that subsequent transfers shall be prohibited except in accordance with the laws of descent and distribution, or by will. Notification and approval of all such transfers shall be in the form specified by the Committee.

Following transfer, any such Option shall continue to be subject to the same terms and conditions as were applicable immediately prior to transfer, *provided* that for purposes of **ARTICLES IV** and **V** hereof (other than this Section 5.2), the term "Optionee" shall be deemed to refer to the Permitted Transferee. Notwithstanding the foregoing, the Committee and the Company shall have no obligation to inform any Permitted Transferee of any expiration, termination, lapse or acceleration of any such Option and may give notices required hereunder, if any, to the Optionee. The events of termination of employment of **ARTICLE III** hereof shall continue to be applied with respect to the original Optionee, following which the Option shall be exercisable by the Permitted Transferee only to the extent, and for the periods specified at **ARTICLE III** hereof. As used in this Section 5.2(b) "***Immediate Family Member***" shall mean, with respect to the Optionee, his or her spouse, child, stepchild, grandchildren or other descendants, and shall include relationships arising from legal adoption.

5.3 Shares of Common Stock to be Reserved. The Company shall at all times during the term of the Option reserve and keep available such number of shares of Common Stock as will be sufficient to satisfy the requirements of this Agreement.

5.4 **Notices**. Any notice to be given under the terms of this Agreement to the Company shall be addressed to the Company in care of its Secretary, and any notice to be given to the Optionee shall be addressed to him or her at the address given beneath his or her signature hereto. By a notice given pursuant to this Section 5.4, either party may hereafter designate a different address for notices to be given to him or her. Any notice which is required to be given to the Optionee shall, if the Optionee is then deceased, be given to the Optionee's personal representative if such representative has previously informed the Company of his or her status and address by written notice under this Section 5.4. Any notice shall have been deemed duly given when enclosed in a properly sealed envelope or wrapper addressed as aforesaid, deposited (with postage prepaid) in a post office or branch post office regularly maintained by the United States Postal Service or when delivered by hand (whether by overnight courier or otherwise).

5.5 **Titles**. Titles are provided herein for convenience only and are not to serve as a basis for interpretation or construction of this Agreement.

5.6 **No Right to Employment**. Nothing in the Plan or this Agreement shall confer upon the Optionee any right to continue in the employ of the Company or any Affiliate or to limit the Company's right to terminate the employment relationship of any eligible employee with or without Cause. In the event that an Optionee is permitted or otherwise entitled to take a leave of absence, the Company shall have the unilateral right to (i) determine whether such leave of absence will be treated as a termination of employment for purposes of his or her Option, or (ii) suspend or otherwise delay the time or times at which the shares subject to the Option would otherwise vest.

5.7 **Amendment**. This Agreement may be amended only by a writing executed by the parties hereto, which specifically states that it is amending this Agreement.

5.8 **Governing Law**. The laws of the State of Tennessee shall govern the interpretation, validity and performance of the terms of this Agreement, regardless of the law that might be applied under principles of conflicts of laws.

5.9 **Jurisdiction**. Any suit, action or proceeding against the Optionee with respect to this Agreement, or any judgment entered by any court in respect of any thereof, may be brought in any court of competent jurisdiction in the State of Tennessee, and the Optionee hereby submits to the non-exclusive jurisdiction of such courts for the purpose of any such suit, action, proceeding or judgment. Nothing herein shall in any way be deemed to limit the ability of the Company to serve any such writs, process or summonses in any other manner permitted by applicable law or to obtain jurisdiction over the Optionee, in such other jurisdictions, and in such manner, as may be permitted by applicable law. The Optionee hereby irrevocably waives any objections which he or she may now or hereafter have to the laying of the venue of any suit, action or proceeding arising out of or relating to this Agreement brought in any court of competent jurisdiction in the State of Tennessee, and hereby further irrevocably waives any claim that any such suit, action or proceeding brought in any such court has been brought in any inconvenient forum. No suit, action or proceeding against the Company with respect to this Agreement may be brought in any court, domestic or foreign, or before any similar domestic or foreign authority other than in a court of competent jurisdiction in the State of Tennessee, and the Optionee hereby irrevocably waives any right which he or she may otherwise have had to bring such an action in any other court, domestic or foreign, or before any similar domestic or foreign authority. The Company hereby submits to the jurisdiction of such courts for the purpose of any such suit, action or proceeding.

IN WITNESS WHEREOF, this Agreement has been executed and delivered by the parties hereto.

GTX, INC.

By: _____
Title:

No. of Option Shares:

Exercise Price:

, Optionee

Address:

GTX, INC.
2000 STOCK OPTION PLAN

1. PURPOSE.

(a) The purpose of the GTx, Inc. 2000 Stock Option Plan (the "***Plan***") is to provide a means by which selected key employees and directors (if declared eligible under paragraph 4) of GTx, Inc. (the "***Company***"), and its Affiliates, as defined in subparagraph 1(b), may be given an opportunity to benefit from increases in value of the stock of the Company. The Plan will be effected solely through the granting of nonstatutory stock options.

(b) The word "***Affiliate***" as used in the Plan means any parent corporation or subsidiary corporation of the Company, as those terms are defined in Sections 424 (e) and (f), respectively, of the Internal Revenue Code of 1986, as amended from time to time (the "***Code***").

(c) The Company, by means of the Plan, seeks to retain and reward the services of persons now or later employed by or serving as directors of the Company, to secure and retain the services of persons capable of filling such positions, and to provide incentives for such persons to exert maximum efforts for the success of the Company.

2. ADMINISTRATION.

(a) The Plan shall be administered by a Committee appointed by the Board of Directors of the Company composed of not fewer than 3 members, (the "***Committee***").

(b) The Committee shall have the power, subject to, and within the limitations of, the express provisions of the Plan and to such resolutions, not inconsistent with the provisions of the Plan, as may be adopted from time to time by the Board of Directors:

(i) To determine from time to time which of the persons eligible under the Plan shall be granted nonqualified stock options ("***Option Awards***") and the number of shares with respect to which Option Awards shall be granted to each such person.

(ii) To construe and interpret the Plan and Option Awards granted under it, and to establish, amend and revoke rules and regulations for its administration. The Committee, in the exercise of this power, may correct any defect, omission or inconsistency in the Plan or in any Option Award, in a manner and to the extent it shall deem necessary or expedient to make the Plan fully effective.

(iii) To amend the Plan as provided in paragraph 11.

(iv) Generally, to exercise such powers and to perform such acts as the Committee deems necessary or expedient to promote the best interests of the Company.

(c) The Board of Directors may abolish the Committee at any time and revest in the Board of Directors the administration of the Plan.

3. SHARES SUBJECT TO THE PLAN.

(a) Subject to the provisions of paragraph 9 relating to adjustments upon changes in stock, the stock that may be issued pursuant to Option Awards granted under the Plan shall not exceed in the aggregate One Thousand Two Hundred Seventy Five (1,275) shares of the Company's common stock. If any option or right granted under the Plan shall for any reason expire or otherwise terminate without having been exercised in full or which is settled in cash, the stock not issued under such option or right shall again become available to the Plan.

(b) The stock subject to the Plan may be unissued shares or reacquired shares, bought on the market or otherwise.

4. ELIGIBILITY.

Option Awards may be granted only to directors, officers or employees of the Company or its Affiliates.

5. TERMS OF OPTION AWARDS.

Each Option Award shall be in such form and shall contain such terms and conditions as the Committee shall deem appropriate. The provisions of separate options need not be identical, but each option shall include (through incorporation of provisions hereof by reference in the option or otherwise) the substance of each of the following provisions:

(a) The term of any option shall be ten (10) years from the date it was granted.

(b) The exercise price of each Option Award shall be not less than one hundred percent (100%) of the fair market value of the stock subject to the option on the date the option is granted; *provided*, *however*, that the Committee shall have the discretion to grant options to one or more persons and in such proportions and at such higher exercise price as the Committee may determine. Fair market value shall be determined by the Committee on such basis as it deems appropriate.

(c) The purchase price of stock acquired pursuant to an option shall be paid, to the extent permitted by applicable statutes and regulations, either (i) in cash at the time the option is exercised, or (ii) at the discretion of the Committee, determined either at the time of the grant or exercise of the option, (A) by delivery to the Company of other common stock of the Company, (B) according to a deferred payment or other arrangement (which may include, without limiting the generality of the foregoing, the use of other common stock of the Company) with the person to whom the option is granted or to whom the option is transferred pursuant to subparagraph 5(d), or (C) in any other form of legal consideration that may be acceptable to the Committee.

(d) Unless otherwise expressly stated in the option, an Option Award shall not be transferable except by will or by the laws of descent and distribution, and shall be exercisable during the lifetime of the person to whom the option is granted only by such person, nor shall an

Option Holder have the right or power to anticipate, accelerate, convey, assign or otherwise alienate, hypothecate, pledge or otherwise encumber any Option Award or the shares subject to the Option Award.

(e) Shares of stock subject to any Option Award shall vest as follows: (i) one-third (1/3) of such shares shall vest on the third anniversary of the date of grant of such Option Award; (ii) an additional one-third (1/3) of such shares shall vest on the fourth anniversary of the date of grant of such Option Award; and (iii) the final one-third (1/3) of such shares shall vest on the fifth anniversary of the date of grant of such Option Award. In the case of any Option Award granted to a person using different exercise prices, this paragraph shall be applied separately to the shares granted at each option price.

(f) Shares sold to a third party shall be subject to a thirty day right of first refusal by the Company at the same price and terms as offered by any third party pursuant to a bona fide offer, and may not be sold prior to an offer of sale to the Company on such terms. Further, shares acquired through exercise of an Option Award shall be subject to the terms and conditions of the Voting and Shareholder Agreement dated April 15, 1999, between the Company and its stockholders, as amended from time to time (the "***Stockholders Agreement***").

(g) In the event of a participant's termination of employment or service as a director, as applicable, by reason of voluntary retirement (at or after age sixty-five (65) or after age fifty-five with no fewer than ten (10) years of service), death, permanent and total disability, involuntary termination (other than a termination for cause but including any involuntary termination as the result of a Change in Control, as addressed in paragraph (h) below), with respect to such participant's Option Award(s) (i) the Committee may in its sole, absolute and final discretion elect to vest any or all shares not otherwise vested under the terms of the Plan, and (ii) any vested shares subject to an Option Award may be exercised within ten (10) years following the date of grant of such Option Award. In the event of an Option Award holder's employment or status as a director, as applicable, is terminated under any other circumstances, (i) any nonvested Option Award shall be forfeited immediately, and (ii) the date of such termination of employment shall be the last day on which any vested Option Award may be exercised.

For purposes of this section, a permanent and total disability shall mean the occurrence of the following conditions: (i) the Option Award holder's physical or mental incapacity (excluding infrequent and temporary absences due to ordinary illness) of properly performing the principal functions which had been typically assigned to him by the Company, (ii) such incapacity shall exist or be expected to exist with a reasonable degree of medical certainty for more than ninety (90) days in the aggregate during any consecutive twelve (12) month period, and (iii) either the Option Award holder or the Company shall have given the other thirty (30) days written notice of intent to terminate employment or service as a director because of disability. In the event the Company and Option Award holder are in material disagreement regarding the Participant's physical or mental condition, the Company shall authorize a panel of three (3) physicians selected by the Company to examine the Participant to determine conclusively, by a majority, whether the Participant is disabled for purposes of the Plan.

For purposes of this section, a termination for cause shall mean the termination of an individual's status as an employee or director of the Company, as applicable, as the result of (i) fraud or dishonesty in connection with the business of the Company; (ii) gross negligence in the performance of duties for the Company; (iii) willful failure in carrying out duties as an employee or director; or (iv) arrest and conviction of a felony involving moral turpitude, whether or not in connection with the business of the Company; *provided* that (iii) above shall not apply if the Option Award holder has been assigned by the Company to duties which are not comparable to such holder's function and compensation at the Company, or which are non-executive or demeaning assignments, or if the Company has given such participant demeaning and unreasonable pay cuts.

(h) In the event of a Change in Control of the Company, all shares subject to all Option Awards shall become one hundred percent (100%) vested and shall be converted to cash, options or stock of equivalent value in the surviving organization under terms and condition which substantially preserve the economic status of the participants, as determined by the Committee. For purposes of this paragraph, a Change in Control shall mean:

(i) a sale or other disposition of more than fifty percent (50%) of the issued and outstanding voting stock of the Company, in a single transaction or in a series of transactions. For such purposes, "***Voting Stock***" shall mean capital stock of the Company 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 Company.

(ii) a merger or consolidation of the Company 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 are not holders of the Voting Stock immediately prior to giving effect to such transaction;

(iii) a sale or other disposition of all or substantially all of the Company's assets in a single transaction or in a series of transactions (including, without limitation, any liquidation or dissolution of the Company).

A Change of Control shall not include any of the following events:

(i) any transfer or issuance of stock of the Company to one or more of the Company's lenders (or to any agents or representatives thereof) in exchange for debt of the Company owed to any such lenders;

(ii) any transfer of stock of the Company to or by any person or entity, including but not limited to one or more of the Company'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 Company and/or its subsidiaries; or

(iii) any transfer or issuance to any person or entity, including but not limited to one or more of the Company's lenders (or to any agents or representatives thereof), in connection with the workout or restructuring of the Company's debts to any one of the

Company's lenders, including but not limited to the issuance of new stock in exchange for any equity contribution to the Company in connection with the workout or restructuring of such debt.

(iv) any transfer of stock by a stockholder of the Company which is a partnership or corporation to the partners or stockholders in such stockholder.

(i) In the event of an initial public offering of the Company, Option Awards shall be convertible to options in shares of the newly public company, under terms and conditions which substantially preserve the rights and options of the participant. Any resulting registration of options or shares shall be effected at Company expense.

(j) If provided in the Option Award, each Option Award shall carry the right to receive any dividend or dividend equivalent on vested shares, under such terms and conditions as may be specified in the Option Award.

(k) Notwithstanding any other provisions of the Plan, any vested but unexercised Option Award shares shall be forfeited upon the Option Award holder's "Competition" with the Company. For this purpose, Competition shall be determined by the Committee, and shall exist if the Option Award holder directly or indirectly (i) engages or has a financial interest in, (ii) becomes an officer, employee, director, partner, advisor or consultant of or to, (iii) has an equity interest in, or (iv) in any way materially assists any person, corporation, entity or business whose existing or planned products or activities compete in whole or in part with the existing or planned products or activities of the Company. The sole fact of ownership by an Option Award holder of less than two percent (2%) of the stock of a publicly traded company which may have product lines which compete with product lines of this Company shall not be treated as Competition. Any determination by the Committee under this section shall be final and conclusive, unless overruled by the Board.

(l) Notwithstanding any other provision of the Plan or any Option Award to the contrary, any and all sales of shares to the Company or any Affiliate are contingent upon and subject to the terms and conditions of any bank loan covenants by the Company or any Affiliate.

6. COVENANTS OF THE COMPANY.

(a) During the term of any Option Award granted under the Plan, the Company shall keep available at all times for issuance or sale the number of shares of stock required to satisfy such Option Award.

(b) The Company shall seek to obtain from each regulatory commission or agency having jurisdiction over the Plan such authority, if any, as may be required to issue and sell shares of stock upon grant or exercise of Option Awards under the Plan; *provided*, *however*, that this undertaking shall not require the Company to register under the Securities Act of 1933, as amended (the "***Securities Act***"), either the Plan, any Option Award granted under the Plan or any stock issued or issuable pursuant to any such Option Awards. If, after reasonable efforts, the Company is unable to obtain from any such regulatory commission or agency the authority which counsel for the Company deems necessary for the lawful issuance and sale of stock under the Plan, the Company shall be relieved from any liability for failure to issue and sell stock upon exercise of such Option Awards unless and until such authority is obtained.

7. USE OF PROCEEDS FROM STOCK.

Proceeds from the sale of stock pursuant to Option Awards granted under the Plan shall constitute general funds of the Company.

8. MISCELLANEOUS.

(a) The Committee shall have the power to accelerate the time during which an Option Award may be exercised or the time during which an option or stock acquired pursuant to an Option Award will vest, notwithstanding the provisions in the Option Award stating the time during which it may be exercised or the time during which stock acquired pursuant thereto will vest.

(b) Neither a recipient of an Option Award nor any person to whom an Option Award is transferred under subparagraph 5(d) shall be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares subject to such Option Award unless and until such person has satisfied all requirements for exercise of the Option Award pursuant to its terms and is thereby entitled to receive shares of stock.

(c) Throughout the term of any Option Award granted pursuant to the Plan, the Company shall make available to the holder of such Option Award upon request, not later than one hundred twenty (120) days after the close of each fiscal year of the Company during the option term, upon request, such financial and other information regarding the Company as comprises the annual report to the shareholders of the Company provided for in the bylaws of the Company.

(d) Nothing in the Plan or any instrument executed or Option Award granted pursuant thereto shall confer upon any recipient any right to continue in the employ of the Company or any Affiliate or to limit the Company's right to terminate the employment or directorship of any participant with or without cause. In the event that an Option Award recipient is permitted or otherwise entitled to take a leave of absence, the Company shall have the unilateral right to (i) determine whether such leave of absence will be treated as a termination of employment for purposes of his or her Option Award, and (ii) suspend or otherwise delay the time or times at which the shares subject to the Option Award would otherwise vest.

(e) To the extent provided by the terms of any Option Award, the recipient may satisfy any federal, state or local tax withholding obligation relating to the exercise or receipt of such Option Award by any of the following means or by a combination of such means: (i) tendering a cash payment: (ii) authorizing the Company to withhold from the shares of the common stock otherwise issuable to the participant as a result of the exercise or receipt of the

Option Award cash or a number of shares having a fair market value less than or equal to the amount of the withholding tax obligation; or (iii) delivering to the Company owned and unencumbered shares of the common stock having a fair market value less than or equal to the amount of the withholding tax obligation.

(f) In connection with each Option Award made pursuant to the Plan, the Company may require as a condition precedent to its obligation to issue or transfer shares to an eligible participant, or to evidence the removal of any restrictions on transfers or lapse of any repurchase

right, that such participant make arrangements satisfactory to the Company to insure that the amount of any federal or other withholding tax required to be withheld with respect to such sale or transfer, or such removal or lapse, is made available to the Company for timely payment of such tax.

(g) The Company may, as a condition of transferring any stock pursuant to the Plan, require any person who is to acquire such stock (i) to give written assurances satisfactory to the Company as to the optionee's knowledge and experience in financial and business matters, and that he or she is capable of evaluating, alone or together with the purchaser representative, the merits and risks of acquiring the stock; and (ii) to give written assurances satisfactory to the Company stating that such person is acquiring the stock for such person's own account and not with any present intention of selling or otherwise distributing the stock. These requirements, and any assurances given pursuant to such requirements, shall be inoperative if (i) the issuance of the shares has been registered under a then currently effective registration statement under the Securities Act, or (ii) as to any particular requirement, a determination is made by counsel for the Company that such requirement need not be met in the circumstances under the then applicable securities laws.

(h) The Committee shall determine or cause to be determined the fair market value of the stock of the Company from time to time, as required for purposes of this Plan.

9. ADJUSTMENTS UPON CHANGES IN STOCK.

If any change is made in the stock subject to the Plan, or subject to any Option Award granted under the Plan (through merger, consolidation, reorganization, recapitalization, stock dividend, dividend in property other than cash, stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or otherwise), the Plan and outstanding Option Awards will be appropriately adjusted in the class(es) and maximum number of shares subject to the Plan and the class(es) and number of shares and price per share of stock subject to outstanding Option Awards.

10. AMENDMENT OF THE PLAN.

(a) The Committee at any time, and from time to time, may amend the Plan subject to and within the limitations of any resolutions approved by the Board of Directors.

(b) The Committee in its discretion shall determine at the time of each amendment of the Plan whether or not to submit such amendment to the Board of Directors of the Company for approval.

(c) Rights and obligations under any Option Award granted before amendment of the Plan shall not be altered or impaired by any amendment of the Plan unless (i) the Company requests the consent of the person to whom the Option Award was granted and (ii) such person consents in writing.

11. TERMINATION OR SUSPENSION OF THE PLAN.

(a) The Committee may suspend or terminate the Plan at any time. No Option Awards may be granted under the Plan while the Plan is suspended or after it is terminated. Upon the termination of the Plan, all Option Awards shall become fully vested.

(b) Rights and obligations under any Option Award granted while the Plan is in effect shall not be altered or impaired by suspension or termination of the Plan, except with the consent of the person to whom the Option Award was granted.

12. EFFECTIVE DATE OF PLAN.

The Plan shall be effective as of November 21, 2000 upon execution by the President of the Company, following approval by the Plan Committee.

IN WITNESS WHEREOF, the President of the Company has executed this Plan as of the 21st day of November, 2000.

GTx, INC.

By: /s/ Mitchell S. Steiner

Title: Vice Chairman

APPROVED:

PLAN COMMITTEE

/s/ Marc S. Hanover

/s/ Mitchell S. Steiner

/s/ John H. Pontius

FIRST AMENDMENT TO THE
GTX, INC. 2000 STOCK OPTION PLAN

WHEREAS, GTx, Inc. (the "***Company***") adopted the GTx, Inc. 2000 Stock Option Plan effective November 21, 2000 (the "***2000 Plan***");

WHEREAS, Section 5(f) of the 2000 Plan contains a provision that subjects any shares acquired pursuant to the exercise of an option to a 30 day right of first refusal in favor of the Company (the "***Right of First Refusal***");

WHEREAS, it was the intent of the Company that the Right of First Refusal would end at such time as the Company completed its initial public offering of common stock;

WHEREAS, the Compensation Committee believes it to be in the best interests of the Company to amend Section 5(f) of the Company's 2000 Plan to reflect the Company's intent; and

WHEREAS, the Compensation Committee of the Company has approved such amendments.

NOW, THEREFORE, BE IT RESOLVED, the 2000 Plan is hereby amended, effective as of the date hereof, as follows:

1. THAT SECTION 5(F) OF THE 2000 PLAN IS HEREBY DELETED IN ITS ENTIRETY AND REPLACED WITH THE FOLLOWING:

(f) Prior to such time as the Company's shares of common stock are first sold to the public in an offering registered pursuant to Section 5 of the Securities Act of 1933, as amended (the "***Initial Public Offering***"), any such shares of stock acquired though the exercise of an option shall be subject to a thirty (30) day right of first refusal by the Company at the same price and terms as offered by any third party pursuant to a bona fide offer, and may not be sold prior to an offer to sell to the Company on such terms. Further, shares acquired through exercise of an Option Award shall be subject to the terms and conditions of the Voting and Shareholder Agreement dated April 15, 1999, between the Company and its stockholders, as amended from time to time (the "***Stockholders Agreement***").

IN WITNESS WHEREOF, the Company has caused this First Amendment to the 2000 Plan to be executed on October 2, 2003.

GTx, Inc.

By: /s/ Henry P. Doggrell
Name: Henry P. Doggrell
Title: General Counsel/Secretary

SECOND AMENDMENT TO THE
GTX, INC.
2000 STOCK OPTION PLAN

WHEREAS, GTx, Inc. (the "***Company***") adopted the GTx, Inc. 2000 Stock Option Plan on November 21, 2000 (the "***2000 Plan***");

WHEREAS, the Compensation Committee believes it to be in the best interests of the Company to amend Section 5(g) of the Company's 2000 Plan;

WHEREAS, the Compensation Committee of the Company has approved such amendments; and

WHEREAS, the contemplated amendments are not "***material amendments***" as contemplated by Nasdaq Marketplace Rule 4350(i)(1)(A).

NOW, THEREFORE, BE IT RESOLVED, the 2000 Plan is hereby amended, effective as of the date hereof, as follows:

1. THAT THE LAST SENTENCE OF THE FIRST PARAGRAPH IN SECTION 5(G) OF THE 2000 PLAN IS HEREBY DELETED IN ITS ENTIRETY AND REPLACED WITH THE FOLLOWING:

(g) In the event an Option Award holder's employment or status as a director, as applicable, is terminated under any other circumstances, (i) any nonvested Option Award shall be forfeited immediately, and (ii) the Option Award holder shall have until the earlier to occur of (A) a period of ninety (90) days from the date of termination or (B) the expiration of the term of the Option Award to exercise such Option Award.

IN WITNESS WHEREOF, the Company has caused this Second Amendment to the 2000 Plan to be executed on March 18, 2004.

GTx, Inc.

By: /s/ Henry P. Doggrell
Name: Henry P. Doggrell
Title: General Counsel/Secretary

THIRD AMENDMENT TO THE
GTX, INC.
2000 STOCK OPTION PLAN

WHEREAS, GTx, Inc. (the "***Company***") adopted the GTx, Inc. 2000 Stock Option Plan (the "***2000 Plan***") on November 21, 2000;

WHEREAS, the Compensation Committee believes it to be in the best interests of the Company to amend the Company's 2000 Plan to clarify certain existing provisions in light of final regulations issued under Section 409A of the Internal Revenue Code of 1986, as amended;

WHEREAS, the Compensation Committee of the Company has approved such amendments; and

WHEREAS, the contemplated amendments are not "***material amendments***" as contemplated by Nasdaq Marketplace Rule 4350(i)(1)(A).

NOW, THEREFORE, BE IT RESOLVED, the 2000 Plan is hereby amended, effective as of the date hereof, as follows:

2. THAT SECTION 1(B) OF THE 2000 PLAN IS HEREBY DELETED IN ITS ENTIRETY AND REPLACED WITH THE FOLLOWING:

(b) The word "***Affiliate***" as used in the Plan means any subsidiary corporation of the Company, as such term is defined in Section 424(f) of the Internal Revenue Code of 1986, as amended from time to time (the "***Code***").

3. THAT SECTION 5(B) OF THE 2000 PLAN IS HEREBY DELETED IN ITS ENTIRETY AND REPLACED WITH THE FOLLOWING:

(b) The exercise price of each Option Award shall be not less than one hundred percent (100%) of the fair market value of the stock subject to the option on the date the option is granted; *provided*, *however*, that the Committee shall have the discretion to grant options to one or more persons in such proportions and at such higher exercise price as the Committee may determine. Notwithstanding the foregoing, an Option Award may be granted with an exercise price lower than one hundred percent (100%) of the fair market value of the stock subject to the option on the date the option is granted if such Option Award is granted pursuant to an assumption of or substitution for another option pursuant to a Change in Control (as defined in section 5(h) of the Plan) and in a manner consistent with the provisions of Sections 409A and 424(a) of the Code. Fair market value means, as of any date, the value of the Company's common stock determined as follows:

(i) If the common stock is listed on any established stock exchange or traded on the Nasdaq Global Market or any other established market, the fair market value of a share of common stock shall be the closing sales price for such stock as quoted on such exchange or market (or the exchange or market with the greatest

volume of trading in the common stock) on the date of determination, as reported in The Wall Street Journal or such other source as the Committee deems reliable.

(ii) Unless otherwise provided by the Committee, if there is no closing sales price for the common stock on the date of determination, then the fair market value shall be the closing sales price on the last preceding date for which such quotation exists.

(iii) In the absence of such markets for the common stock, the fair market value shall be determined by the Committee in good faith and in a manner that complies with Section 409A of the Code.

4. THAT THE FOLLOWING WILL BE ADDED TO THE 2000 PLAN AS SECTION 8(I):

(i) To the extent permitted by applicable law, the Committee, in its sole discretion, may determine that the delivery of common stock upon the exercise of all or a portion of any Option Award may be deferred and may establish programs and procedures for deferral elections to be made by persons receiving options. Deferrals by persons will be made in accordance with Section 409A of the Code.

5. THAT THE FOLLOWING WILL BE ADDED TO THE 2000 PLAN AS SECTION 8(J):

(j) To the extent that the Committee determines that any Option Award granted hereunder is subject to Section 409A of the Code, the agreement evidencing such Option Award shall incorporate the terms and conditions necessary to avoid the consequences specified in Section 409A(a)(1) of the Code. To the extent applicable, this Plan and the agreements evidencing Option Awards shall be interpreted in accordance with Section 409A of the Code, including without limitation any applicable guidance that may be issued or amended in the future.

6. THAT SECTION 10(C) OF THE 2000 PLAN IS HEREBY DELETED IN ITS ENTIRETY AND REPLACED WITH THE FOLLOWING:

(b) Rights and obligations under any Option Award granted before amendment of the Plan shall not be altered or impaired by any amendment of the Plan unless (i) the Company requests the consent of the person to whom the Option Award was granted and (ii) such person consents in writing. Notwithstanding the foregoing, subject to the limitations of applicable law, if any, the Committee may amend the terms of any one or more Option

Awards without the consent of the person to whom the Option Award was granted if necessary to bring the Option Award into compliance with Section 409A of the Code.

IN WITNESS WHEREOF, the Company has caused this Third Amendment to the 2000 Plan to be executed on November 4, 2008.

GTx, Inc.

By: /s/ Henry P. Doggrell
Name: Henry P. Doggrell
Title: General Counsel/Secretary

FOURTH AMENDMENT
TO THE GTX, INC.
2000 STOCK OPTION PLAN

WHEREAS, GTx, Inc. (the "***Company***") adopted the GTx, Inc. 2000 Stock Option Plan on November 21, 2000 (the "***2000 Plan***");

WHEREAS, the Compensation Committee believes it to be in the best interests of the Company to interpret the Plan to provide a consistent definition of the terms "voluntary retirement" and "Retirement" with respect to any stock option awards granted thereunder;

WHEREAS, the Compensation Committee believes that this Fourth Amendment will also benefit the optionees under the 2000 Plan by clarifying the applicable requirements for determining "voluntary retirement" and "Retirement" and that this Fourth Amendment will not alter or impair any rights or obligations the optionees have under any stock option award granted thereunder;

WHEREAS, the Compensation Committee has approved this Fourth Amendment; and

WHEREAS, the contemplated amendments are not "material amendments" as contemplated by Nasdaq Marketplace Rule 5635(c) and IM-5635-1.

NOW, THEREFORE, BE IT RESOLVED, the 2000 Plan and any stock option award issued pursuant thereto are hereby amended as follows:

The definition of "voluntary retirement" and "Retirement" with respect to the 2000 Plan and any stock option award issued pursuant thereto shall be amended and interpreted to mean "any voluntary termination of employment by the Optionee after having reached the age of sixty-five (65) years or after having reached the age of fifty-five (55) years if the Optionee has no fewer than five (5) years of service with the Company."

IN WITNESS WHEREOF, the Company has caused this Fourth Amendment to the 2000 Plan to be executed on December 10, 2009.

GTx, Inc.

By: /s/ Henry P. Doggrell
Name: Henry P. Doggrell
Title: General Counsel/Secretary

NONQUALIFIED STOCK OPTION SUBSCRIPTION AGREEMENT

THIS NONQUALIFIED STOCK OPTION SUBSCRIPTION AGREEMENT (this "***Agreement***"), dated as of the day of , , is made by and between GTx, Inc. (the "***Company***"), a Delaware corporation, and the Employee of the Company whose name appears on the signature page hereof (hereinafter referred to as the "***Optionee***").

WHEREAS, pursuant to the 2000 Stock Option Plan, as amended (the "***Plan***"), the terms of which are hereby incorporated by reference, the Company intends to provide incentives to certain key Employees of the Company by providing them with opportunities for ownership of shares of Common Stock; and

WHEREAS, a duly constituted committee of the Board of Directors of the Company (hereinafter referred to as the "***Committee***") appointed to administer the Plan has determined that it would be to the advantage and best interest of the Company and its stockholders to grant the Option provided for herein to the Optionee under the Plan and has advised the Company thereof and instructed the undersigned officers to issue said Option;

NOW, THEREFORE, in consideration of the mutual covenants herein contained and other good and valuable consideration, receipt of which is hereby acknowledged, the parties hereto do hereby agree as follows:

ARTICLE I

DEFINITIONS

Whenever the following terms are used in this Agreement, they shall have the meaning specified below unless the Plan indicates to the contrary.

1.1 CAUSE. "***Cause***" used in connection with the termination of employment of the Optionee shall mean a termination of employment of the Optionee by the Company or any of its Subsidiaries due to (i) fraud or dishonesty of the Optionee in connection with the business of the Company; (ii) gross negligence of the Optionee in the performance of duties for the Company; (iii) willful failure by the Optionee in carrying out duties as an employee; or (iv) arrest and conviction of the Optionee for a felony involving moral turpitude, whether or not in connection with the business of the Company; *provided* that (iii) above shall not apply if the Optionee has been assigned by the Company to duties which are not comparable to such Optionee's function and compensation at the Company, or which are non-executive or demeaning assignments, or if the Company has given such Optionee demeaning and unreasonable pay cuts.

1.2 CHANGE IN CONTROL. "***Change in Control***" shall have the meaning given in Section 3.3.

1.3 CODE. "***Code***" shall mean the Internal Revenue Code of 1986, as amended.

1.4 COMMON STOCK. "***Common Stock***" shall mean the common capital stock of the Company.

1.5 EXCHANGE ACT. "***Exchange Act***" shall mean the Securities Exchange Act of 1934, as amended, and all rules and regulations promulgated thereunder.

1.6 EXERCISE PRICE. "***Exercise Price***" shall mean the price per Option Share as set forth on the signature page hereof.

1.7 GRANT DATE. "***Grant Date***" shall mean the date on which the Option provided for in this Agreement was granted.

1.8 IPO. "***IPO***" shall mean the date on which the Company's shares of Common Stock are first sold to the public in an offering registered pursuant to Section 5 of the Securities Act of 1933, as amended.

1.9 OPTION. "***Option***" shall mean any stock option to purchase Common Stock of the Company granted under this Agreement.

1.10 OPTION SHARES. "***Option Shares***" shall mean the number of shares of Common Stock for which this Option is granted as set forth upon the signature page hereof.

1.11 PERMANENT DISABILITY. "***Permanent Disability***" of the Optionee shall mean the occurrence of the following conditions: (i) the optionee's physical or mental incapacity (excluding infrequent and temporary absences due to ordinary illness) prevents the optionee from properly performing the essential functions of his or her job which had been typically assigned to him or her by the Company, with or without reasonable accommodation, (ii) such incapacities shall exist or be expected to exist within a reasonable degree of medical certainty for more than ninety (90) days in the aggregate during any consecutive twelve (12) month period, (iii) the delivery of a report to the Company determining the existence of the incapacities with respect to the optionee and describing in detail the incapacities which satisfy the requirements of the foregoing subsections (i) and (ii), which report shall be signed by a medical doctor duly licensed to practice medicine in either the state of Tennessee or the state in which the optionee resides and which report must be received by the Company while the optionee is still employed by the Company, *provided*, *however*, if the Committee determines the report to be inadequate or inaccurate, the Committee may select two additional independent medical doctors and request each to provide a report meeting the above specifications, and the determination of a majority of the three medical doctors shall be conclusive and binding on the optionee and the Company, and the optionee shall cooperate with the Company's request and submit to such medical examinations, and (iv) either the optionee or the Company shall have given the other thirty (30) days written notice of intent to terminate employment or service because of permanent and total disability.

1.12 PERMITTED TRANSFEREE. "***Permitted Transferee***" shall have the meaning given in Section 5.2(b).

1.13 PERSON. "***Person***" means any individual, corporation, partnership, joint venture, limited liability company, association, joint-stock company, trust or unincorporated organization.

1.14 PLAN. "***Plan***" shall mean the 2000 Stock Option Plan of GTx, Inc.

1.15 RETIREMENT. "***Retirement***" shall mean any voluntary termination of employment by the Optionee after having reached the age of sixty-five (65) years (or after having reached the age of fifty-five (55) years if the Optionee has no fewer than five (5) years of service with the Company).

ARTICLE II

GRANT OF OPTION

2.1 GRANT OF OPTION. For good and valuable consideration, on and as of the date hereof, the Company irrevocably grants to the Optionee the Option to purchase any part or all of an aggregate of the number of Option Shares set forth on the signature page hereof upon the terms and conditions set forth in this Agreement.

2.2 CONSIDERATION TO THE COMPANY. In consideration of the granting of this Option by the Company, the Optionee agrees to render faithful and efficient services to the Company with such duties and responsibilities as the Company shall from time to time prescribe. Nothing in this Agreement or in the Plan shall confer upon the Optionee any right to continue in the employ or service of the Company or shall interfere with or restrict in

any way the rights of the Company, which are hereby expressly reserved, to discharge the Optionee at any time for any reason whatsoever, with or without Cause.

2.3 ADJUSTMENTS IN OPTION. Subject to Section 9 of the Plan, in the event that the outstanding shares of the Common Stock subject to the Option are changed into or exchanged for a different number or kind of shares of capital stock or other securities of the Company, or of another corporation, by reason of a reorganization, merger, consolidation, recapitalization, reclassification, stock split, stock dividend, combination of shares or otherwise, the Committee shall make an appropriate adjustment in the number and kind of shares of Option Shares. Such adjustment in the Option shall be made without change in the total price applicable to the unexercised portion of the Option (except for any change in the aggregate price resulting from rounding-off of shares, quantities or prices) and with any necessary corresponding adjustment in the Exercise Price. No fractional shares shall be issued, and any fractional shares resulting from computations pursuant to Section 9 of the Plan shall be eliminated from the respective Options. Any such adjustment made by the Committee shall be final and binding upon the Optionee, the Company and all other interested persons.

2.4 TAX TREATMENT. The Option hereby granted is intended to be a Supplemental Stock Option as defined in the Plan (hereinafter referred to as a "***Nonqualified Stock Option***") and not an Incentive Stock Option as described in Section 422 of the Code.

ARTICLE III

PERIOD OF EXERCISABILITY

3.1 GENERAL RULE. The Option will become exercisable as to the following percentages of the Option Shares on the following anniversaries of the Grant Date provided that the Optionee is then employed by the Company on such anniversary:

Third anniversary	33%
Fourth anniversary	67%
Fifth anniversary	100%

3.2 TERMINATION OF EMPLOYMENT AND NONVESTED OPTIONS. In the event the Optionee's employment or service with the Company is terminated (other than a termination for Cause but including any involuntary termination as the result of a Change in Control, as described below), by reason of Retirement, death, or Permanent Disability, the Committee may in its sole, absolute and final discretion elect to vest any or all shares subject to the Option, that are not otherwise vested pursuant to the terms of the Plan. In the event the Optionee's employment or service is terminated under any other circumstances, any portion of the Option that is has not vested shall be forfeited immediately.

3.3 CHANGE IN CONTROL. Notwithstanding Section 3.1, unless the Optionee is terminated for Cause, the Option will become exercisable in full in the event of any voluntary or involuntary termination of the Optionee's employment or service occurring simultaneously with or at any time after any of the following events (a "***Change in Control***"):

(a) the sale or other disposition of all or substantially all of the assets of the Company in a single transaction or in a series of transactions (including, without limitation, any liquidation or dissolution of the Company);

(b) the sale or other disposition of more than fifty percent (50%) of the issued and outstanding voting stock of the Company, in a single transaction or in a series of transactions. For such purposes, "***voting stock***" shall mean the capital stock of the Company 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 Company; or

(c) a merger or consolidation of the Company 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 date of the grant of this Option of at least 20% of the voting stock of the Company.

A Change in Control shall not include:

(1) any transfer or issuance of stock of the Company to one or more of the Company's lenders (or to any agents or representatives thereof) in exchange for debt of the Company owed to any such lenders;

(2) any transfer of stock of the Company to or by any person or entity, including but not limited to one or more of the Company'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 Company and/or its subsidiaries;

(3) any transfer or issuance to any person or entity, including but not limited to one or more of the Company's lenders (or to any agents or representatives

thereof), in connection with the workout or restructuring of the Company's debts to any one of the Company's lenders, including but not limited to the issuance of new stock in exchange for any equity contribution to the Company in connection with the workout or restructuring of such debt; or

(4) any transfer of stock by a stockholder of the Company, which is a partnership or corporation to the partners, or stockholders in such stockholder.

3.4 OPTIONAL VESTING/ACCELERATED EXERCISE IN CONNECTION WITH A CHANGE OF CONTROL. In the event a Change in Control appears likely to occur, the Committee may, in its sole and absolute discretion, send written notice to the Optionee at least ten (10) days prior to the contemplated date of any Change in Control specifying (a) that the Option will become exercisable in full on the date of the Change in Control,

(b) that any portion or all of the Option which thereby becomes exercisable and any portion or all of the Option which was already exercisable will immediately thereafter expire on the same date and (c) that to prevent the lapse of the Option, the Optionee must exercise the Option no later than such date. Except as may otherwise be expressly provided in such written notice, any acceleration of the exercisability of the Option and any attempted exercise of the Option by the Optionee shall be null and void if the Change in Control does not occur within thirty (30) days of the date contemplated in the notice.

3.5 EXPIRATION OF OPTION. Any portion of the Option, which has become exercisable will nevertheless expire and will no longer be exercisable to any extent by anyone on the earliest to occur of the following events:

(a) the tenth anniversary of the Grant Date;

(b) the earlier of (A) three (3) months after termination of employment (specifically including a termination of employment after a Change in Control), unless such termination is for Cause or results from Retirement, death, Permanent Disability or (B) the term of the Option as set forth in the Plan;

(c) twelve (12) months after termination of employment on account of Permanent Disability, *provided* that if Optionee shall die within such time without having fully exercised all vested Options, Optionee's estate shall have an additional twelve (12) months from Optionee's date of death to exercise such Options;

(d) eighteen (18) months after termination of employment on account of Optionee's death or within eighteen (18) months after Optionee's termination of employment if Optionee qualifies under clause (b) but dies within three (3) months after his or termination of employment without having exercised all of his or her vested Options;

(e) the earlier of five (5) years after the date of the Retirement of Optionee, or the term of the Option as set forth in the Plan;

(f) at the close of business on the date of the termination of the Optionee's employment by the Company for Cause; and

(g) if the Committee so determines and gives written notice as provided in Section 3.4, upon the Effective Date of any Change in Control.

3.6 NON-COMPETITION. Notwithstanding any other provisions of this Agreement, any Option outstanding, including any vested but unexercised Option, shall be forfeited upon the Optionee's "***Competition***" with the Company. For this purpose, Competition shall be determined by the Committee and shall exist if the Optionee, directly or indirectly (i) engages or has a financial interest in, (ii) becomes an officer, employee, director, partner, advisor or consultant of or to, (iii) has an equity interest in, or (iv) in any way materially assists any person, corporation, entity or business whose existing or planned products or activities compete in whole or in part with the existing or planned products or activities of the Company. The sole fact of ownership by an Optionee of less than two percent (2%) of the stock of a publicly traded company which may have product lines which compete with product lines of the Company shall not be treated as Competition. Any determination by the Committee under this section shall be final and conclusive, unless overruled by the Board.

ARTICLE IV

EXERCISE OF OPTION

4.1 PERSON ELIGIBLE TO EXERCISE. During the lifetime of the Optionee, only the Optionee or the Optionee's guardian or conservator may exercise the Option or any portion thereof, and after the death of the Optionee, any portion of the Option may, prior to the time when the Option becomes unexercisable under Section 3.5, be exercised by the Optionee's personal representative or by any person empowered to do so under the Optionee's will or under the then applicable laws of descent and distribution; *provided*, *however*, at any time after the transfer of the Option or any portion thereof pursuant to Section 5.2, the transferred portion of the Option may be exercised only by the transferee.

4.2 PARTIAL EXERCISE. Any exercisable portion of the Option or the entire Option, if then wholly exercisable, may be exercised in whole or in part at any time prior to the time when the Option or portion thereof becomes unexercisable under Section 3.5; provided, however, that any partial exercise shall be for whole shares only.

4.3 MANNER OF EXERCISE. The Option, or any exercisable portion thereof, may be exercised solely by delivery to the Secretary of the Company or his or her office all of the following prior to the time when the Option or such portion becomes unexercisable under Section 3.5:

(a) Notice in writing signed by the Optionee or the other person then entitled to exercise the Option or portion thereof, stating that the Option or portion thereof is thereby exercised, such notice complying with all applicable rules established by the Committee; and

(b) Full payment of the Exercise Price (as provided in Section 4.4), for the shares with respect to which such Option or portion thereof is exercised; and

(c) Such representations and documents as the Committee deems reasonably necessary or advisable to effect compliance with all applicable laws, including provisions of the

Securities Act of 1933, as amended, and any other federal, state or foreign securities laws or regulations following an IPO; and

(d) Full payment to the Company (as provided in Section 4.4) of all amounts, if any, which, under federal, state or local law, it is required to withhold upon exercise of the Option; and

(e) If the Option or portion thereof shall be exercised pursuant to Section 4.1 by any person or persons other than the Optionee, appropriate proof of the right of such person or persons to exercise the Option.

Notwithstanding the foregoing, the Optionee may give notice exercising the Option subject to the condition or conditions that any then contemplated Change in Control will actually occur and that the Option will become exercisable because of the Change in Control with respect to the Option Shares for which notice of exercise is given. In such an event, full payment of the Exercise Price with respect to all Option Shares need not be made until the date of the Change in Control.

4.4 PAYMENT. The Exercise Price and any tax withholding shall be payable in cash, by check, or by any combination thereof. Except as otherwise provided by the Committee before the Option is exercised: (i) all or a portion of the Exercise Price or any tax withholding may be paid by delivery of shares of Common Stock acceptable to the Committee and having an aggregate Fair Market Value (valued as of the date of exercise) that is equal to the amount of cash that would otherwise be required; and (ii) the Exercise Price or any tax withholding may be paid by authorizing a third party to sell shares of Common Stock (or a sufficient portion of the shares) to be acquired upon the exercise of the Option and remit to the Company a sufficient portion of the sale proceeds to pay the entire Exercise Price and any tax withholding resulting from such exercise.

4.5 CONDITIONS TO ISSUANCE OF STOCK CERTIFICATES. The shares of Common Stock deliverable upon the exercise of the Option, or any portion thereof, may be either previously authorized but unissued shares or issued shares that have then been reacquired by the Company. Such shares shall be fully paid and nonassessable. The Company shall not be required to issue or deliver any certificate or certificates for shares of Common Stock purchased upon the exercise of the Option or portion thereof prior to fulfillment of all of the following conditions:

(a) The admission of such shares to listing on all stock exchanges, if any, on which such class of Common Stock is then listed;

(b) The completion of any registration or other qualification of such shares under any state or federal law or under rulings or regulations of the SEC or of any other governmental regulatory body, which the Committee shall, in its absolute discretion deem necessary or advisable;

(c) The obtaining of approval or other clearance from any state or federal governmental agency which the Committee shall determine to be necessary or advisable; and

(d) The payment to the Company of all amounts, if any, which, under federal, state or local law, it is required to withhold upon exercise of the Option.

4.6 RIGHTS AS STOCKHOLDER. The holder of the Option shall not be, nor have any of the rights or privileges of, a stockholder of the Company in respect of any shares purchasable upon the exercise of the Option or any portion thereof unless and until certificates representing such shares shall have been issued by the Company in the name of such holder. No adjustment shall be made for cash dividends for which the record date is prior to the date such stock certificate is issued.

4.7 ISSUANCE OF CERTIFICATE; LEGEND. The stock certificate or certificates deliverable to the Optionee upon the exercise of the Option may, at the request of the Optionee at the time of exercise, be issued in his or her name alone or in his or her name and the name of another person as joint tenants with right of survivorship. The Committee may, in its absolute discretion, also take whatever additional actions it deems appropriate to effect compliance with all applicable provisions of the Securities Act of 1933, as amended, and any other federal, state or foreign securities laws or regulations including, without limitation, placing legends on share certificates and issuing stock-transfer orders to transfer agents and registrars.

ARTICLE V

MISCELLANEOUS

5.1 ADMINISTRATION. The Committee shall have the power to interpret the Plan and this Agreement and to adopt such rules for the administration, interpretation and application of the Plan as are consistent therewith and to interpret or revoke any such rules. No member of the Committee shall be personally liable for any action, determination or interpretation made in good faith with respect to the Plan or the Option. The Board of Directors of the Company in its absolute discretion may at any time and from time to time exercise any and all rights and duties of the Committee under the Plan and this Agreement.

5.2 TRANSFERABILITY OF OPTION. i) Except as provided in subsection (b), neither the Option nor any interest or right therein or part thereof shall be subject to disposition by transfer, alienation, anticipation, encumbrance or any other means whether such disposition be voluntary or involuntary or by operation of law by judgment, levy, attachment, garnishment or any other legal or equitable proceedings (including bankruptcy), and any attempted disposition thereof shall be null and void and of no effect; provided, however, that this Section 5.2 shall not prevent transfers by will or by the applicable laws of descent and distribution.

(a) The Committee may, in its discretion, establish forms and procedures for the transfer of all or any portion of such Option by the Optionee to (i) Immediate Family Members (as defined hereinafter), (ii) a trust or trusts for the exclusive benefit of the Optionee and such Immediate Family Members, or (iii) a partnership or limited liability company in which the Optionee and such Immediate Family Members are the only partners or members (collectively such Optionee's "***Permitted Transferees***"), provided that subsequent transfers shall be prohibited except in accordance with the laws of descent and distribution, or by will. Notification and approval of all such transfers shall be in the form specified by the Committee.

Following transfer, any such Option shall continue to be subject to the same terms and conditions as were applicable immediately prior to transfer, provided that for purposes of Articles IV and V hereof (other than this Section 5.2), the term "***Optionee***" shall be deemed to refer to the Permitted Transferee. Notwithstanding the foregoing, the Committee and the Company shall have no obligation to inform any Permitted Transferee of any expiration, termination,

lapse or acceleration of any such Option and may give notices required hereunder, if any, to the Optionee. The events of termination of employment of Article III hereof shall continue to be applied with respect to the original Optionee, following which the Option shall be exercisable by the Permitted Transferee only to the extent, and for the periods specified at Article III hereof. As used in this Section 5.2(b) "***Immediate Family Member***" shall mean, with respect to the Optionee, his or her spouse, child, stepchild, grandchildren or other descendants, and shall include relationships arising from legal adoption.

5.3 SHARES OF COMMON STOCK TO BE RESERVED. The Company shall at all times during the term of the Option reserve and keep available such number of shares of Common Stock as will be sufficient to satisfy the requirements of this Agreement.

5.4 NOTICES. Any notice to be given under the terms of this Agreement to the Company shall be addressed to the Company in care of its Secretary, and any notice to be given to the Optionee shall be addressed to him or her at the address given beneath his or her signature hereto. By a notice given pursuant to this Section 5.4, either party may hereafter designate a different address for notices to be given to him or her. Any notice which is required to be given to the Optionee shall, if the Optionee is then deceased, be given to the Optionee's personal representative if such representative has previously informed the Company of his or her status and address by written notice under this Section 5.4. Any notice shall have been deemed duly given when enclosed in a properly sealed envelope or wrapper addressed as aforesaid, deposited (with postage prepaid) in a post office or branch post office regularly maintained by the United States Postal Service or when delivered by hand (whether by overnight courier or otherwise).

5.5 TITLES. Titles are provided herein for convenience only and are not to serve as a basis for interpretation or construction of this Agreement.

5.6 NO RIGHT TO EMPLOYMENT. Nothing in the Plan or this Agreement shall confer upon the Optionee any right to continue in the employ of the Company or any Affiliate or to limit the Company's right to terminate the employment relationship of any eligible employee with or without Cause. In the event that an Optionee is permitted or otherwise entitled to take a leave of absence, the Company shall have the unilateral right to (i) determine whether such leave of absence will be treated as a termination of employment for purposes of his or her Option, or (ii) suspend or otherwise delay the time or times at which the shares subject to the Option would otherwise vest.

5.7 AMENDMENT. This Agreement may be amended only by a writing executed by the parties hereto, which specifically states that it is amending this Agreement.

5.8 GOVERNING LAW. The laws of the State of Tennessee shall govern the interpretation, validity and performance of the terms of this Agreement, regardless of the law that might be applied under principles of conflicts of laws.

5.9 JURISDICTION. Any suit, action or proceeding against the Optionee with respect to this Agreement, or any judgment entered by any court in respect of any thereof, may be brought in any court of competent jurisdiction in the State of Tennessee, and the Optionee hereby submits to the non-exclusive jurisdiction of such courts for the purpose of any such suit, action, proceeding or judgment. Nothing herein shall in any way be deemed to limit the ability of the Company to serve any such writs, process or summonses in any other manner permitted by applicable law or to obtain jurisdiction over the Optionee, in such other jurisdictions, and in such manner, as may be permitted by applicable law. The Optionee hereby irrevocably waives any objections which he or she may now or hereafter have to the laying of the venue of any suit, action or proceeding arising out of or relating to this Agreement brought in any court of competent jurisdiction in the State of Tennessee, and hereby further irrevocably waives any claim that any such suit, action or proceeding brought in any such court has been brought in any inconvenient forum. No suit, action or proceeding against the Company with respect to this Agreement may be brought in any court, domestic or foreign, or before any similar domestic or foreign authority other than in a court of competent jurisdiction in the State of Tennessee, and the Optionee hereby irrevocably waives any right which he or she may otherwise have had to bring such an action in any other court, domestic or foreign, or before any similar domestic or foreign authority. The Company hereby submits to the jurisdiction of such courts for the purpose of any such suit, action or proceeding.

IN WITNESS WHEREOF, this Agreement has been executed and delivered by the parties hereto.

GTx, Inc.

By: _____
Name:
Title:

No. of Option Shares:

Exercise Price:

Optionee:

Address:

GTX, INC.

2001 STOCK OPTION PLAN

1. PURPOSE.

(a) The purpose of the GTx, Inc. 2001 Stock Option Plan (the "Plan") is to provide a means by which selected key employees and directors (if declared eligible under paragraph 4) of and consultants to GTx, Inc. (the "Company"), and its Affiliates, as defined in subparagraph 1(b), may be given an opportunity to benefit from increases in value of the stock of the Company. It is intended that this purpose will be effected through the granting of (i) incentive stock options and/or, (ii) nonstatutory stock options.

(b) The word "Affiliate" as used in the Plan means any parent corporation or subsidiary corporation of the Company, as those terms are defined in Sections 424 (e) and (f), respectively, of the Internal Revenue Code of 1986, as amended from time to time (the "Code").

(c) The Company, by means of the Plan, seeks to retain the services of persons now employed by or serving as consultants or directors to the Company, to secure and retain the services of persons capable of filling such positions, and to provide incentives for such persons to exert maximum efforts for the success of the Company.

(d) The Company intends that rights granted under the Plan ("Option Awards") shall, in the discretion of the Committee or Board of Directors of the Company (the "Board"), as applicable, be either (i) incentive stock options as that term is used in Section 422 of the Code ("Incentive Stock Options"), or (ii) stock options which do not qualify as Incentive Stock Options ("Supplemental Stock Options").

2. ADMINISTRATION.

(a) The Plan shall be administered by a Committee appointed by the Board of Directors of the Company composed of not fewer than three (3) Directors (the "Committee").

(b) The Committee shall have the power, subject to, and within the limitations of, the express provisions of the Plan and to such resolutions, not inconsistent with the provisions of the Plan, as may be adopted from time to time by the Board of Directors:

(i) To determine from time to time which of the persons eligible under the Plan shall be granted Option Awards; when and how Option Awards shall be granted; whether a Option Award will be an Incentive Stock Option, a Supplemental Stock Option, or a combination of the foregoing; and the provisions of each Option Award granted (which need not be identical).

(ii) To construe and interpret the Plan and Option Awards granted under it, and to establish, amend and revoke rules and regulations for its administration. The Committee, in the exercise of this power, may correct any defect, omission or inconsistency in the Plan or in any Option Award, in a manner and to the extent it shall deem necessary or expedient to make the Plan fully effective, consistent with its terms.

(iii) To amend the Plan as provided in paragraph 10.

(iv) Generally, to exercise such powers and to perform such acts as the Committee deems necessary or expedient to promote the best interests of the Company.

(c) The Board of Directors may abolish the Committee at any time and revest in the Board of Directors the administration of the Plan.

3. SHARES SUBJECT TO THE PLAN.

(a) Subject to the provisions of paragraph 9 relating to adjustments upon changes in stock, the stock that may be issued pursuant to Option Awards granted under the Plan shall not exceed in the aggregate three thousand five hundred fifteen (3,515) shares of the Company's common stock issued and outstanding as of the date of shareholder approval of the Plan. If any option or right granted under the Plan shall for any reason expire or otherwise terminate without having been exercised in full, the stock not issued under such option or right shall again become available for the Plan.

(b) The stock subject to the Plan may be unissued shares or reacquired shares, bought on the market or otherwise.

4. ELIGIBILITY.

(a) Incentive Stock Options may be granted only to employees (including officers) of the Company or its Affiliates. A director of the Company shall not be eligible to receive Incentive Stock Options unless such director is also an employee (including an officer) of the Company or any Affiliate. Option Awards other than Incentive Stock Options may be granted only to directors, officers or employees of or consultants to the Company or its Affiliates.

(b) No person shall be eligible for the grant of an Incentive Stock Option under the Plan if, at the time of grant, such person owns (or is deemed to own pursuant to Section 424(d) of the Code) stock possessing more than ten percent (10%) of the total combined voting power of all classes of stock of the Company or of any of its Affiliates unless the exercise price of such option is at least one hundred ten percent (110%) of the fair market value of such stock at the date of grant and the term of the option does not exceed five (5) years from the date of grant.

5. TERMS OF STOCK OPTIONS.

Each stock option shall be in such form and shall contain such terms and conditions as the Board or the Committee shall deem appropriate. All options shall be separately designated Incentive Stock Options or Supplemental Stock Options at the time of grant, and in such form as issued pursuant to this paragraph, and a separate certificate or certificates shall be issued for shares purchased on exercise of each type of option. An option designated as a

Supplemental Stock Option shall not be treated as an Incentive Stock Option. The provisions of separate options need not be identical, but each option shall include (through incorporation of provisions hereof by reference in the option or otherwise) the substance of each of the following provisions:

(a) The term of any option shall not be greater than ten (10) years from the date it was granted or, in the case of any option contemplated by paragraph 4(b), five (5) years from the date of grant.

(b) The exercise price of each Incentive Stock Option shall be not less than one hundred percent (100%) of the fair market value of the stock subject to the option on the date the option is granted or, in the case of any option contemplated by paragraph 4(b), one hundred ten percent (110%) of the fair market value of the stock subject to the option on the date of grant of the option.

(c) The purchase price of stock acquired pursuant to an option shall be paid, to the extent permitted by applicable statutes and regulations, either (i) in cash at the time the option is exercised, or (ii) at the discretion of the Committee either at the time of the grant or exercise of the option, (A) by delivery to the Company of other common stock of the Company, (B) according to a deferred payment or other arrangement (which may include, without limiting the generality of the foregoing, the use of other common stock of the Company) with the person to whom the option is granted or to whom the option is transferred pursuant to subparagraph 5(d), or (C) in any other form of legal consideration that may be acceptable to the Committee.

(d) (i) Unless otherwise expressly stated in the option, an option shall not be transferable except by will or by the laws of descent and distribution, and shall be exercisable during the lifetime of the person to whom the option is granted only by such person, nor shall an option holder have the right or power to anticipate, accelerate, convey, assign or otherwise alienate, hypothecate, pledge or otherwise encumber any option award or the shares subject to an option award.

(ii) Except with respect to Incentive Stock Options, the Committee may, in its discretion, establish forms and procedures for the transfer of all or any portion of such Option Award by the optionee to (i) Immediate Family Members (as defined hereinafter), (ii) a trust or trusts for the exclusive benefit of the optionee and such Immediate Family Members, or (iii) a partnership or limited liability company in which the optionee and such Immediate Family Members are the only partners or members (collectively such optionee's "Permitted Transferees"), provided that subsequent transfers shall be prohibited except in accordance with the laws of descent and distribution, or by will. Notification and approval of all such transfers shall be in the form specified by the Committee. Following transfer, any such Option Award shall continue to be subject to the same terms and conditions as were applicable immediately prior to transfer, provided that for purposes of this Plan, wherever appropriate, the term "optionee" shall be deemed to refer to the Permitted Transferee. Notwithstanding the foregoing, the Plan Committee and the Company shall have no obligation to inform any Permitted Transferee of any expiration, termination, lapse or acceleration of any such Option Award and may give notices required hereunder, if any, to the optionee. The events of termination of employment hereof shall continue to be applied with respect to the original optionee, following which the Option Award shall be exercisable by the Permitted Transferee only to the extent, and for the periods specified herein. As used herein "Immediate Family Member" shall mean, with respect to the optionee, his or her spouse, child, stepchild, grandchildren or other descendants, and shall include relationships arising from legal adoption.

(e) The total number of shares of stock subject to an option may, but need not, be allotted in periodic installments (which may, but need not, be equal). From time to time during each of such installment periods, the option may become exercisable ("vest") with respect to some or all of the shares allotted to that period, and may be exercised with respect to some or all of the shares allotted to such period and/or any prior period as to which the option was not fully exercised. During the remainder of the term of the option (if its term extends beyond the end of the installment periods), the option may be exercised from time to time with respect to any shares then remaining subject to the option. In the absence of a specific provision to the contrary in a particular option grant, an option award shall vest one-third (1/3) on the third anniversary of the date of grant of such option award, an additional one-third on the fourth anniversary of the date of grant of such option award, and the final one-third (1/3) shall vest on the fifth anniversary of the date of grant of such option award. The provisions of this subparagraph 5(e) are subject to any option provisions governing the minimum number of shares as to which an option may be exercised.

(f) An option shall terminate three (3) months after termination of the optionee's employment or relationship as a director of or consultant to the Company or an Affiliate, unless (i) such termination is due to such person's permanent and total disability, within the meaning of Section 422(c)(6) of the Code, in which case the option may, but need not, provide that it may be exercised at any time within one (1) year following such termination of employment or relationship as a director or consultant; or (ii) the optionee dies while in the employ of or while serving as a director of or consultant to the Company or an Affiliate, or within not more than three (3) months after termination of such relationship, in which case the option may, but need not, provide that it may be exercised at any time within eighteen (18) months following the death of the optionee by the person or persons to whom the optionee's rights under such option passes by will or by the laws of descent and distribution; or (iii) such termination is due to such person's voluntary retirement in accordance with subparagraph (h) below, in which case the option may be exercised at any time within the earlier of five (5) years from the date of termination of such employment or relationship, as the case may be, or the term of the option; or (iv) the option by its terms specifies either (a) that it shall terminate sooner than three (3) months after termination of the optionee's employment or relationship as a director or consultant, or (b) that it may be exercised more than three (3) months after termination of the optionee's employment or relationship with the Company or an Affiliate. This subparagraph 5(f) shall not be construed to extend the term of any option or to permit anyone to exercise the option after expiration of its term, nor shall it be construed to increase the number of shares as to which any option is exercisable from the amount exercisable on the date of termination of the optionee's employment or relationship as a consultant or director.

(g) Prior to such time as the Company's shares of common stock are first sold to the public in an offering registered pursuant to Section 5 of the Securities Act of 1933, as amended ("Initial Public Offering"), any shares of stock acquired through the exercise of an option shall be subject to a thirty (30) day right of first refusal by the Company at the same price and terms as offered by any third party pursuant to a bona fide offer, and may not be sold prior to an offer to sell to the Company on such terms. Further, shares acquired through exercise of an option award shall be subject to the terms and conditions of the Amended and Restated Voting and Shareholder Agreement dated October , 2001, between the Company and its stockholders, as amended from time to time (the "Stockholders Agreement").

(h) In the event of a participant's termination of employment or service as a director, as applicable, by reason of voluntary retirement (at or after age sixty-five (65) or after age fifty-five with no fewer than five (5) years of service), death, permanent and total disability, involuntary termination (other than a termination for cause but including any involuntary termination as the result of a Change in Control, as addressed below), with respect to such participant's Option Award(s), the Committee may in its sole, absolute and final discretion elect to vest any or all shares not otherwise vested under the terms of the Plan.

For purposes of this section, a permanent and total disability shall mean the occurrence of the following conditions: (i) the Option Award holder's physical or mental incapacity (excluding infrequent and temporary absences due to ordinary illness) of properly performing the principal functions which had been typically assigned to him by the Company, (ii) such incapacity shall exist or be expected to exist with a reasonable degree of medical certainty for more than ninety (90) days in the aggregate during any consecutive twelve (12) month period, and (iii) either the Option Award holder or the Company shall have given the other thirty (30) days written notice of intent to terminate employment or service as a director because of disability. In the event the Company and Option Award holder are in material disagreement regarding the Participant's physical or mental condition, the Company shall authorize a panel of three (3) physicians selected by the Company to examine the Participant to determine conclusively, by a majority, whether the Participant is disabled for purposes of the Plan.

For purposes of this section, a termination for cause shall mean the termination of an individual's status as an employee or director of the Company, as applicable, as the result of (i) fraud or dishonesty in connection with the business of the Company; (ii) gross negligence in the performance of duties for the Company; (iii) willful failure in carrying out duties as an employee, director or consultant; or (iv) arrest and conviction of a felony involving moral turpitude, whether or not in connection with the business of the Company; provided that (iii) above shall not apply if the Option Award holder has been assigned by the Company to duties which are not comparable to such holder's function and compensation at the Company, or which are non-executive or demeaning assignments, or if the Company has given such participant demeaning and unreasonable pay cuts.

(i) In the event of a Change in Control of the Company, all shares subject to all Option Awards shall become one hundred percent (100%) vested and shall be converted to cash, options or stock of equivalent value in the surviving organization under terms and condition which substantially preserve the economic status of the Participants, as determined by the Committee. For purposes of this paragraph, a Change in Control shall mean:

(i) a sale or other disposition of more than fifty percent (50%) of the issued and outstanding voting stock of the Company, in a single transaction or in a series of transactions. For such purposes, "Voting Stock" shall mean capital stock of the Company 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 Company.

(ii) a merger or consolidation of the Company with or into any other entity, if immediately after giving effect to such transaction more than fifty percent (50%) of the issued

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and outstanding Voting Stock of the surviving entity of such transaction is held by persons who are not holders of the Voting Stock immediately prior to giving effect to such transaction;

(iii) a sale or other disposition of all or substantially all of the Company's assets in a single transaction or in a series of transactions (including, without limitation, any liquidation or dissolution of the Company

A Change of Control shall not include any of the following events:

(i) any transfer or issuance of stock of the Company to one or more of the Company's lenders (or to any agents or representatives thereof) in exchange for debt of the Company owed to any such lenders;

(ii) any transfer of stock of the Company to or by any person or entity, including but not limited to one or more of the Company'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 Company and/or its subsidiaries; or

(iii) any transfer or issuance to any person or entity, including but not limited to one or more of the Company's lenders (or to any agents or representatives thereof), in connection with the workout or restructuring of the Company's debts to any one of the Company's lenders, including but not limited to the issuance of new stock in exchange for any equity contribution to the Company in connection with the workout or restructuring of such debt.

(iv) any transfer of stock by a stockholder of the Company which is a partnership or corporation to the partners or stockholders in such stockholder.

(j) In the event of an Initial Public Offering of the Company, Option Awards shall be convertible to options in shares of the newly public company, under terms and conditions which substantially preserve the rights and options of the participant. Any resulting registration of options or shares shall be effected at Company expense.

(k) If provided in the Option Award, each Option Award shall carry the right to receive any dividend or dividend equivalent on vested shares, under such terms and conditions as may be specified in the Option Award.

(l) Notwithstanding any other provisions of the Plan, any vested but unexercised Option Award shares shall be forfeited upon the Option Award holder's "Competition" with the Company. For this purpose, Competition shall be determined by the Committee, and shall exist if the Option Award holder while employed by or consulting for the Company and for a period of two (2) years thereafter directly or indirectly (i) engages or has a financial interest in, (ii) becomes an officer, employee, director, partner, advisor or consultant of or to, (iii) has an equity interest in, or (iv) in any way materially assists any person, corporation, entity or business whose existing or planned products or activities compete in whole or in part with the existing or planned products or activities of the Company. The sole fact of ownership by an Option Award holder of less than two percent (2%) of the stock of a publicly traded company which may have product lines which compete with product lines of this Company shall not be treated as Competition. Any

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determination by the Committee under this section shall be final and conclusive, unless overruled by the Board.

(m) Notwithstanding any other provision of the Plan or any Option Award to the contrary, any and all sales of shares to the Company or any Affiliate are contingent upon and subject to the terms and conditions of any bank loan covenants by the Company or any Affiliate.

6. COVENANTS OF THE COMPANY.

(a) During the terms of any Option Awards granted under the Plan, the Company shall keep available at all times the number of shares of stock required to satisfy such Option Awards.

(b) The Company shall seek to obtain from each regulatory commission or agency having jurisdiction over the Plan such authority as may be required to issue and sell shares of stock upon grant or exercise of Option Awards under the Plan; provided, however, that this undertaking shall not require the Company to register under the Securities Act of 1933, as amended (the "Securities Act"), either the Plan, any Option Award granted under the Plan or any stock issued or issuable pursuant to any such Option Awards. If, after reasonable efforts, the Company is unable to obtain from any such regulatory commission or agency the authority which counsel for the Company deems necessary for the lawful issuance and sale of stock under the Plan, the Company shall be relieved from any liability for failure to issue and sell stock upon exercise of such Option Awards unless and until such authority is obtained.

7. USE OF PROCEEDS FROM STOCK.

Proceeds from the sale of stock pursuant to Option Awards granted under the Plan shall constitute general funds of the Company.

8. MISCELLANEOUS.

(a) The Committee shall have the power to accelerate the time during which a Option Award may be exercised or the time during which an option or stock acquired pursuant to a Option Award will vest, notwithstanding the provisions in the Option Award stating the time during which it may be exercised or the time during which stock acquired pursuant thereto will vest.

(b) Neither a recipient of a Option Award nor any person to whom a Option Award is transferred under subparagraph 5(d) shall be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares subject to such Option Award unless and until such person has satisfied all requirements for exercise of the Option Award pursuant to its terms and is thereby entitled to receive shares of stock.

(c) Throughout the term of any Option Award granted pursuant to the Plan, the Company shall make available to the holder of such Option Award, not later than one hundred twenty (120) days after the close of each of the Company's fiscal years during the option term, upon request, such financial and other information regarding the Company as comprises the annual report to the shareholders of the Company provided for in the bylaws of the Company.

(d) Nothing in the Plan or any instrument executed or Option Award granted pursuant thereto shall confer upon any recipient any right to continue in the employ of the Company or any Affiliate or to limit the Company's right to terminate the employment or consulting relationship or directorship of any eligible employee or recipient with or without cause. In the event that an Option Award recipient is permitted or otherwise entitled to take a leave of absence, the Company shall have the unilateral right to (i) determine whether such leave of absence will be treated as a termination of employment for purposes of his or her Option Award, or (ii) suspend or otherwise delay the time or times at which the shares subject to the Option Award would otherwise vest.

(e) To the extent provided by the terms of any Option Award, the recipient may satisfy any federal, state or local tax withholding obligation relating to the exercise or receipt of such Option Award by any of the following means or by a combination of such means: (1) tendering a cash payment; (2) authorizing the Company to withhold from the shares of the common stock otherwise issuable to the participant as a result of the exercise of receipt of the Option Award cash or a number of shares having a fair market value less than or equal to the amount of the withholding tax obligation; or (3) delivering to the Company owned and unencumbered shares of common stock of the Company having a fair market value less than or equal to the amount of the withholding tax obligation.

(f) In connection with each Option Award made pursuant to the Plan, the Company may require as a condition precedent to its obligation to issue or transfer shares to an eligible participant, or to evidence the removal of any restrictions on transfers or lapse of any repurchase right, that such participant make arrangements satisfactory to the Company to insure that the amount of any federal or other withholding tax required to be withheld with respect to such sale or transfer, or such removal or lapse, is made available to the Company for timely payment of such tax.

(g) The Company may, as a condition of transferring any stock pursuant to the Plan, require any person who is to acquire such stock (1) to give written assurances satisfactory to the Company as to the optionee's knowledge and experience in financial and business matters and/or to employ a purchaser representative reasonably satisfactory to the Company who is knowledgeable and experienced in financial and business matters, and that he or she is capable of evaluating, alone or together with the purchaser representative, the merits and risks of acquiring the stock; and (2) to give written assurances satisfactory to the Company stating that such person is acquiring the stock for such person's own account and not with any present intention of selling or otherwise distributing the stock. These requirements, and any assurances given pursuant to such requirements, shall be inoperative if (i) the issuance of the shares has been registered under a then currently effective registration statement under the Securities Act, or (ii) as to any particular requirement, a determination is made by counsel for the Company that such requirement need not be met in the circumstances under the then applicable securities laws.

9. ADJUSTMENTS UPON CHANGES IN STOCK.

(a) If any change is made in the stock subject to the Plan, or subject to any Option Award granted under the Plan (through merger, consolidation, reorganization, recapitalization, stock dividend, dividend in property other than cash, stock split, liquidating dividend,

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combination of shares, exchange of shares, change in corporate structure or otherwise), the Plan and outstanding Option Awards will be appropriately adjusted in the class(es) and maximum number of shares subject to the Plan and the class(es) and number of shares and price per share of stock subject to outstanding Option Awards.

(b) In the event of: (1) a merger or consolidation in which the Company is not the surviving corporation, or (2) a reverse merger in which the Company is the surviving corporation but the shares of the Company's common stock outstanding immediately preceding the merger are converted by virtue of the merger into other property, whether in the form of securities, cash or otherwise, then to the extent permitted by applicable law: (i) any surviving corporation shall assume any Option Awards outstanding under the Plan or shall substitute similar rights for those outstanding under the Plan, or (ii) such Option Awards shall continue in full force and effect. In the event any surviving corporation refuses to assume or continue such Option Awards, or to substitute similar Option Awards for those outstanding under the Plan, then, with respect to Option Awards held by persons then performing services as employees or as consultants or directors for the Company, as the case may be, the time during which such Option Awards shall vest shall be accelerated and the Option Awards terminated if not exercised prior to such event. In the event of a dissolution or liquidation of the Company, any options outstanding under the Plan shall terminate if not exercised prior to such event.

10. AMENDMENT OF THE PLAN.

(a) The Committee at any time, and from time to time, may amend the Plan, subject to and within limitations of any resolutions approved by the Board of Directors. However, except as provided in paragraph 9 relating to adjustments upon changes in stock, no amendment shall be effective unless approved by the shareholders of the Company within twelve (12) months before or after the adoption of the amendment, where the amendment will increase the number of shares reserved for issuance under the Plan.

(b) With a view to making available the benefits provided by Section 422 of the Code, if deemed desirable by the Board, the Board in its discretion shall determine at the time of each amendment of the Plan whether or not to submit such amendment to the shareholders of the Company for approval.

(c) Rights and obligations under any Option Award granted before amendment of the Plan shall not be altered or impaired by any amendment of the Plan unless (i) the Company requests the consent of the person to whom the Option Award was granted and (ii) such person consents in writing.

11. TERMINATION OR SUSPENSION OF THE PLAN.

(a) The Committee may suspend or terminate the Plan at any time. Unless sooner terminated, the Plan shall terminate ten (10) years from the date the Plan is adopted by the Board or approved by the shareholders of the Company, whichever is earlier. Upon termination of the Plan, all Option Awards shall become fully vested. No Option Awards may be granted under the Plan while the Plan is suspended or after it is terminated.

(b) Rights and obligations under any Option Award granted while the Plan is in effect shall not be altered or impaired by suspension or termination of the Plan, except with the consent of the person to whom the Option Award was granted.

12. EFFECTIVE DATE OF PLAN.

The Plan shall become effective as of October , 2001, but no Option Award granted under the Plan shall be exercised and no stock shall otherwise be issued under the Plan unless and until the Plan has been approved by the shareholders of the Company.

IN WITNESS WHEREOF, the authorized officer of the Company has executed this Plan on this 1st day of October, 2001.

GTx, Inc.

By: */s/ Henry P. Doggrell*

Title: General Counsel and Secretary

AMENDMENT TO THE

GTX, INC.

2001 STOCK OPTION PLAN

WHEREAS, GTx, Inc. (the "***Company***") adopted the 2001 Stock Option Plan (the "***Plan***") effective October 1, 2001 and granted the Committee the right to amend the Plan;

WHEREAS, it has been determined that the Plan should be amended for the purpose of changing the definition of the terms "permanent and total disability" and "Change in Control";

WHEREAS, the Committee of the Company has approved such amendments;

NOW, THEREFORE, the Plan is hereby amended, effective as of the date hereof, as follows:

1. The definition of the term "permanent and total disability" set forth in Section 5 of the Plan is hereby amended to have the following meaning: (A) the inability of the optionee to perform substantially all of his or her duties and responsibilities to the Company by reason of a physical or mental disability or infirmity (excluding, however, infrequent and temporary absences due to ordinary illness) (i) for a continuous period of more than ninety (90) days or (ii) at such time as the optionee submits satisfactory medical evidence that he or she has a permanent physical or mental disability or infirmity which will likely prevent him from returning to the performance of his work duties for more than ninety (90) days, and (B) either the optionee or the

Company shall have given the other at least thirty (30) days prior written notice of intent to terminate employment. The date of such permanent and total disability shall be on the last day of such ninety (90) day period or the day on which the optionee submits such satisfactory medical evidence, as the case might be.

2. The definition of the term "Change in Control" set forth in Section 5(i) of the Plan is hereby amended to have the following meaning: (a) the sale or other disposition of all or substantially all of the assets of the Company in a single transaction or in a series of transactions (including, without limitation, any liquidation or dissolution of the Company); (b) the sale or other disposition of more than fifty percent (50%) of the issued and outstanding voting stock of the Company, in a single transaction or in a series of transactions. For such purposes, "voting stock" shall mean the capital stock of the Company 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 Company; or (3) a merger or consolidation of the Company 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 date of the grant of this Option of at least 20% of the voting stock of the Company. Notwithstanding the foregoing, a "Change in Control" shall not include: (i) any transfer or issuance of stock of the Company to one or more of the Company's lenders (or to any agents or representatives thereof) in exchange for debt of the Company owed to any such lenders; (ii) any transfer of stock of the Company to or by any person or entity, including but not limited to one or more of the Company's lenders (or to any

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agents or representatives thereof), pursuant to the terms of any pledge of said stock as collateral for any loans or financial accommodations to the Company and/or its subsidiaries; (iii) any transfer or issuance to any person or entity, including but not limited to one or more of the Company's lenders (or to any agents or representatives thereof), in connection with the workout or restructuring of the Company's debts to any one of the Company's lenders, including but not limited to the issuance of new stock in exchange for any equity contribution to the Company in connection with the workout or restructuring of such debt; or (iv) any transfer of stock by a stockholder of the Company which is a partnership or corporation to the partners or stockholders in such stockholder.

IN WITNESS WHEREOF, the Company has caused this Amendment to be executed on November 15, 2001.

GTx, Inc.

By: */s/ Marc S. Hanover*
Name: Marc S. Hanover
Title: President and COO

SECOND AMENDMENT TO THE

GTX, INC.

2001 STOCK OPTION PLAN

WHEREAS, GTx, Inc. (the "Company") adopted the GTx, Inc. 2001 Stock Option Plan (the "2001 Plan") effective October 1, 2001;

WHEREAS, the Compensation Committee believes it to be in the best interests of the Company to amend the Company's 2001 Plan to clarify certain existing provisions in light of final regulations issued under Section 409A of the Internal Revenue Code of 1986, as amended;

WHEREAS, the Compensation Committee of the Company has approved such amendments; and

Whereas, the contemplated amendments are not "material amendments" as contemplated by Nasdaq Marketplace Rule 4350(i)(1)(A).

NOW, THEREFORE, Be it Resolved, the 2001 Plan is hereby amended, effective as of the date hereof, as follows:

1. That Section 4(a) of the 2001 Plan is hereby deleted in its entirety and replaced with the following:

(a) Incentive Stock Options may be granted only to employees (including officers) of the Company or its Affiliates. A director of the Company shall not be eligible to receive Incentive Stock Options unless such director is also an employee (including an officer) of the Company or any Affiliate. Option Awards other than Incentive Stock Options may be granted only to directors, officers or employees of or consultants to the Company or its Affiliates; provided that such Option Awards may not be granted to directors, officers or employees who are providing services only to a "parent" of the Company, as such term is defined in Section 424(f) of the Code, unless such Option Awards comply with the distribution requirements of Section 409A of the Code.

2. That Section 5(b) of the 2001 Plan is hereby deleted in its entirety and replaced with the following:

(b) The exercise price of each Option Award shall be not less than one hundred percent (100%) of the fair market value of the stock subject to the option on the date the option is granted or, in the case of any option contemplated by paragraph 4(b), one hundred ten percent (110%) of the fair market value of the stock subject to the option on the date of grant of the option. Notwithstanding the foregoing, an Option Award may be granted with an exercise price lower than one hundred percent (100%) of the fair market value of the stock subject to the option on the date the option is granted if such Option Award is granted pursuant to an assumption of or substitution for another option pursuant to a Change in Control (as defined in section 5(i) of the Plan) and in a manner consistent with the provisions of Sections 409A and 424(a) of the Code. Fair market value means, as of any date, the value of the Company's

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common stock determined as follows:

i) If the common stock is listed on any established stock exchange or traded on the Nasdaq Global Market or any other established market, the fair market value of a share of common stock shall be the closing sales price for such stock as quoted on such exchange or market (or the exchange or market with the greatest volume of trading in the common stock) on the date of determination, as reported in The Wall Street Journal or such other source as the Committee deems reliable.

ii) Unless otherwise provided by the Committee, if there is no closing sales price for the common stock on the date of determination, then the fair market value shall be the closing sales price on the last preceding date for which such quotation exists.

iii) In the absence of such markets for the common stock, the fair market value shall be determined by the Committee in good faith and in a manner that complies with Section 409A of the Code.

3. That the following will be added to the 2001 Plan as Section 8(h):

(h) To the extent permitted by applicable law, the Committee, in its sole discretion, may determine that the delivery of common stock upon the exercise of all or a portion of any Option Award may be deferred and may establish programs and procedures for deferral elections to be made by persons receiving options. Deferrals by persons will be made in accordance with Section 409A of the Code.

4. That the following will be added to the 2001 Plan as Section 8(i):

(i) To the extent that the Committee determines that any Option Award granted hereunder is subject to Section 409A of the Code, the agreement evidencing such Option Award shall incorporate the terms and conditions necessary to avoid the consequences specified in Section 409A(a)(1) of the Code. To the extent applicable, this Plan and the agreements evidencing Option Awards shall be interpreted in accordance with Section 409A of the Code, including without limitation any applicable guidance that may be issued or amended in the future.

5. That Section 10(c) of the 2001 Plan is hereby deleted in its entirety and replaced with the following:

(b) Rights and obligations under any Option Award granted before amendment of the Plan shall not be altered or impaired by any amendment of the Plan unless (i) the Company requests the consent of the person to whom the Option Award was granted and (ii) such person consents in writing. Notwithstanding the foregoing, subject to the limitations of applicable law, if any, the Committee may amend the terms of any one or more Option Awards without the consent of the person to whom the Option Award was granted if necessary to bring the Option Award into compliance with Section 409A of the Code.

IN WITNESS WHEREOF, the Company has caused this Second Amendment to the 2001 Plan to be executed on November 4, 2008.

GTx, Inc.

By: */s/ Henry P. Doggrell*
Name: Henry P. Doggrell
Title: Vice President, General Counsel

THIRD AMENDMENT TO THE

GTX, INC.

2001 STOCK OPTION PLAN

WHEREAS, GTx, Inc. (the "company") adopted the GTx, Inc. 2001 Stock Option Plan (the "2001 Plan") effective October 1, 2001;

WHEREAS, the Compensation Committee believes it to be in the best interest of the Company to interpret the Plan to provide a consistent definition of the terms "permanent and total disability" and "permanent disability" with respect to Supplemental Stock Options and to provide a consistent mechanism for administering the determination of whether a Participant has suffered a "permanent and total disability" and "permanent disability" as those terms are used in the 2001 Plan and the award agreements pursuant to the 2001 Plan;

WHEREAS, the Compensation Committee believes that this Third Amendment will also benefit the optionees under the 2001 Plan by clarifying the applicable requirements for determining "permanent and total disability" and "permanent disability" and that this Third Amendment will not alter or impair any rights or obligations the optionees have under the Option Award;

WHEREAS, the Compensation Committee has approved this Third Amendment; and

WHEREAS, the contemplated amendments are not "material amendments" as contemplated by Rule 5635 of the Nasdaq Manual.

NOW, THEREFORE, BE IT RESOLVED, the 2001 Plan and the Option Awards issued pursuant thereto are hereby interpreted and amended as follows:

1. The definition of "permanent and total disability" and "permanent disability" with respect to the 2001 Plan and the Option Awards issued pursuant thereto shall be amended and interpreted to require the occurrence of all of the following conditions:

(i) the optionee's physical or mental incapacity (excluding infrequent and temporary absences due to ordinary illness) prevents the optionee from properly performing the essential functions of his or her job which had been typically assigned to him or her by the Company, with or without reasonable accommodation, (ii) such incapacities shall exist or be expected to exist within a reasonable degree of medical certainty for more than ninety (90) days in the aggregate during any consecutive twelve (12) month period, (iii) the delivery of a report to the Company determining the existence of the incapacities with respect to the optionee and describing in detail the incapacities which satisfy the requirements of the foregoing subsections (i) and (ii), which report shall be signed by a medical doctor duly licensed to practice medicine in either the state of Tennessee or the state in which the optionee resides and which report must be received by the Company while the optionee is still employed by the Company, provided, however, if the Committee determines the report to be inadequate or inaccurate, the Committee may select two additional independent medical doctors and request each to provide a report meeting the above specifications, and the determination of a majority of the three medical

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doctors shall be conclusive and binding on the optionee and the Company, and the optionee shall cooperate with the Company's request and submit to such medical examinations, and (iv) either the optionee or the Company shall have given the other thirty (30) days written notice of intent to terminate employment or service because of permanent and total disability.

IN WITNESS WHEREOF, the Company has caused this Third Amendment to be executed on November 3, 2009.

GTx, Inc.

By: */s/ Henry P. Doggrell*
Name: Henry P. Doggrell
Title: Vice President, General Counsel and Secretary

NONQUALIFIED STOCK OPTION SUBSCRIPTION AGREEMENT

THIS NONQUALIFIED STOCK OPTION SUBSCRIPTION AGREEMENT (this "Agreement"), dated as of the day of , , is made by and between GTx, Inc. (the "Company"), a Delaware corporation, and the Employee of the Company whose name appears on the signature page hereof (hereinafter referred to as the "Optionee").

WHEREAS, pursuant to the 2001 Stock Option Plan, as amended (the "Plan"), the terms of which are hereby incorporated by reference, the Company intends to provide incentives to certain key Employees of the Company by providing them with opportunities for ownership of shares of Common Stock; and

WHEREAS, a duly constituted committee of the Board of Directors of the Company (hereinafter referred to as the "Committee") appointed to administer the Plan has determined that it would be to the advantage and best interest of the Company and its stockholders to grant the Option provided for herein to the Optionee under the Plan and has advised the Company thereof and instructed the undersigned officers to issue said Option;

NOW, THEREFORE, in consideration of the mutual covenants herein contained and other good and valuable consideration, receipt of which is hereby acknowledged, the parties hereto do hereby agree as follows:

ARTICLE I

DEFINITIONS

Whenever the following terms are used in this Agreement, they shall have the meaning specified below unless the Plan indicates to the contrary.

1.1 — Cause. "Cause" used in connection with the termination of employment of the Optionee shall mean a termination of employment of the Optionee by the Company or any of its Subsidiaries due to (i) fraud or dishonesty of the Optionee in connection with the business of the Company; (ii) gross negligence of the Optionee in the performance of duties for the Company; (iii) willful failure by the Optionee in carrying out duties as an employee; or (iv) arrest and conviction of the Optionee for a felony involving moral turpitude, whether or not in connection with the business of the Company; provided that (iii) above shall not apply if the Optionee has been assigned by the Company to duties which are not comparable to such Optionee's function and compensation at the Company, or which are non-executive or demeaning assignments, or if the Company has given such Optionee demeaning and unreasonable pay cuts.

1.2 — Change in Control. "Change in Control" shall have the meaning given in Section 3.3.

1.3 — Code. "Code" shall mean the Internal Revenue Code of 1986, as amended.

1.4 — Common Stock. "Common Stock" shall mean the common capital stock of the Company.

1.5 — Exchange Act. "Exchange Act" shall mean the Securities Exchange Act of 1934, as amended, and all rules and regulations promulgated thereunder.

1.6 — Exercise Price. "Exercise Price" shall mean the price per Option Share as set forth on the signature page hereof.

1.7 — Grant Date. "Grant Date" shall mean the date on which the Option provided for in this Agreement was granted.

1.8 — IPO. “IPO” shall mean the date on which the Company’s shares of Common Stock are first sold to the public in an offering registered pursuant to Section 5 of the Securities Act of 1933, as amended.

1.9 — Option. “Option” shall mean any stock option to purchase Common Stock of the Company granted under this Agreement.

1.10 — Option Shares. “Option Shares” shall mean the number of shares of Common Stock for which this Option is granted as set forth upon the signature page hereof.

1.11 — Permanent Disability. “Permanent Disability” of the Optionee shall mean the occurrence of the following conditions: (i) the optionee’s physical or mental incapacity (excluding infrequent and temporary absences due to ordinary illness) prevents the optionee from properly performing the essential functions of his or her job which had been typically assigned to him or her by the Company, with or without reasonable accommodation, (ii) such incapacities shall exist or be expected to exist within a reasonable degree of medical certainty for more than ninety (90) days in the aggregate during any consecutive twelve (12) month period, (iii) the delivery of a report to the Company determining the existence of the incapacities with respect to the optionee and describing in detail the incapacities which satisfy the requirements of the foregoing subsections (i) and (ii), which report shall be signed by a medical doctor duly licensed to practice medicine in either the state of Tennessee or the state in which the optionee resides and which report must be received by the Company while the optionee is still employed by the Company, provided, however, if the Committee determines the report to be inadequate or inaccurate, the Committee may select two additional independent medical doctors and request each to provide a report meeting the above specifications, and the determination of a majority of the three medical doctors shall be conclusive and binding on the optionee and the Company, and the optionee shall cooperate with the Company’s request and submit to such medical examinations, and (iv) either the optionee or the Company shall have given the other thirty (30) days written notice of intent to terminate employment or service because of permanent and total disability.

1.12 — Permitted Transferee. “Permitted Transferee” shall have the meaning given in Section 5.2(b).

1.13 — Person. “Person” means any individual, corporation, partnership, joint venture, limited liability company, association, joint-stock company, trust or unincorporated organization.

1.14 — Plan. “Plan” shall mean the 2001 Stock Option Plan of GTx, Inc.

1.15 — Retirement. “Retirement” shall mean any voluntary termination of employment by the Optionee after having reached the age of sixty-five (65) years (or after having reached the age of fifty-five (55) years if the Optionee has no fewer than five (5) years of service with the Company).

ARTICLE II

GRANT OF OPTION

2.1 — Grant of Option. For good and valuable consideration, on and as of the date hereof, the Company irrevocably grants to the Optionee the Option to purchase any part or all of an aggregate of the number of Option Shares set forth on the signature page hereof upon the terms and conditions set forth in this Agreement.

2.2 — Consideration to the Company. In consideration of the granting of this Option by the Company, the Optionee agrees to render faithful and efficient services to the Company with such duties and responsibilities as the Company shall from time to time prescribe. Nothing in this Agreement or in the Plan shall confer upon the Optionee any right to continue in the employ or service of the Company or shall interfere with or restrict in any way the rights of the Company, which are hereby expressly reserved, to discharge the Optionee at any time for any reason whatsoever, with or without Cause.

2.3 — Adjustments in Option. Subject to Section 9 of the Plan, in the event that the outstanding shares of the Common Stock subject to the Option are changed into or exchanged for a different number or kind of shares of capital stock or other securities of the Company, or of another corporation, by reason of a reorganization, merger, consolidation, recapitalization, reclassification, stock split, stock dividend, combination of shares or otherwise, the Committee shall make an appropriate adjustment in the number and kind of shares of Option Shares. Such adjustment in the Option shall be made without change in the total price applicable to the unexercised portion of the Option (except for any change in the aggregate price resulting from rounding-off of shares, quantities or prices) and with any necessary corresponding adjustment in the Exercise Price. No fractional shares shall be issued, and any fractional shares resulting from computations pursuant to Section 9 of the Plan shall be eliminated from the respective Options. Any such adjustment made by the Committee shall be final and binding upon the Optionee, the Company and all other interested persons.

2.4 — Tax Treatment. The Option hereby granted is intended to be a Supplemental Stock Option as defined in the Plan (hereinafter referred to as a “Nonqualified Stock Option”) and not an Incentive Stock Option as described in Section 422 of the Code.

ARTICLE III

PERIOD OF EXERCISABILITY

3.1 — General Rule. The Option will become exercisable as to the following percentages of the Option Shares on the following anniversaries of the Grant Date provided that the Optionee is then employed by the Company on such anniversary:

Third anniversary	33%
Fourth anniversary	67%
Fifth anniversary	100%

3.2 — Termination of Employment and Nonvested Options. In the event the Optionee’s employment or service with the Company is terminated (other than a termination for Cause but including any involuntary termination as the result of a Change in Control, as described below), by reason of

Retirement, death, or Permanent Disability, the Committee may in its sole, absolute and final discretion elect to vest any or all shares subject to the Option, that are not otherwise vested pursuant to the terms of the Plan. In the event the Optionee's employment or service is terminated under any other circumstances, any portion of the Option that is has not vested shall be forfeited immediately.

3.3 — Change in Control. Notwithstanding Section 3.1, unless the Optionee is terminated for Cause, the Option will become exercisable in full in the event of any voluntary or involuntary termination of the Optionee's employment or service occurring simultaneously with or at any time after any of the following events (a "Change in Control"):

(a) the sale or other disposition of all or substantially all of the assets of the Company in a single transaction or in a series of transactions (including, without limitation, any liquidation or dissolution of the Company);

(b) the sale or other disposition of more than fifty percent (50%) of the issued and outstanding voting stock of the Company, in a single transaction or in a series of transactions. For such purposes, "voting stock" shall mean the capital stock of the Company 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 Company; or

(c) a merger or consolidation of the Company 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 date of the grant of this Option of at least 20% of the voting stock of the Company.

A Change in Control shall not include:

(1) any transfer or issuance of stock of the Company to one or more of the Company's lenders (or to any agents or representatives thereof) in exchange for debt of the Company owed to any such lenders;

(2) any transfer of stock of the Company to or by any person or entity, including but not limited to one or more of the Company'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 Company and/or its subsidiaries;

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(3) any transfer or issuance to any person or entity, including but not limited to one or more of the Company's lenders (or to any agents or representatives thereof), in connection with the workout or restructuring of the Company's debts to any one of the Company's lenders, including but not limited to the issuance of new stock in exchange for any equity contribution to the Company in connection with the workout or restructuring of such debt; or

(4) any transfer of stock by a stockholder of the Company, which is a partnership or corporation to the partners, or stockholders in such stockholder.

3.4 — Optional Vesting/Accelerated Exercise in connection with a Change of Control. In the event a Change in Control appears likely to occur, the Committee may, in its sole and absolute discretion, send written notice to the Optionee at least ten (10) days prior to the contemplated date of any Change in Control specifying (a) that the Option will become exercisable in full on the date of the Change in Control, (b) that any portion or all of the Option which thereby becomes exercisable and any portion or all of the Option which was already exercisable will immediately thereafter expire on the same date and (c) that to prevent the lapse of the Option, the Optionee must exercise the Option no later than such date. Except as may otherwise be expressly provided in such written notice, any acceleration of the exercisability of the Option and any attempted exercise of the Option by the Optionee shall be null and void if the Change in Control does not occur within thirty (30) days of the date contemplated in the notice.

3.5 — Expiration of Option. Any portion of the Option, which has become exercisable will nevertheless expire and will no longer be exercisable to any extent by anyone on the earliest to occur of the following events:

(a) the tenth anniversary of the Grant Date;

(b) the earlier of (A) three (3) months after termination of employment (specifically including a termination of employment after a Change in Control), unless such termination is for Cause or results from Retirement, death, Permanent Disability or (B) the term of the Option as set forth in the Plan;

(c) twelve (12) months after termination of employment on account of Permanent Disability, provided that if Optionee shall die within such time without having fully exercised all vested Options, Optionee's estate shall have an additional twelve (12) months from Optionee's date of death to exercise such Options;

(d) eighteen (18) months after termination of employment on account of Optionee's death or within eighteen (18) months after Optionee's termination of employment if Optionee qualifies under clause (b) but dies within three (3) months after his or termination of employment without having exercised all of his or her vested Options;

(e) the earlier of five (5) years after the date of the Retirement of Optionee, or the term of the Option as set forth in the Plan;

(f) at the close of business on the date of the termination of the Optionee's employment by the Company for Cause; and

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(e) if the Committee so determines and gives written notice as provided in Section 3.4, upon the Effective Date of any Change in Control.

3.6 — Non-competition. Notwithstanding any other provisions of this Agreement, any Option outstanding, including any vested but unexercised Option, shall be forfeited upon the Optionee's "Competition" with the Company. For this purpose, Competition shall be determined by the Committee and shall exist if the Optionee, directly or indirectly (i) engages or has a financial interest in, (ii) becomes an officer, employee, director, partner, advisor or consultant of or to, (iii) has an equity interest in, or (iv) in any way materially assists any person, corporation, entity or business whose existing or planned products or activities compete in whole or in part with the existing or planned products or activities of the Company. The sole fact of ownership by an Optionee of less than two percent (2%) of the stock of a publicly traded company which may have product lines which compete with product lines of the Company shall not be treated as Competition. Any determination by the Committee under this section shall be final and conclusive, unless overruled by the Board.

ARTICLE IV

EXERCISE OF OPTION

4.1 — Person Eligible to Exercise. During the lifetime of the Optionee, only the Optionee or the Optionee's guardian or conservator may exercise the Option or any portion thereof, and after the death of the Optionee, any portion of the Option may, prior to the time when the Option becomes unexercisable under Section 3.5, be exercised by the Optionee's personal representative or by any person empowered to do so under the Optionee's will or under the then applicable laws of descent and distribution; provided, however, at any time after the transfer of the Option or any portion thereof pursuant to Section 5.2, the transferred portion of the Option may be exercised only by the transferee.

4.2 — Partial Exercise. Any exercisable portion of the Option or the entire Option, if then wholly exercisable, may be exercised in whole or in part at any time prior to the time when the Option or portion thereof becomes unexercisable under Section 3.5; provided, however, that any partial exercise shall be for whole shares only.

4.3 — Manner of Exercise. The Option, or any exercisable portion thereof, may be exercised solely by delivery to the Secretary of the Company or his or her office all of the following prior to the time when the Option or such portion becomes unexercisable under Section 3.5:

(a) Notice in writing signed by the Optionee or the other person then entitled to exercise the Option or portion thereof, stating that the Option or portion thereof is thereby exercised, such notice complying with all applicable rules established by the Committee; and

(b) Full payment of the Exercise Price (as provided in Section 4.4), for the shares with respect to which such Option or portion thereof is exercised; and

(c) Such representations and documents as the Committee deems reasonably necessary or advisable to effect compliance with all applicable laws, including provisions of the

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Securities Act of 1933, as amended, and any other federal, state or foreign securities laws or regulations following an IPO; and

(d) Full payment to the Company (as provided in Section 4.4) of all amounts, if any, which, under federal, state or local law, it is required to withhold upon exercise of the Option; and

(e) If the Option or portion thereof shall be exercised pursuant to Section 4.1 by any person or persons other than the Optionee, appropriate proof of the right of such person or persons to exercise the Option.

Notwithstanding the foregoing, the Optionee may give notice exercising the Option subject to the condition or conditions that any then contemplated Change in Control will actually occur and that the Option will become exercisable because of the Change in Control with respect to the Option Shares for which notice of exercise is given. In such an event, full payment of the Exercise Price with respect to all Option Shares need not be made until the date of the Change in Control.

4.4 — Payment. The Exercise Price and any tax withholding shall be payable in cash, by check, or by any combination thereof. Except as otherwise provided by the Committee before the Option is exercised: (i) all or a portion of the Exercise Price or any tax withholding may be paid by delivery of shares of Common Stock acceptable to the Committee and having an aggregate Fair Market Value (valued as of the date of exercise) that is equal to the amount of cash that would otherwise be required; and (ii) the Exercise Price or any tax withholding may be paid by authorizing a third party to sell shares of Common Stock (or a sufficient portion of the shares) to be acquired upon the exercise of the Option and remit to the Company a sufficient portion of the sale proceeds to pay the entire Exercise Price and any tax withholding resulting from such exercise.

4.5 — Conditions to Issuance of Stock Certificates. The shares of Common Stock deliverable upon the exercise of the Option, or any portion thereof, may be either previously authorized but unissued shares or issued shares that have then been reacquired by the Company. Such shares shall be fully paid and nonassessable. The Company shall not be required to issue or deliver any certificate or certificates for shares of Common Stock purchased upon the exercise of the Option or portion thereof prior to fulfillment of all of the following conditions:

(a) The admission of such shares to listing on all stock exchanges, if any, on which such class of Common Stock is then listed;

(b) The completion of any registration or other qualification of such shares under any state or federal law or under rulings or regulations of the SEC or of any other governmental regulatory body, which the Committee shall, in its absolute discretion deem necessary or advisable;

(c) The obtaining of approval or other clearance from any state or federal governmental agency which the Committee shall determine to be necessary or advisable; and

(d) The payment to the Company of all amounts, if any, which, under federal,

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state or local law, it is required to withhold upon exercise of the Option.

4.6 — Rights as Stockholder. The holder of the Option shall not be, nor have any of the rights or privileges of, a stockholder of the Company in respect of any shares purchasable upon the exercise of the Option or any portion thereof unless and until certificates representing such shares shall have been issued by the Company in the name of such holder. No adjustment shall be made for cash dividends for which the record date is prior to the date such stock certificate is issued.

4.7 — Issuance of Certificate; Legend. The stock certificate or certificates deliverable to the Optionee upon the exercise of the Option may, at the request of the Optionee at the time of exercise, be issued in his or her name alone or in his or her name and the name of another person as joint tenants with right of survivorship. The Committee may, in its absolute discretion, also take whatever additional actions it deems appropriate to effect compliance with all applicable provisions of the Securities Act of 1933, as amended, and any other federal, state or foreign securities laws or regulations including, without limitation, placing legends on share certificates and issuing stock-transfer orders to transfer agents and registrars.

ARTICLE V

MISCELLANEOUS

5.1 — Administration. The Committee shall have the power to interpret the Plan and this Agreement and to adopt such rules for the administration, interpretation and application of the Plan as are consistent therewith and to interpret or revoke any such rules. No member of the Committee shall be personally liable for any action, determination or interpretation made in good faith with respect to the Plan or the Option. The Board of Directors of the Company in its absolute discretion may at any time and from time to time exercise any and all rights and duties of the Committee under the Plan and this Agreement.

5.2 — Transferability of Option. (a)Except as provided in subsection (b), neither the Option nor any interest or right therein or part thereof shall be subject to disposition by transfer, alienation, anticipation, encumbrance or any other means whether such disposition be voluntary or involuntary or by operation of law by judgment, levy, attachment, garnishment or any other legal or equitable proceedings (including bankruptcy), and any attempted disposition thereof shall be null and void and of no effect; provided, however, that this Section 5.2 shall not prevent transfers by will or by the applicable laws of descent and distribution.

(b) The Committee may, in its discretion, establish forms and procedures for the transfer of all or any portion of such Option by the Optionee to (i) Immediate Family Members (as defined hereinafter), (ii) a trust or trusts for the exclusive benefit of the Optionee and such Immediate Family Members, or (iii) a partnership or limited liability company in which the Optionee and such Immediate Family Members are the only partners or members (collectively such Optionee's "Permitted Transferees"), provided that subsequent transfers shall be prohibited except in accordance with the laws of descent and distribution, or by will. Notification and approval of all such transfers shall be in the form specified by the Committee. Following transfer, any such Option shall continue to be subject to the same terms and conditions

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as were applicable immediately prior to transfer, provided that for purposes of Articles IV and V hereof (other than this Section 5.2), the term "Optionee" shall be deemed to refer to the Permitted Transferee. Notwithstanding the foregoing, the Committee and the Company shall have no obligation to inform any Permitted Transferee of any expiration, termination, lapse or acceleration of any such Option and may give notices required hereunder, if any, to the Optionee. The events of termination of employment of Article III hereof shall continue to be applied with respect to the original Optionee, following which the Option shall be exercisable by the Permitted Transferee only to the extent, and for the periods specified at Article III hereof. As used in this Section 5.2(b) "Immediate Family Member" shall mean, with respect to the Optionee, his or her spouse, child, stepchild, grandchildren or other descendants, and shall include relationships arising from legal adoption.

5.3 — Shares of Common Stock to be Reserved. The Company shall at all times during the term of the Option reserve and keep available such number of shares of Common Stock as will be sufficient to satisfy the requirements of this Agreement.

5.4 — Notices. Any notice to be given under the terms of this Agreement to the Company shall be addressed to the Company in care of its Secretary, and any notice to be given to the Optionee shall be addressed to him or her at the address given beneath his or her signature hereto. By a notice given pursuant to this Section 5.4, either party may hereafter designate a different address for notices to be given to him or her. Any notice which is required to be given to the Optionee shall, if the Optionee is then deceased, be given to the Optionee's personal representative if such representative has previously informed the Company of his or her status and address by written notice under this Section 5.4. Any notice shall have been deemed duly given when enclosed in a properly sealed envelope or wrapper addressed as aforesaid, deposited (with postage prepaid) in a post office or branch post office regularly maintained by the United States Postal Service or when delivered by hand (whether by overnight courier or otherwise).

5.5 — Titles. Titles are provided herein for convenience only and are not to serve as a basis for interpretation or construction of this Agreement.

5.6 — No Right to Employment. Nothing in the Plan or this Agreement shall confer upon the Optionee any right to continue in the employ of the Company or any Affiliate or to limit the Company's right to terminate the employment relationship of any eligible employee with or without Cause. In the event that an Optionee is permitted or otherwise entitled to take a leave of absence, the Company shall have the unilateral right to (i) determine whether such leave of absence will be treated as a termination of employment for purposes of his or her Option, or (ii) suspend or otherwise delay the time or times at which the shares subject to the Option would otherwise vest.

5.7 — Amendment. This Agreement may be amended only by a writing executed by the parties hereto, which specifically states that it is amending this Agreement.

5.8 — Governing Law. The laws of the State of Tennessee shall govern the interpretation, validity and performance of the terms of this Agreement, regardless of the law that might be applied under principles of conflicts of laws.

5.9 — Jurisdiction. Any suit, action or proceeding against the Optionee with respect to this Agreement, or any judgment entered by any court in respect of any thereof, may be brought in any court of competent jurisdiction in the State of Tennessee, and the Optionee hereby submits to the non-exclusive jurisdiction of such courts for the purpose of any such suit, action, proceeding or judgment. Nothing herein shall in any way be deemed to limit the ability of the Company to serve any such writs, process or summonses in any other manner permitted by applicable law or to obtain jurisdiction over the Optionee, in such other jurisdictions, and in such manner, as may be permitted by applicable law. The Optionee hereby irrevocably waives any objections which he or she may now or hereafter have to the laying of the venue of any suit, action or proceeding arising out of or relating to this Agreement brought in any court of competent jurisdiction in the State of Tennessee, and hereby further irrevocably waives any claim that any such suit, action or proceeding brought in any such court has been brought in any inconvenient forum. No suit, action or proceeding against the Company with respect to this Agreement may be brought in any court, domestic or foreign, or before any similar domestic or foreign authority other than in a court of competent jurisdiction in the State of Tennessee, and the Optionee hereby irrevocably waives any right which he or she may otherwise have had to bring such an action in any other court, domestic or foreign, or before any similar domestic or foreign authority. The Company hereby submits to the jurisdiction of such courts for the purpose of any such suit, action or proceeding.

IN WITNESS WHEREOF, this Agreement has been executed and delivered by the parties hereto.

GTx, INC.

By: _____

Title:

No. of Option Shares:

Exercise Price:

, Optionee

Address:

GTx, Inc.

2002 STOCK OPTION PLAN

1. PURPOSE.

(a) The purpose of the GTx, Inc. 2002 Stock Option Plan (the "***Plan***") is to provide a means by which selected key employees and directors (if declared eligible under paragraph 4) of and consultants to GTx, Inc. (the "***Company***"), and its Affiliates, as defined in subparagraph 1(b), may be given an opportunity to benefit from increases in value of the stock of the Company. It is intended that this purpose will be effected through the granting of (i) incentive stock options and/or, (ii) nonstatutory stock options.

(b) The word "***Affiliate***" as used in the Plan means any parent corporation or subsidiary corporation of the Company, as those terms are defined in Sections 424 (e) and (f), respectively, of the Internal Revenue Code of 1986, as amended from time to time (the "***Code***").

(c) The Company, by means of the Plan, seeks to retain the services of persons now employed by or serving as consultants or directors to the Company, to secure and retain the services of persons capable of filling such positions, and to provide incentives for such persons to exert maximum efforts for the success of the Company.

(d) The Company intends that rights granted under the Plan ("***Option Awards***") shall, in the discretion of the Committee or Board of Directors of the Company (the "***Board***"), as applicable, be either (i) incentive stock options as that term is used in Section 422 of the Code ("***Incentive Stock Options***"), or (ii) stock options which do not qualify as Incentive Stock Options ("***Supplemental Stock Options***").

2. ADMINISTRATION.

(a) The Plan shall be administered by a Committee appointed by the Board of Directors of the Company composed of not fewer than three (3) Directors (the "***Committee***").

(b) The Committee shall have the power, subject to, and within the limitations of, the express provisions of the Plan and to such resolutions, not inconsistent with the provisions of the Plan, as may be adopted from time to time by the Board of Directors:

(i) To determine from time to time which of the persons eligible under the Plan shall be granted Option Awards; when and how Option Awards shall be granted; whether a Option Award will be an Incentive Stock Option, a Supplemental Stock Option, or a combination of the foregoing; and the provisions of each Option Award granted (which need not be identical).

(ii) To construe and interpret the Plan and Option Awards granted under it, and to establish, amend and revoke rules and regulations for its administration. The Committee, in the exercise of this power, may correct any defect, omission or inconsistency in the Plan or in any Option Award, in a manner and to the extent it shall deem necessary or expedient to make the Plan fully effective, consistent with its terms.

(iii) To amend the Plan as provided in paragraph 10.

(iv) Generally, to exercise such powers and to perform such acts as the Committee deems necessary or expedient to promote the best interests of the Company.

(c) The Board of Directors may abolish the Committee at any time and revest in the Board of Directors the administration of the Plan.

3. SHARES SUBJECT TO THE PLAN.

(a) Subject to the provisions of paragraph 9 relating to adjustments upon changes in stock, the stock that may be issued pursuant to Option Awards granted under the Plan shall not exceed in the aggregate Ten Thousand (10,000) shares of the Company's common stock issued and outstanding as of the date of shareholder approval of the Plan. If any option or right granted under the Plan shall for any reason expire or otherwise terminate without having been exercised in full, the stock not issued under such option or right shall again become available for the Plan.

(b) The stock subject to the Plan may be unissued shares or reacquired shares, bought on the market or otherwise.

4. ELIGIBILITY.

(a) Incentive Stock Options may be granted only to employees (including officers) of the Company or its Affiliates. A director of the Company shall not be eligible to receive Incentive Stock Options unless such director is also an employee (including an officer) of the Company or any Affiliate. Option Awards other than Incentive Stock Options may be granted only to directors, officers or employees of or consultants to the Company or its Affiliates.

(b) No person shall be eligible for the grant of an Incentive Stock Option under the Plan if, at the time of grant, such person owns (or is deemed to own pursuant to Section 424(d) of the Code) stock possessing more than ten percent (10%) of the total combined voting power of all classes of stock of the Company or of any of its Affiliates unless the exercise price of such option is at least one hundred ten percent (110%) of the fair market value of such stock at the date of grant and the term of the option does not exceed five (5) years from the date of grant.

5. TERMS OF STOCK OPTIONS.

Each stock option shall be in such form and shall contain such terms and conditions as the Board or the Committee shall deem appropriate. All options shall be separately designated

Incentive Stock Options or Supplemental Stock Options at the time of grant, and in such form as issued pursuant to this paragraph, and a separate certificate or certificates shall be issued for shares purchased on exercise of each type of option. An option designated as a Supplemental Stock Option shall not be treated as an Incentive Stock Option. The provisions of separate options need not be identical, but each option shall include (through incorporation of provisions hereof by reference in the option or otherwise) the substance of each of the following provisions:

(a) The term of any option shall not be greater than ten (10) years from the date it was granted or, in the case of any option contemplated by paragraph 4(b), five (5) years from the date of grant.

(b) The exercise price of each Incentive Stock Option shall be not less than one hundred percent (100%) of the fair market value of the stock subject to the option on the date the option is granted or, in the case of any option contemplated by paragraph 4(b), one hundred ten percent (110%) of the fair market value of the stock subject to the option on the date of grant of the option.

(c) The purchase price of stock acquired pursuant to an option shall be paid, to the extent permitted by applicable statutes and regulations, either (i) in cash at the time the option is exercised, or (ii) at the discretion of the Committee either at the time of the grant or exercise of the option, (A) by delivery to the Company of other common stock of the Company, (B) according to a deferred payment or other arrangement (which may include, without limiting the generality of the foregoing, the use of other common stock of the Company) with the person to whom the option is granted or to whom the option is transferred pursuant to subparagraph 5(d), or (C) in any other form of legal consideration that may be acceptable to the Committee.

(d) (i) Unless otherwise expressly stated in the option, an option shall not be transferable except by will or by the laws of descent and distribution, and shall be exercisable during the lifetime of the person to whom the option is granted only by such person, nor shall an option holder have the right or power to anticipate, accelerate, convey, assign or otherwise alienate, hypothecate, pledge or otherwise encumber any option award or the shares subject to an option award.

(ii) Except with respect to Incentive Stock Options, the Committee may, in its discretion, establish forms and procedures for the transfer of all or any portion of such Option Award by the optionee to (i) Immediate Family Members (as defined hereinafter), (ii) a trust or trusts for the exclusive benefit of the optionee and such Immediate Family Members, or (iii) a partnership or limited liability company in which the optionee and such Immediate Family Members are the only partners or members (collectively such optionee's "***Permitted Transferees***"), provided that subsequent transfers shall be prohibited except in accordance with the laws of descent and distribution, or by will. Notification and approval of all such transfers shall be in the form specified by the Committee. Following transfer, any such Option Award shall continue to be subject to the same terms and conditions as were applicable immediately prior to transfer, provided that for purposes of this Plan, wherever appropriate, the term "***optionee***" shall be deemed to refer to the Permitted Transferee. Notwithstanding the foregoing, the Plan Committee and the Company shall have no obligation to inform any Permitted Transferee of any expiration, termination, lapse or acceleration of any such Option Award and may give notices required hereunder, if any, to the optionee. The events of termination of employment hereof shall continue to be applied with respect to the original optionee, following which the Option Award shall be exercisable by the Permitted Transferee only to the extent, and for the periods specified herein. As used herein "***Immediate Family Member***" shall mean, with respect to the optionee, his or her spouse, child, stepchild, grandchildren or other descendants, and shall include relationships arising from legal adoption.

(e) The total number of shares of stock subject to an option may, but need not, be allotted in periodic installments (which may, but need not, be equal). From time to time during each of such installment periods, the option may become exercisable ("***vest***") with respect to some or all of the shares allotted to that period, and may be exercised with respect to some or all of the shares allotted to such period and/or any prior period as to which the option was not fully exercised. During the remainder of the term of the option (if its term extends beyond the end of the installment periods), the option may be exercised from time to time with respect to any shares then remaining subject to the option. In the absence of a specific provision to the contrary in a particular option grant, an option award shall vest one-third (1/3) on the third anniversary of the date of grant of such option award, an additional one-third on the fourth anniversary of the date of grant of such option award, and the final one-third (1/3) shall vest on the fifth anniversary of the date of grant of such option award. The provisions of this subparagraph 5(e) are subject to any option provisions governing the minimum number of shares as to which an option may be exercised.

(f) An option shall terminate three (3) months after termination of the optionee's employment or relationship as a director of or consultant to the Company or an Affiliate, unless (i) such termination is due to such person's permanent and total disability, within the meaning of Section 422(c)(6) of the Code, in which case the option may, but need not, provide that it may be exercised at any time within one (1) year following such termination of employment or relationship as a director or consultant; or (ii) the optionee dies while in the employ of or while serving as a director of or consultant to the Company or an Affiliate, or within not more than three (3) months after termination of such relationship, in which case the option may, but need not, provide that it may be exercised at any time within eighteen (18) months following the death of the optionee by the person or persons to whom the optionee's rights under such option passes by will or by the laws of descent and distribution; or (iii) such termination is due to such person's voluntary retirement in accordance with subparagraph (h) below, in which case the option may be exercised at any time within the earlier of five (5) years from the date of termination of such employment or relationship, as the case may be, or the term of the option; or (iv) the option by its terms specifies either (a) that it shall terminate sooner than three (3) months after termination of the optionee's employment or relationship as a director or consultant, or (b) that it may be exercised more than three (3) months after termination of the optionee's employment or relationship with the Company or an Affiliate. This subparagraph 5(f) shall not be construed to extend the term of any option or to permit anyone to exercise the option after expiration of its term, nor shall it be construed to increase the number of shares as to which any option is exercisable from the amount exercisable on the date of termination of the optionee's employment or relationship as a consultant or director.

(g) Prior to such time as the Company's shares of common stock are first sold to the public in an offering registered pursuant to Section 5 of the Securities Act of 1933, as amended ("***Initial Public Offering***"), any shares of stock acquired through the exercise of an option shall be subject to a thirty (30) day right of first refusal by the Company at the same price and terms as offered by any third party pursuant to a bona fide offer, and may not be sold prior to an offer to sell to the Company on such terms. Further, shares acquired through exercise of an option award shall be subject to the terms and conditions of the Amended and Restated Voting and Shareholder Agreement dated October 5, 2001, between the Company and its stockholders, as amended from time to time (the "***Stockholders Agreement***").

(h) In the event of a participant's termination of employment or service as a director, as applicable, by reason of voluntary retirement (at or after age sixty-five (65) or after age fifty-five with no fewer than five (5) years of service), death, permanent and total disability, involuntary termination (other than a termination for cause but including any involuntary termination as the result of a Change in Control, as addressed below), with respect to such participant's Option Award(s), the Committee may in its sole, absolute and final discretion elect to vest any or all shares not otherwise vested under the terms of the Plan.

For purposes of this section, a permanent and total disability shall mean (A) the inability of the optionee to perform substantially all of his or her duties and responsibilities to the Company by reason of a physical or mental disability or infirmity (excluding, however, infrequent and temporary absences due to ordinary illness) (i) for a continuous period of more than ninety (90) days or (ii) at such time as the optionee submits satisfactory medical evidence that he or she has a permanent physical or mental disability or infirmity which will likely prevent him from returning to the performance of his work duties for more than ninety (90) days, and (B) either the optionee or the Company shall have given the other at least thirty (30) days prior written notice of intent to terminate employment. The date of such permanent and total disability shall be on the last day of such ninety (90) day period or the day on which the optionee submits such satisfactory medical evidence, as the case might be.

For purposes of this section, a termination for cause shall mean the termination of an individual's status as an employee or director of the Company, as applicable, as the result of (i) fraud or dishonesty in connection with the business of the Company; (ii) gross negligence in the performance of duties for the Company; (iii) willful failure in carrying out duties as an employee, director or consultant; or (iv) arrest and conviction of a felony involving moral turpitude, whether or not in connection with the business of the Company; provided that (iii) above shall not apply if the Option Award holder has been assigned by the Company to duties which are not comparable to such holder's function and compensation at the Company, or which are non-executive or demeaning assignments, or if the Company has given such participant demeaning and unreasonable pay cuts.

(i) In the event of a Change in Control of the Company, all shares subject to all Option Awards shall become one hundred percent (100%) vested and shall be converted to cash, options or stock of equivalent value in the surviving organization under terms and condition which substantially preserve the economic status of the Participants, as determined by the Committee. For purposes of this paragraph, a Change in Control shall mean:

(a) The sale or other disposition of all or substantially all of the assets of the Company in a single transaction or in a series of transactions (including, without limitation, any liquidation or dissolution of the Company); (b) the sale or other disposition of more than fifty percent (50%) of the issued and outstanding voting stock of the Company, in a single transaction or in a series of transactions; or (c) a merger or consolidation of the Company 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 date of the grant of this Option of at least 20% of the voting stock of the Company. For such purposes, "***voting stock***" shall mean the capital stock of the Company of any class or classes, the holders of

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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 Company. Notwithstanding the foregoing, a "***Change in Control***" shall not include: (i) any transfer or issuance of stock of the Company to one or more of the Company's lenders (or to any agents or representatives thereof) in exchange for debt of the Company owed to any such lenders; (ii) any transfer of stock of the Company to or by any person or entity, including but not limited to one or more of the Company'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 Company and/or its subsidiaries; (iii) any transfer or issuance to any person or entity, including but not limited to one or more of the Company's lenders (or to any agents or representatives thereof), in connection with the workout or restructuring of the Company's debts to any one of the Company's lenders, including but not limited to the issuance of new stock in exchange for any equity contribution to the Company in connection with the workout or restructuring of such debt; or (iv) any transfer of stock by a stockholder of the Company which is a partnership or corporation to the partners or stockholders in such stockholder.

(j) In the event of an Initial Public Offering of the Company, Option Awards shall be convertible to options in shares of the newly public company, under terms and conditions which substantially preserve the rights and options of the participant. Any resulting registration of options or shares shall be effected at Company expense.

(k) If provided in the Option Award, each Option Award shall carry the right to receive any dividend or dividend equivalent on vested shares, under such terms and conditions as may be specified in the Option Award.

(l) Notwithstanding any other provisions of the Plan, any vested but unexercised Option Award shares shall be forfeited upon the Option Award holder's "***Competition***" with the Company. For this purpose, Competition shall be determined by the Committee, and shall exist if the Option Award holder while employed by or consulting for the Company and for a period of two (2) years thereafter directly or indirectly (i) engages or has a financial interest in, (ii) becomes an officer, employee, director, partner, advisor or consultant of or to, (iii) has an equity interest in, or (iv) in any way materially assists any person, corporation, entity or business whose existing or planned products or activities compete in whole or in part with the existing or planned products or activities of the Company. The sole fact of ownership by an Option Award holder of less than two percent (2%) of the stock of a publicly traded company which may have product lines which compete with product lines of this Company shall not be treated as Competition. Any determination by the Committee under this section shall be final and conclusive, unless overruled by the Board.

(m) Notwithstanding any other provision of the Plan or any Option Award to the contrary, any and all sales of shares to the Company or any Affiliate are contingent upon and subject to the terms and conditions of any bank loan covenants by the Company or any Affiliate.

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6. COVENANTS OF THE COMPANY.

(a) During the terms of any Option Awards granted under the Plan, the Company shall keep available at all times the number of shares of stock required to satisfy such Option Awards.

(b) The Company shall seek to obtain from each regulatory commission or agency having jurisdiction over the Plan such authority as may be required to issue and sell shares of stock upon grant or exercise of Option Awards under the Plan; provided, however, that this undertaking shall not require the Company to register under the Securities Act of 1933, as amended (the "***Securities Act***"), either the Plan, any Option Award granted under the Plan or any stock issued or issuable pursuant to any such Option Awards. If, after reasonable efforts, the Company is unable to obtain from any such regulatory commission or agency the authority which counsel for the Company deems necessary for the lawful issuance and sale of stock under the Plan, the Company shall be relieved from any liability for failure to issue and sell stock upon exercise of such Option Awards unless and until such authority is obtained.

7. USE OF PROCEEDS FROM STOCK.

Proceeds from the sale of stock pursuant to Option Awards granted under the Plan shall constitute general funds of the Company.

8. MISCELLANEOUS.

(a) The Committee shall have the power to accelerate the time during which a Option Award may be exercised or the time during which an option or stock acquired pursuant to a Option Award will vest, notwithstanding the provisions in the Option Award stating the time during which it may be exercised or the time during which stock acquired pursuant thereto will vest.

(b) Neither a recipient of a Option Award nor any person to whom a Option Award is transferred under subparagraph 5(d) shall be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares subject to such Option Award unless and until such person has satisfied all requirements for exercise of the Option Award pursuant to its terms and is thereby entitled to receive shares of stock.

(c) Throughout the term of any Option Award granted pursuant to the Plan, the Company shall make available to the holder of such Option Award, not later than one hundred twenty (120) days after the close of each of the Company's fiscal years during the option term, upon request, such financial and other information regarding the Company as comprises the annual report to the shareholders of the Company provided for in the bylaws of the Company.

(d) Nothing in the Plan or any instrument executed or Option Award granted pursuant thereto shall confer upon any recipient any right to continue in the employ of the Company or any Affiliate or to limit the Company's right to terminate the employment or consulting relationship or directorship of any eligible employee or recipient with or without cause. In the event that an Option Award recipient is permitted or otherwise entitled to take a leave of absence, the Company shall have the unilateral right to (i) determine whether such leave of absence will be treated as a termination of employment for purposes of his or her Option Award,

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or (ii) suspend or otherwise delay the time or times at which the shares subject to the Option Award would otherwise vest.

(e) To the extent provided by the terms of any Option Award, the recipient may satisfy any federal, state or local tax withholding obligation relating to the exercise or receipt of such Option Award by any of the following means or by a combination of such means: (1) tendering a cash payment; (2) authorizing the Company to withhold from the shares of the common stock otherwise issuable to the participant as a result of the exercise of receipt of the Option Award cash or a number of shares having a fair market value less than or equal to the amount of the withholding tax obligation; or (3) delivering to the Company owned and unencumbered shares of common stock of the Company having a fair market value less than or equal to the amount of the withholding tax obligation.

(f) In connection with each Option Award made pursuant to the Plan, the Company may require as a condition precedent to its obligation to issue or transfer shares to an eligible participant, or to evidence the removal of any restrictions on transfers or lapse of any repurchase right, that such participant make arrangements satisfactory to the Company to insure that the amount of any federal or other withholding tax required to be withheld with respect to such sale or transfer, or such removal or lapse, is made available to the Company for timely payment of such tax.

(g) The Company may, as a condition of transferring any stock pursuant to the Plan, require any person who is to acquire such stock (1) to give written assurances satisfactory to the Company as to the optionee's knowledge and experience in financial and business matters and/or to employ a purchaser representative reasonably satisfactory to the Company who is knowledgeable and experienced in financial and business matters, and that he or she is capable of evaluating, alone or together with the purchaser representative, the merits and risks of acquiring the stock; and (2) to give written assurances satisfactory to the Company stating that such person is acquiring the stock for such person's own account and not with any present intention of selling or otherwise distributing the stock. These requirements, and any assurances given pursuant to such requirements, shall be inoperative if (i) the issuance of the shares has been registered under a then currently effective registration statement under the Securities Act, or (ii) as to any particular requirement, a determination is made by counsel for the Company that such requirement need not be met in the circumstances under the then applicable securities laws.

9. ADJUSTMENTS UPON CHANGES IN STOCK.

(a) If any change is made in the stock subject to the Plan, or subject to any Option Award granted under the Plan (through merger, consolidation, reorganization, recapitalization, stock dividend, dividend in property other than cash, stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or otherwise), the Plan and outstanding Option Awards will be appropriately adjusted in the class(es) and maximum number of shares subject to the Plan and the class(es) and number of shares and price per share of stock subject to outstanding Option Awards.

(b) In the event of: (1) a merger or consolidation in which the Company is not the surviving corporation, or (2) a reverse merger in which the Company is the surviving corporation

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but the shares of the Company's common stock outstanding immediately preceding the merger are converted by virtue of the merger into other property, whether in the form of securities, cash or otherwise, then to the extent permitted by applicable law: (i) any surviving corporation shall assume any Option Awards outstanding under the Plan or shall substitute similar rights for those outstanding under the Plan, or (ii) such Option Awards shall continue in full force and effect. In the event any surviving corporation refuses to assume or continue such Option Awards, or to substitute similar Option Awards for those outstanding under the Plan, then, with respect to Option Awards held by persons then performing services as employees or as consultants or directors for the Company, as the case may be, the time during which such Option Awards shall vest shall be accelerated and the Option Awards terminated if not exercised

prior to such event. In the event of a dissolution or liquidation of the Company, any options outstanding under the Plan shall terminate if not exercised prior to such event.

10. AMENDMENT OF THE PLAN.

(a) The Committee at any time, and from time to time, may amend the Plan, subject to and within limitations of any resolutions approved by the Board of Directors. However, except as provided in paragraph 9 relating to adjustments upon changes in stock, no amendment shall be effective unless approved by the shareholders of the Company within twelve (12) months before or after the adoption of the amendment, where the amendment will increase the number of shares reserved for issuance under the Plan.

(b) With a view to making available the benefits provided by Section 422 of the Code, if deemed desirable by the Board, the Board in its discretion shall determine at the time of each amendment of the Plan whether or not to submit such amendment to the shareholders of the Company for approval.

(c) Rights and obligations under any Option Award granted before amendment of the Plan shall not be altered or impaired by any amendment of the Plan unless (i) the Company requests the consent of the person to whom the Option Award was granted and (ii) such person consents in writing.

11. TERMINATION OR SUSPENSION OF THE PLAN.

(a) The Committee may suspend or terminate the Plan at any time. Unless sooner terminated, the Plan shall terminate ten (10) years from the date the Plan is adopted by the Board or approved by the shareholders of the Company, whichever is earlier. Upon termination of the Plan, all Option Awards shall become fully vested. No Option Awards may be granted under the Plan while the Plan is suspended or after it is terminated.

(b) Rights and obligations under any Option Award granted while the Plan is in effect shall not be altered or impaired by suspension or termination of the Plan, except with the consent of the person to whom the Option Award was granted.

12. EFFECTIVE DATE OF PLAN.

The Plan shall become effective as of August 28, 2002, upon approval of the Plan by the Board of Directors of the Corporation.

IN WITNESS WHEREOF, the authorized officer of the Company has executed this Plan on this 28th day of August, 2002.

GTx, Inc.

By: */s/ Henry P. Doggrell*

Title: General Counsel and Secretary

FIRST AMENDMENT TO THE

GTX, INC.

2002 STOCK OPTION PLAN

WHEREAS, GTx, Inc. (the "***Company***") adopted the GTx, Inc. 2002 Stock Option Plan (the "***2002 Plan***") effective August 28, 2002;

WHEREAS, the Compensation Committee believes it to be in the best interests of the Company to amend the Company's 2002 Plan to clarify certain existing provisions in light of final regulations issued under Section 409A of the Internal Revenue Code of 1986, as amended;

WHEREAS, the Compensation Committee of the Company has approved such amendments; and

WHEREAS, the contemplated amendments are not "***material amendments***" as contemplated by Nasdaq Marketplace Rule 4350(i)(1)(A).

NOW, THEREFORE, Be it Resolved, the 2002 Plan is hereby amended, effective as of the date hereof, as follows:

1. That Section 4(a) of the 2002 Plan is hereby deleted in its entirety and replaced with the following:

(a) Incentive Stock Options may be granted only to employees (including officers) of the Company or its Affiliates. A director of the Company shall not be eligible to receive Incentive Stock Options unless such director is also an employee (including an officer) of the Company or any Affiliate. Option Awards other than Incentive Stock Options may be granted only to directors, officers or employees of or consultants to the Company or its Affiliates; provided that such Option Awards may not be granted to directors, officers or employees who are providing services only to a "***parent***" of the Company, as such term is defined in Section 424(f) of the Code, unless such Option Awards comply with the distribution requirements of Section 409A of the Code.

2. That Section 5(b) of the 2002 Plan is hereby deleted in its entirety and replaced with the following:

(b) The exercise price of each Option Award shall be not less than one hundred percent (100%) of the fair market value of the stock subject to the option on the date the option is granted or, in the case of any option contemplated by paragraph 4(b), one hundred ten percent (110%) of the fair market value of the stock subject to the option on the date of grant of the option. Notwithstanding the foregoing, an Option Award may be granted with an exercise price lower than one hundred percent (100%) of the fair market value of the stock subject to the option on the date the option is granted if such Option Award is granted pursuant to an assumption of or substitution for another option pursuant to a Change in Control (as defined in section 5(i) of the Plan) and in a

manner consistent with the provisions of Sections 409A and 424(a) of the Code. Fair market value means, as of any date, the value of the Company's common stock determined

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as follows:

i) If the common stock is listed on any established stock exchange or traded on the Nasdaq Global Market or any other established market, the fair market value of a share of common stock shall be the closing sales price for such stock as quoted on such exchange or market (or the exchange or market with the greatest volume of trading in the common stock) on the date of determination, as reported in The Wall Street Journal or such other source as the Committee deems reliable.

ii) Unless otherwise provided by the Committee, if there is no closing sales price for the common stock on the date of determination, then the fair market value shall be the closing sales price on the last preceding date for which such quotation exists.

iii) In the absence of such markets for the common stock, the fair market value shall be determined by the Committee in good faith and in a manner that complies with Section 409A of the Code.

3. That the following will be added to the 2002 Plan as Section 8(h):

(h) To the extent permitted by applicable law, the Committee, in its sole discretion, may determine that the delivery of common stock upon the exercise of all or a portion of any Option Award may be deferred and may establish programs and procedures for deferral elections to be made by persons receiving options. Deferrals by persons will be made in accordance with Section 409A of the Code.

4. That the following will be added to the 2002 Plan as Section 8(i):

(i) To the extent that the Committee determines that any Option Award granted hereunder is subject to Section 409A of the Code, the agreement evidencing such Option Award shall incorporate the terms and conditions necessary to avoid the consequences specified in Section 409A(a)(1) of the Code. To the extent applicable, this Plan and the agreements evidencing Option Awards shall be interpreted in accordance with Section 409A of the Code, including without limitation any applicable guidance that may be issued or amended in the future.

5. That Section 10(c) of the 2002 Plan is hereby deleted in its entirety and replaced with the following:

(b) Rights and obligations under any Option Award granted before amendment of the Plan shall not be altered or impaired by any amendment of the Plan unless (i) the Company requests the consent of the person to whom the Option Award was granted and (ii) such person consents in writing. Notwithstanding the foregoing, subject to the limitations of applicable law, if any, the Committee may amend the terms of any one or more Option Awards without the consent of the person to whom the Option Award was granted if necessary to bring the Option Award into compliance with Section 409A of the Code.

IN WITNESS WHEREOF, the Company has caused this First Amendment to the 2002 Plan to be executed on November 4, 2008.

GTx, Inc.

By: */s/ Henry P. Doggrell*

Name: Henry P. Doggrell

Title: Vice President, General Counsel

SECOND AMENDMENT TO THE

GTX, INC.

2002 STOCK OPTION PLAN

WHEREAS, GTx, Inc. (the "***company***") adopted the GTx, Inc. 2002 Stock Option Plan (the "***2002 Plan***") effective August 28, 2002;

Whereas, the Compensation Committee believes it to be in the best interest of the Company to interpret the Plan to provide a consistent definition of the terms "***permanent and total disability***" and "***permanent disability***" with respect to Supplemental Stock Options and to provide a consistent mechanism for administering the determination of whether a Participant has suffered a "***permanent and total disability***" and "***permanent disability***" as those terms are used in the 2002 Plan and the award agreements pursuant to the 2002 Plan;

WHEREAS, the Compensation Committee believes that this Second Amendment will also benefit the optionees under the 2002 Plan by clarifying the applicable requirements for determining "***permanent and total disability***" and "***permanent disability***" and that this Second Amendment will not alter or impair any rights or obligations the optionees have under the Option Award;

WHEREAS, the Compensation Committee has approved this Second Amendment; and

Whereas, the contemplated amendments are not "***material amendments***" as contemplated by Rule 5635 of the Nasdaq Manual.

NOW, THEREFORE, Be It Resolved, the 2002 Plan and the Option Awards issued pursuant thereto are hereby interpreted and amended as follows:

1. The definition of "***permanent and total disability***" and "***permanent disability***" with respect to the 2002 Plan and the Option Awards issued pursuant thereto shall be amended and interpreted to require the occurrence of all of the following conditions:

(i) the optionee's physical or mental incapacity (excluding infrequent and temporary absences due to ordinary illness) prevents the optionee from properly performing the essential functions of his or her job which had been typically assigned to him or her by the Company, with or without reasonable accommodation, (ii) such incapacities shall exist or be expected to exist within a reasonable degree of medical certainty for more than ninety (90) days in the aggregate during any consecutive twelve (12) month period, (iii) the delivery of a report to the Company determining the existence of the incapacities with respect to the optionee and describing in detail the incapacities which satisfy the requirements of the foregoing subsections (i) and (ii), which report shall be signed by a medical doctor duly licensed to practice medicine in either the state of Tennessee or the state in which the optionee resides and which report must be received by the Company while the optionee is still employed by the Company, provided, however, if the Committee determines the report to be inadequate or inaccurate, the Committee may select two additional independent medical doctors and request each to provide a report meeting the above specifications, and the determination of a majority of the three medical doctors shall be

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conclusive and binding on the optionee and the Company, and the optionee shall cooperate with the Company's request and submit to such medical examinations, and (iv) either the optionee or the Company shall have given the other thirty (30) days written notice of intent to terminate employment or service because of permanent and total disability.

IN WITNESS WHEREOF, the Company has caused this Second Amendment to be executed on November 3, 2009.

GTx, Inc.

By: */s/ Henry P. Doggrell*

Name: Henry P. Doggrell

Title: Vice President, General Counsel and Secretary

NONQUALIFIED STOCK OPTION SUBSCRIPTION AGREEMENT

THIS NONQUALIFIED STOCK OPTION SUBSCRIPTION AGREEMENT (this "***Agreement***"), dated as of the day of , , is made by and between GTx, Inc. (the "***Company***"), a Delaware corporation, and the Employee of the Company whose name appears on the signature page hereof (hereinafter referred to as the "***Optionee***").

WHEREAS, pursuant to the 2002 Stock Option Plan, as amended (the "***Plan***"), the terms of which are hereby incorporated by reference, the Company intends to provide incentives to certain key Employees of the Company by providing them with opportunities for ownership of shares of Common Stock; and

WHEREAS, a duly constituted committee of the Board of Directors of the Company (hereinafter referred to as the "***Committee***") appointed to administer the Plan has determined that it would be to the advantage and best interest of the Company and its stockholders to grant the Option provided for herein to the Optionee under the Plan and has advised the Company thereof and instructed the undersigned officers to issue said Option;

NOW, THEREFORE, in consideration of the mutual covenants herein contained and other good and valuable consideration, receipt of which is hereby acknowledged, the parties hereto do hereby agree as follows:

ARTICLE I

DEFINITIONS

Whenever the following terms are used in this Agreement, they shall have the meaning specified below unless the Plan indicates to the contrary.

1.1 — Cause. "***Cause***" used in connection with the termination of employment of the Optionee shall mean a termination of employment of the Optionee by the Company or any of its Subsidiaries due to (i) fraud or dishonesty of the Optionee in connection with the business of the Company; (ii) gross negligence of the Optionee in the performance of duties for the Company; (iii) willful failure by the Optionee in carrying out duties as an employee; or (iv) arrest and conviction of the Optionee for a felony involving moral turpitude, whether or not in connection with the business of the Company; provided that (iii) above shall not apply if the Optionee has been assigned by the Company to duties which are not comparable to such Optionee's function and compensation at the Company, or which are non-executive or demeaning assignments, or if the Company has given such Optionee demeaning and unreasonable pay cuts.

1.2 — Change in Control. "***Change in Control***" shall have the meaning given in Section 3.3.

1.3 — Code. "***Code***" shall mean the Internal Revenue Code of 1986, as amended.

1.4 — Common Stock. "***Common Stock***" shall mean the common capital stock of the Company.

1.5 — Exchange Act. "***Exchange Act***" shall mean the Securities Exchange Act of 1934, as amended, and all rules and regulations promulgated thereunder.

1.6 — Exercise Price. "***Exercise Price***" shall mean the price per Option Share as set forth on the signature page hereof.

1.7 — Grant Date. "***Grant Date***" shall mean the date on which the Option provided for in this Agreement was granted.

1.8 — IPO. "***IPO***" shall mean the date on which the Company's shares of Common Stock are first sold to the public in an offering registered pursuant to Section 5 of the Securities Act of 1933, as amended.

1.9 — Option. "***Option***" shall mean any stock option to purchase Common Stock of the Company granted under this Agreement.

1.10 — Option Shares. "***Option Shares***" shall mean the number of shares of Common Stock for which this Option is granted as set forth upon the signature page hereof.

1.11 — Permanent Disability. "***Permanent Disability***" of the Optionee shall mean the occurrence of the following conditions: (i) the optionee's physical or mental incapacity (excluding infrequent and temporary absences due to ordinary illness) prevents the optionee from properly performing the essential functions of his or her job which had been typically assigned to him or her by the Company, with or without reasonable accommodation, (ii) such incapacities shall exist or be expected to exist within a reasonable degree of medical certainty for more than ninety (90) days in the aggregate during any consecutive twelve (12) month period, (iii) the delivery of a report to the Company determining the existence of the incapacities with respect to the optionee and describing in detail the incapacities which satisfy the requirements of the foregoing subsections (i) and (ii), which report shall be signed by a medical doctor duly licensed to practice medicine in either the state of Tennessee or the state in which the optionee resides and which report must be received by the Company while the optionee is still employed by the Company, provided, however, if the Committee determines the report to be inadequate or inaccurate, the Committee may select two additional independent medical doctors and request each to provide a report meeting the above specifications, and the determination of a majority of the three medical doctors shall be conclusive and binding on the optionee and the Company, and the optionee shall cooperate with the Company's request and submit to such medical examinations, and (iv) either the optionee or the Company shall have given the other thirty (30) days written notice of intent to terminate employment or service because of permanent and total disability.

1.12 — Permitted Transferee. "***Permitted Transferee***" shall have the meaning given in Section 5.2(b).

1.13 — Person. "***Person***" means any individual, corporation, partnership, joint venture, limited liability company, association, joint-stock company, trust or unincorporated organization.

1.14 — Plan. "***Plan***" shall mean the 2002 Stock Option Plan of GTx, Inc.

1.15 — Retirement. "***Retirement***" shall mean any voluntary termination of employment by the Optionee after having reached the age of sixty-five (65) years (or after having reached the age of fifty-five (55) years if the Optionee has no fewer than five (5) years of service with the Company).

ARTICLE II

GRANT OF OPTION

2.1 — Grant of Option. For good and valuable consideration, on and as of the date hereof, the Company irrevocably grants to the Optionee the Option to purchase any part or all of an aggregate of the number of Option Shares set forth on the signature page hereof upon the terms and conditions set forth in this Agreement.

2.2 — Consideration to the Company. In consideration of the granting of this Option by the Company, the Optionee agrees to render faithful and efficient services to the Company with such duties and responsibilities as the Company shall from time to time prescribe. Nothing in this Agreement or in the Plan shall confer upon the Optionee any right to continue in the employ or service of the Company or shall interfere with or restrict in any way the rights of the Company, which are hereby expressly reserved, to discharge the Optionee at any time for any reason whatsoever, with or without Cause.

2.3 — Adjustments in Option. Subject to Section 9 of the Plan, in the event that the outstanding shares of the Common Stock subject to the Option are changed into or exchanged for a different number or kind of shares of capital stock or other securities of the Company, or of another corporation, by reason of a reorganization, merger, consolidation, recapitalization, reclassification, stock split, stock dividend, combination of shares or otherwise, the Committee shall make an appropriate adjustment in the number and kind of shares of Option Shares. Such adjustment in the Option shall be made without change in the total price applicable to the unexercised portion of the Option (except for any change in the aggregate price resulting from rounding-off of shares, quantities or prices) and with any necessary corresponding adjustment in the Exercise Price. No fractional shares shall be issued, and any fractional shares resulting from computations pursuant to Section 9 of the Plan shall be eliminated from the respective Options. Any such adjustment made by the Committee shall be final and binding upon the Optionee, the Company and all other interested persons.

2.4 — Tax Treatment. The Option hereby granted is intended to be a Supplemental Stock Option as defined in the Plan (hereinafter referred to as a "***Nonqualified Stock Option***") and not an Incentive Stock Option as described in Section 422 of the Code.

ARTICLE III

PERIOD OF EXERCISABILITY

3.1 — General Rule. The Option will become exercisable as to the following percentages of the Option Shares on the following anniversaries of the Grant Date provided that the Optionee is then employed by the Company on such anniversary:

Third anniversary	33%
Fourth anniversary	67%
Fifth anniversary	100%

3.2 — Termination of Employment and Nonvested Options. In the event the Optionee's employment or service with the Company is terminated (other than a termination for Cause but including any involuntary termination as the result of a Change in Control, as described below), by reason of Retirement, death, or Permanent Disability, the Committee may in its sole, absolute and final discretion elect to vest any or all shares subject to the Option, that are not otherwise vested pursuant to the terms of the Plan. In the event the Optionee's employment or service is terminated under any other circumstances, any portion of the Option that is has not vested shall be forfeited immediately.

3.3 — Change in Control. Notwithstanding Section 3.1, unless the Optionee is terminated for Cause, the Option will become exercisable in full in the event of any voluntary or involuntary termination of the Optionee's employment or service occurring simultaneously with or at any time after any of the following events (a "***Change in Control***"):

(a) the sale or other disposition of all or substantially all of the assets of the Company in a single transaction or in a series of transactions (including, without limitation, any liquidation or dissolution of the Company);

(b) the sale or other disposition of more than fifty percent (50%) of the issued and outstanding voting stock of the Company, in a single transaction or in a series of transactions. For such purposes, "***voting stock***" shall mean the capital stock of the Company 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 Company; or

(c) a merger or consolidation of the Company 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 date of the grant of this Option of at least 20% of the voting stock of the Company.

A Change in Control shall not include:

(1) any transfer or issuance of stock of the Company to one or more of the Company's lenders (or to any agents or representatives thereof) in exchange for debt of the Company owed to any such lenders;

(2) any transfer of stock of the Company to or by any person or entity, including but not limited to one or more of the Company's lenders (or to any agents or representatives thereof), pursuant to the terms of any pledge of said stock as collateral for any

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loans or financial accommodations to the Company and/or its subsidiaries;

(3) any transfer or issuance to any person or entity, including but not limited to one or more of the Company's lenders (or to any agents or representatives thereof), in connection with the workout or restructuring of the Company's debts to any one of the Company's lenders, including but not limited to the issuance of new stock in exchange for any equity contribution to the Company in connection with the workout or restructuring of such debt; or

(4) any transfer of stock by a stockholder of the Company, which is a partnership or corporation to the partners, or stockholders in such stockholder.

3.4 — Optional Vesting/Accelerated Exercise in connection with a Change of Control. In the event a Change in Control appears likely to occur, the Committee may, in its sole and absolute discretion, send written notice to the Optionee at least ten (10) days prior to the contemplated date of any Change in Control specifying (a) that the Option will become exercisable in full on the date of the Change in Control, (b) that any portion or all of the Option which thereby becomes exercisable and any portion or all of the Option which was already exercisable will immediately thereafter expire on the same date and (c) that to prevent the lapse of the Option, the Optionee must exercise the Option no later than such date. Except as may otherwise be expressly provided in such written notice, any acceleration of the exercisability of the Option and any attempted exercise of the Option by the Optionee shall be null and void if the Change in Control does not occur within thirty (30) days of the date contemplated in the notice.

3.5 — Expiration of Option. Any portion of the Option, which has become exercisable will nevertheless expire and will no longer be exercisable to any extent by anyone on the earliest to occur of the following events:

(a) the tenth anniversary of the Grant Date;

(b) the earlier of (A) three (3) months after termination of employment (specifically including a termination of employment after a Change in Control), unless such termination is for Cause or results from Retirement, death, Permanent Disability or (B) the term of the Option as set forth in the Plan;

(c) twelve (12) months after termination of employment on account of Permanent Disability, provided that if Optionee shall die within such time without having fully exercised all vested Options, Optionee's estate shall have an additional twelve (12) months from Optionee's date of death to exercise such Options;

(d) eighteen (18) months after termination of employment on account of Optionee's death or within eighteen (18) months after Optionee's termination of employment if Optionee qualifies under clause (b) but dies within three (3) months after his or termination of employment without having exercised all of his or her vested Options;

(e) the earlier of five (5) years after the date of the Retirement of Optionee, or the term of the Option as set forth in the Plan;

(f) at the close of business on the date of the termination of the Optionee's employment by the Company for Cause; and

(e) if the Committee so determines and gives written notice as provided in Section 3.4, upon the Effective Date of any Change in Control.

3.6 — Non-competition. Notwithstanding any other provisions of this Agreement, any Option outstanding, including any vested but unexercised Option, shall be forfeited upon the Optionee's "***Competition***" with the Company. For this purpose, Competition shall be determined by the Committee and shall exist if the Optionee, directly or indirectly (i) engages or has a financial interest in, (ii) becomes an officer, employee, director, partner, advisor or consultant of or to, (iii) has an equity interest in, or (iv) in any way materially assists any person, corporation, entity or business whose existing or planned products or activities compete in whole or in part with the existing or planned products or activities of the Company. The sole fact of ownership by an Optionee of less than two percent (2%) of the stock of a publicly traded company which may have product lines which compete with product lines of the Company shall not be treated as Competition. Any determination by the Committee under this section shall be final and conclusive, unless overruled by the Board.

ARTICLE IV

EXERCISE OF OPTION

4.1 — Person Eligible to Exercise. During the lifetime of the Optionee, only the Optionee or the Optionee's guardian or conservator may exercise the Option or any portion thereof, and after the death of the Optionee, any portion of the Option may, prior to the time when the Option becomes unexercisable under Section 3.5, be exercised by the Optionee's personal representative or by any person empowered to do so under the Optionee's will or under the then applicable laws of descent and distribution; provided, however, at any time after the transfer of the Option or any portion thereof pursuant to Section 5.2, the transferred portion of the Option may be exercised only by the transferee.

4.2 — Partial Exercise. Any exercisable portion of the Option or the entire Option, if then wholly exercisable, may be exercised in whole or in part at any time prior to the time when the Option or portion thereof becomes unexercisable under Section 3.5; provided, however, that any partial exercise shall be for whole shares only.

4.3 — Manner of Exercise. The Option, or any exercisable portion thereof, may be exercised solely by delivery to the Secretary of the Company or his or her office all of the following prior to the time when the Option or such portion becomes unexercisable under Section 3.5:

(a) Notice in writing signed by the Optionee or the other person then entitled to exercise the Option or portion thereof, stating that the Option or portion thereof is thereby exercised, such notice complying with all applicable rules established by the Committee; and

(b) Full payment of the Exercise Price (as provided in Section 4.4), for the shares with respect to which such Option or portion thereof is exercised; and

(c) Such representations and documents as the Committee deems reasonably necessary or advisable to effect compliance with all applicable laws, including provisions of the Securities Act of 1933, as amended, and any other federal, state or foreign securities laws or regulations following an IPO; and

(d) Full payment to the Company (as provided in Section 4.4) of all amounts, if any, which, under federal, state or local law, it is required to withhold upon exercise of the Option; and

(e) If the Option or portion thereof shall be exercised pursuant to Section 4.1 by any person or persons other than the Optionee, appropriate proof of the right of such person or persons to exercise the Option.

Notwithstanding the foregoing, the Optionee may give notice exercising the Option subject to the condition or conditions that any then contemplated Change in Control will actually occur and that the Option will become exercisable because of the Change in Control with respect to the Option Shares for which notice of exercise is given. In such an event, full payment of the Exercise Price with respect to all Option Shares need not be made until the date of the Change in Control.

4.4 — Payment. The Exercise Price and any tax withholding shall be payable in cash, by check, or by any combination thereof. Except as otherwise provided by the Committee before the Option is exercised: (i) all or a portion of the Exercise Price or any tax withholding may be paid by delivery of shares of Common Stock acceptable to the Committee and having an aggregate Fair Market Value (valued as of the date of exercise) that is equal to the amount of cash that would otherwise be required; and (ii) the Exercise Price or any tax withholding may be paid by authorizing a third party to sell shares of Common Stock (or a sufficient portion of the shares) to be acquired upon the exercise of the Option and remit to the Company a sufficient portion of the sale proceeds to pay the entire Exercise Price and any tax withholding resulting from such exercise.

4.5 — Conditions to Issuance of Stock Certificates. The shares of Common Stock deliverable upon the exercise of the Option, or any portion thereof, may be either previously authorized but unissued shares or issued shares that have then been reacquired by the Company. Such shares shall be fully paid and nonassessable. The Company shall not be required to issue or deliver any certificate or certificates for shares of Common Stock purchased upon the exercise of the Option or portion thereof prior to fulfillment of all of the following conditions:

(a) The admission of such shares to listing on all stock exchanges, if any, on which such class of Common Stock is then listed;

(b) The completion of any registration or other qualification of such shares under any state or federal law or under rulings or regulations of the SEC or of any other governmental regulatory body, which the Committee shall, in its absolute discretion deem necessary or advisable;

(c) The obtaining of approval or other clearance from any state or federal governmental agency which the Committee shall determine to be necessary or advisable; and

(d) The payment to the Company of all amounts, if any, which, under federal, state or local law, it is required to withhold upon exercise of the Option.

4.6 — Rights as Stockholder. The holder of the Option shall not be, nor have any of the rights or privileges of, a stockholder of the Company in respect of any shares purchasable upon the exercise of the Option or any portion thereof unless and until certificates representing such shares shall have been issued by the Company in the name of such holder. No adjustment shall be made for cash dividends for which the record date is prior to the date such stock certificate is issued.

4.7 — Issuance of Certificate; Legend. The stock certificate or certificates deliverable to the Optionee upon the exercise of the Option may, at the request of the Optionee at the time of exercise, be issued in his or her name alone or in his or her name and the name of another person as joint tenants with right of survivorship. The Committee may, in its absolute discretion, also take whatever additional actions it deems appropriate to effect compliance with all applicable provisions of the Securities Act of 1933, as amended, and any other federal, state or foreign securities laws or regulations including, without limitation, placing legends on share certificates and issuing stock-transfer orders to transfer agents and registrars.

ARTICLE V

MISCELLANEOUS

5.1 — Administration. The Committee shall have the power to interpret the Plan and this Agreement and to adopt such rules for the administration, interpretation and application of the Plan as are consistent therewith and to interpret or revoke any such rules. No member of the Committee shall be personally liable for any action, determination or interpretation made in good faith with respect to the Plan or the Option. The Board of Directors of the Company in its absolute discretion may at any time and from time to time exercise any and all rights and duties of the Committee under the Plan and this Agreement.

5.2 — Transferability of Option. (a) Except as provided in subsection (b), neither the Option nor any interest or right therein or part thereof shall be subject to disposition by transfer, alienation, anticipation, encumbrance or any other means whether such disposition be voluntary or involuntary or by operation of law by judgment, levy, attachment, garnishment or any other legal or equitable proceedings (including bankruptcy), and any attempted disposition thereof shall be null and void and of no effect; provided, however, that this Section 5.2 shall not prevent transfers by will or by the applicable laws of descent and distribution.

(b) The Committee may, in its discretion, establish forms and procedures for the transfer of all or any portion of such Option by the Optionee to (i) Immediate Family Members (as defined hereinafter), (ii) a trust or trusts for the exclusive benefit of the Optionee and such Immediate Family Members, or (iii) a partnership or limited liability company in which the Optionee and such Immediate Family Members are the only partners or members (collectively such Optionee's "***Permitted Transferees***"), provided that subsequent transfers shall be prohibited except in accordance with the laws of descent and distribution, or by will. Notification and approval of all such transfers shall be in the form specified by the Committee. Following

transfer, any such Option shall continue to be subject to the same terms and conditions as were applicable immediately prior to transfer, provided that for purposes of Articles IV and V hereof (other than this Section 5.2), the term "***Optionee***" shall be deemed to refer to the Permitted Transferee. Notwithstanding the foregoing, the Committee and the Company shall have no obligation to inform any Permitted Transferee of any expiration, termination, lapse or acceleration of any such Option and may give notices required hereunder, if any, to the Optionee. The events of termination of employment of Article III hereof shall continue to be applied with respect to the original Optionee, following which the Option shall be exercisable by the Permitted Transferee only to the extent, and for the periods specified at Article III hereof. As used in this Section 5.2(b) "***Immediate Family Member***" shall mean, with respect to the Optionee, his or her spouse, child, stepchild, grandchildren or other descendants, and shall include relationships arising from legal adoption.

5.3 — Shares of Common Stock to be Reserved. The Company shall at all times during the term of the Option reserve and keep available such number of shares of Common Stock as will be sufficient to satisfy the requirements of this Agreement.

5.4 — Notices. Any notice to be given under the terms of this Agreement to the Company shall be addressed to the Company in care of its Secretary, and any notice to be given to the Optionee shall be addressed to him or her at the address given beneath his or her signature hereto. By a notice given pursuant to this Section 5.4, either party may hereafter designate a different address for notices to be given to him or her. Any notice which is required to be given to the Optionee shall, if the Optionee is then deceased, be given to the Optionee's personal representative if such representative has previously informed the Company of his or her status and address by written notice under this Section 5.4. Any notice shall have been deemed duly given when enclosed in a properly sealed envelope or wrapper addressed as aforesaid, deposited (with postage prepaid) in a post office or branch post office regularly maintained by the United States Postal Service or when delivered by hand (whether by overnight courier or otherwise).

5.5 — Titles. Titles are provided herein for convenience only and are not to serve as a basis for interpretation or construction of this Agreement.

5.6 — No Right to Employment. Nothing in the Plan or this Agreement shall confer upon the Optionee any right to continue in the employ of the Company or any Affiliate or to limit the Company's right to terminate the employment relationship of any eligible employee with or without Cause. In the event that an Optionee is permitted or otherwise entitled to take a leave of absence, the Company shall have the unilateral right to (i) determine whether such leave of absence will be treated as a termination of employment for purposes of his or her Option, or (ii) suspend or otherwise delay the time or times at which the shares subject to the Option would otherwise vest.

5.7 — Amendment. This Agreement may be amended only by a writing executed by the parties hereto, which specifically states that it is amending this Agreement.

5.8 — Governing Law. The laws of the State of Tennessee shall govern the interpretation, validity and performance of the terms of this Agreement, regardless of the law that might be applied under principles of conflicts of laws.

5.9 — Jurisdiction. Any suit, action or proceeding against the Optionee with respect to this Agreement, or any judgment entered by any court in respect of any thereof, may be brought in any court of competent jurisdiction in the State of Tennessee, and the Optionee hereby submits to the non-exclusive jurisdiction of such courts for the purpose of any such suit, action, proceeding or judgment. Nothing herein shall in any way be deemed to limit the ability of the Company to serve any such writs, process or summonses in any other manner permitted by applicable law or to obtain jurisdiction over the Optionee, in such other jurisdictions, and in such manner, as may be permitted by applicable law. The Optionee hereby irrevocably waives any objections which he or she may now or hereafter have to the laying of the venue of any suit, action or proceeding arising out of or relating to this Agreement brought in any court of competent jurisdiction in the State of Tennessee, and hereby further irrevocably waives any claim that any such suit, action or proceeding brought in any such court has been brought in any inconvenient forum. No suit, action or proceeding against the Company with respect to this Agreement may be brought in any court, domestic or foreign, or before any similar domestic or foreign authority other than in a court of competent jurisdiction in the State of Tennessee, and the Optionee hereby irrevocably waives any right which he or she may otherwise have had to bring such an action in any other court, domestic or foreign, or before any similar domestic or foreign authority. The Company hereby submits to the jurisdiction of such courts for the purpose of any such suit, action or proceeding.

IN WITNESS WHEREOF, this Agreement has been executed and delivered by the parties hereto.

GTx, INC.

By: _____
Title:
No. of Option Shares:
Exercise Price:

:Optionee

Address:

GTX, INC.
2004 EQUITY INCENTIVE PLAN
Adopted January 14, 2004
Approved By Stockholders January 14, 2004
Amended by the Board March 6, 2008
Approved by Stockholders April 30, 2008
Amended by The Board November 4, 2008

1. PURPOSES.

(a) Eligible Stock Award Recipients. The persons eligible to receive Stock Awards are the Employees, Directors and Consultants of the Company and its Affiliates.

(b) Available Stock Awards. The purpose of the Plan is to provide a means by which eligible recipients of Stock Awards may be given an opportunity to benefit from increases in value of the Common Stock through the granting of the following Stock Awards: (i) Options, (ii) Restricted Stock Awards, (iii) Stock Appreciation Rights, (iv) Phantom Stock and (v) Other Stock Awards.

(c) General Purpose. The Company, by means of the Plan, seeks to retain the services of the group of persons eligible to receive Stock Awards, to secure and retain the services of new members of this group and to provide incentives for such persons to exert maximum efforts for the success of the Company and its Affiliates.

2. DEFINITIONS.

(a) "***Affiliate***" means any parent corporation or subsidiary corporation of the Company, whether now or hereafter existing, as those terms are defined in Sections 424(e) and (f), respectively, of the Code.

(b) "***Board***" means the Board of Directors of the Company.

(c) "***Capitalization Adjustment***" has the meaning ascribed to that term in Section 11(a).

(d) "***Change in Control***" means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) any Exchange Act Person becomes the Owner, directly or indirectly, of securities of the Company representing more than fifty percent (50%) of the combined voting power of the Company's then outstanding securities other than by virtue of a merger, consolidation or similar transaction. Notwithstanding the foregoing, a Change in Control shall not be deemed to occur solely because the level of Ownership held by any Exchange Act Person (the "Subject Person") exceeds the designated percentage threshold of the outstanding voting securities as a result of a repurchase or other acquisition of voting securities by the Company reducing the number of shares outstanding, *provided* that if a Change in Control would occur (but for the operation of this sentence) as a result of the acquisition of voting securities by the Company, and after such share acquisition, the Subject Person becomes the Owner of any

additional voting securities that, assuming the repurchase or other acquisition had not occurred, increases the percentage of the then outstanding voting securities Owned by the Subject Person over the designated percentage threshold, then a Change in Control shall be deemed to occur;

(ii) there is consummated a merger, consolidation or similar transaction involving (directly or indirectly) the Company and, immediately after the consummation of such merger, consolidation or similar transaction, the stockholders of the Company immediately prior thereto do not Own, directly or indirectly, outstanding voting securities representing more than fifty percent (50%) of the combined outstanding voting power of the surviving Entity in such merger, consolidation or similar transaction or more than fifty percent (50%) of the combined outstanding voting power of the parent of the surviving Entity in such merger, consolidation or similar transaction;

(iii) the stockholders of the Company approve or the Board approves a plan of complete dissolution or liquidation of the Company, or a complete dissolution or liquidation of the Company shall otherwise occur;

(iv) there is consummated a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries, other than a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries to an Entity, more than fifty percent (50%) of the combined voting power of the voting securities of which are Owned by stockholders of the Company in substantially the same proportions as their Ownership of the Company immediately prior to such sale, lease, license or other disposition; or

(v) individuals who, on the date this Plan is adopted by the Board, are members of the Board (the "Incumbent Board") cease for any reason to constitute at least a majority of the members of the Board; *provided*, *however*, that if the appointment or election (or nomination for election) of any new Board member was approved or recommended by a majority vote of the members of the Incumbent Board then still in office, such new member shall, for purposes of this Plan, be considered as a member of the Incumbent Board.

Notwithstanding the foregoing or any other provision of this Plan, the definition of Change in Control (or any analogous term) in an individual written agreement between the Company or any Affiliate and the Participant shall supersede the foregoing definition with respect to Stock Awards subject to such agreement (it being understood, however, that if no definition of Change in Control or any analogous term is set forth in such an individual written agreement, the foregoing definition shall apply).

(e) "***Code***" means the Internal Revenue Code of 1986, as amended.

(f) "***Committee***" means a committee of one or more members of the Board appointed by the Board in accordance with Section 3(c).

(g) "***Common Stock***" means the common stock of the Company.

(h) "***Company***" means GTx, Inc., a Delaware corporation.

(i) "***Consultant***" means any person, including an advisor, (i) engaged by the Company or an Affiliate to render consulting or advisory services and who is compensated for such services or (ii) serving as a member of the Board of Directors of an Affiliate and who is compensated for such services. However, the term "Consultant" shall not include Directors who are not compensated by the Company for their services as Directors, and the payment of a director's fee by the Company for services as a Director shall not cause a Director to be considered a "Consultant" for purposes of the Plan.

(j) "***Continuous Service***" means that the Participant's service with the Company or an Affiliate, whether as an Employee, Director or Consultant, is not interrupted or terminated. A change in the capacity in which the Participant renders service to the Company or an Affiliate as an Employee, Consultant or Director or a change in the entity for which the Participant renders such service, *provided* that there is no interruption or termination of the Participant's service with the Company or an Affiliate, shall not terminate a Participant's Continuous Service. For example, a change in status from an Employee of the Company to a Consultant of an Affiliate or a Director shall not constitute an interruption of Continuous Service. The Board or the chief executive officer of the Company, in that party's sole discretion, may determine whether Continuous Service shall be considered interrupted in the case of any leave of absence approved by that party, including sick leave, military leave or any other personal leave. Notwithstanding the foregoing, a leave of absence shall be treated as Continuous Service for purposes of vesting in a Stock Award only to such extent as may be provided in the Company's leave of absence policy or in the written terms of the Participant's leave of absence.

(k) "***Corporate Transaction***" means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) a sale or other disposition of all or substantially all, as determined by the Board in its discretion, of the consolidated assets of the Company and its Subsidiaries;

(ii) a sale or other disposition of at least ninety percent (90%) of the outstanding securities of the Company;

(iii) a merger, consolidation or similar transaction following which the Company is not the surviving corporation; or

(iv) a merger, consolidation or similar transaction following which the Company is the surviving corporation but the shares of Common Stock outstanding immediately preceding the merger, consolidation or similar transaction are converted or exchanged by virtue of the merger, consolidation or similar transaction into other property, whether in the form of securities, cash or otherwise.

(l) "***Covered Employee***" has the meaning provided in Section 162(m)(3) of the Code and the regulations promulgated thereunder.

(m) "***Director***" means a member of the Board of Directors of the Company.

(n) "***Disability***" means the permanent and total disability of a person within the meaning of Section 22(e)(3) of the Code.

(o) "***Employee***" means any person employed by the Company or an Affiliate. Service as a Director or payment of a director's fee by the Company or an Affiliate shall not be sufficient to constitute "employment" by the Company or an Affiliate.

(p) "***Entity***" means a corporation, partnership or other entity.

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

(r) "***Exchange Act Person***" means any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act), except that "Exchange Act Person" shall not include (A) the Company or any Subsidiary of the Company, (B) any employee benefit plan of the Company or any Subsidiary of the Company or any trustee or other fiduciary holding securities under an employee benefit plan of the Company or any Subsidiary of the Company, (C) an underwriter temporarily holding securities pursuant to an offering of such securities, or (D) an Entity Owned, directly or indirectly, by the stockholders of the Company in substantially the same proportions as their Ownership of stock of the Company.

(s) "***Fair Market Value***" means, as of any date, the value of the Common Stock determined as follows:

(i) If the Common Stock is listed on any established stock exchange or traded on the Nasdaq Global Market or any other established market, the Fair Market Value of a share of Common Stock shall be the closing sales price for such stock as quoted on such exchange or market (or the exchange or market with the greatest volume of trading in the Common Stock) on the date of determination, as reported in The Wall Street Journal or such other source as the Board deems reliable.

(ii) Unless otherwise provided by the Board, if there is no closing sales price for the Common Stock on the date of determination, then the Fair Market Value shall be the closing sales price on the last preceding date for which such quotation exists.

(iii) In the absence of such markets for the Common Stock, the Fair Market Value shall be determined by the Board in good faith and in a manner that complies with Section 409A of the Code.

(t) "***Non-Employee Director***" means a Director who either (i) is not a current Employee or Officer of the Company or its parent or a subsidiary, does not receive compensation (directly or indirectly) from the Company or its parent or a subsidiary for services rendered as a consultant or in any capacity other than as a Director (except for an amount as to which disclosure would not be required under Item 404(a) of Regulation S-K promulgated pursuant to the Securities Act ("Regulation S-K")), does not possess an interest in any other transaction as to which disclosure would be required under Item 404(a) of Regulation S-K and is not engaged in a business relationship as to which disclosure would be required under Item 404(b) of Regulation S-K; or (ii) is otherwise considered a "non-employee director" for purposes of Rule 16b-3.

(u) "***Officer***" means a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act and the rules and regulations promulgated thereunder.

(v) "***Option***" means a nonstatutory stock option granted pursuant to the Plan that is not intended to qualify as an incentive stock option under Section 422 of the Code and the regulations promulgated thereunder.

(w) "***Option Agreement***" means a written agreement between the Company and an Optionholder evidencing the terms and conditions of an individual Option grant. Each Option Agreement shall be subject to the terms and conditions of the Plan.

(x) "***Optionholder***" means a person to whom an Option is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Option.

(y) "***Other Stock Award***" means an award based in whole or in part by reference to the Common Stock that is granted pursuant to the terms and conditions of Section 7(d).

(z) "***Outside Director***" means a Director who either (i) is not a current employee of the Company or an "affiliated corporation" (within the meaning of Treasury Regulations promulgated under Section 162(m) of the Code), is not a former employee of the Company or an "affiliated corporation" receiving compensation for prior services (other than benefits under a tax-qualified pension plan), was not an officer of the Company or an "affiliated corporation" at any time and is not currently receiving direct or indirect remuneration from the Company or an "affiliated corporation" for services in any capacity other than as a Director; or (ii) is otherwise considered an "outside director" for purposes of Section 162(m) of the Code.

(aa) "***Own,***" "***Owned,***" "***Owner,***" "***Ownership***" A person or Entity shall be deemed to "Own," to have "Owned," to be the "Owner" of, or to have acquired "Ownership" of securities if such person or Entity, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has or shares voting power, which includes the power to vote or to direct the voting, with respect to such securities.

(bb) "***Participant***" means a person to whom a Stock Award is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Stock Award.

(cc) "***Phantom Stock***" means a right to receive shares of Common Stock that is granted pursuant to the terms and conditions of Section 7(b).

(dd) "***Restricted Stock Award***" means an award of shares of Common Stock which is granted pursuant to the terms and conditions of Section 7(a).

(ee) "***Retirement***" means a Participant's voluntary termination of Continuous Service with the Company either (i) after age sixty-five and after having been employed by the Company for at least ten (10) years or (ii) after age fifty-five, after having been employed by the Company for at least ten (10) years and with the written authorization of the chief executive officer or the Board.

(ff) "***Plan***" means this GTx, Inc. 2004 Equity Incentive Plan.

(gg) "***Rule 16b-3***" means Rule 16b-3 promulgated under the Exchange Act or any successor to Rule 16b-3, as in effect from time to time.

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

(ii) "***Stock Appreciation Right***" means a right to receive the appreciation of Common Stock that is granted pursuant to the terms and conditions of Section 7(c).

(jj) "***Stock Award***" means any right granted under the Plan, including an Option, a Restricted Stock Award, Phantom Stock, a Stock Appreciation Right and an Other Stock Award.

(kk) "***Stock Award Agreement***" means a written agreement between the Company and a holder of a Stock Award evidencing the terms and conditions of an individual Stock Award grant. Each Stock Award Agreement shall be subject to the terms and conditions of the Plan.

(ll) "***Subsidiary***" means, with respect to the Company, (i) any corporation of which more than fifty percent (50%) of the outstanding capital stock having ordinary voting power to elect a majority of the board of directors of such corporation (irrespective of whether, at the time, stock of any other class or classes of such corporation shall have or might have voting power by reason of the happening of any contingency) is at the time, directly or indirectly, Owned by the Company, and (ii) any partnership in which the Company has a direct or indirect interest (whether in the form of voting or participation in profits or capital contribution) of more than fifty percent (50%).

3. ADMINISTRATION.

(a) Administration by Board. The Board shall administer the Plan unless and until the Board delegates administration to a Committee, as provided in Section 3(c).

(b) Powers of Board. The Board shall have the power, subject to, and within the limitations of, the express provisions of the Plan:

(i) To determine from time to time which of the persons eligible under the Plan shall be granted Stock Awards; when and how each Stock Award shall be granted; what type or combination of types of Stock Award shall be granted; the provisions of each Stock Award granted (which need not be identical), including the time or times when a person shall be permitted to receive Common Stock pursuant to a Stock Award; and the number of shares of Common Stock with respect to which a Stock Award shall be granted to each such person.

(ii) To construe and interpret the Plan and Stock Awards granted under it, and to establish, amend and revoke rules and regulations for its administration. The Board, in the exercise of this power, may correct any defect, omission or inconsistency in the Plan or in any Stock Award Agreement, in a manner and to the extent it shall deem necessary or expedient to make the Plan fully effective.

(iii) To effect, at any time and from time to time, with the consent of any adversely affected Optionholder, (1) the reduction of the exercise price of any outstanding Option under the Plan, (2) the cancellation of any outstanding Option under the Plan and the grant in substitution therefor of (A) a new Option under the Plan or another equity plan of the Company covering the same or a different number of shares of Common Stock, (B) a Restricted Stock Award (including a stock bonus), (C) a Stock Appreciation Right, (D) Phantom Stock, (E)

an Other Stock Award, (F) cash and/or (G) other valuable consideration (as determined by the Board, in its sole discretion), or (3) any other action that is treated as a repricing under Generally Accepted Accounting Principles.

(iv) To amend the Plan or a Stock Award as provided in Section 12.

(v) To terminate or suspend the Plan as provided in Section 13.

(vi) Generally, to exercise such powers and to perform such acts as the Board deems necessary or expedient to promote the best interests of the Company and that are not in conflict with the provisions of the Plan.

(c) Delegation to Committee.

(i) General. The Board may delegate administration of the Plan to a Committee or Committees of one (1) or more members of the Board, and the term "Committee" shall apply to any person or persons to whom such authority has been delegated. If administration is delegated to a Committee, the Committee shall have, in connection with the administration of the Plan, the powers theretofore possessed by the Board, including the power to delegate to a subcommittee any of the administrative powers the Committee is authorized to exercise (and references in this Plan to the Board shall thereafter be to the Committee or subcommittee), subject, however, to such resolutions, not inconsistent with the provisions of the Plan, as may be adopted from time to time by the Board. The Board may abolish the Committee at any time and revest in the Board the administration of the Plan.

(ii) Section 162(m) and Rule 16b-3 Compliance. In the discretion of the Board, the Committee may consist solely of two or more Outside Directors, in accordance with Section 162(m) of the Code, and/or solely of two or more Non-Employee Directors, in accordance with Rule 16b-3. Within the scope of such authority, the Board or the Committee may (1) delegate to a committee of one or more members of the Board who are not Outside Directors the authority to grant Stock Awards to eligible persons who are either (a) not then Covered Employees and are not expected to be Covered Employees at the time of recognition of income resulting from such Stock Award or (b) not persons with respect to whom the Company wishes to comply with Section 162(m) of the Code and/or (2) delegate to a committee of one or more members of the Board who are not Non-Employee Directors the authority to grant Stock Awards to eligible persons who are not then subject to Section 16 of the Exchange Act.

(d) Delegation to an Officer. The Board may delegate to one or more Officers of the Company the authority to do one or both of the following (i) designate Officers and Employees of the Company or any of its Subsidiaries to be recipients of Stock Awards and (ii) determine the number of shares of Common Stock to be subject to such Stock Awards granted to such Officers and Employees of the Company; *provided*, *however*, that the Board resolutions regarding such delegation shall specify the total number of shares of Common Stock that may be subject to the Stock Awards granted by such Officer and that such Officer may not grant a Stock Award to himself or herself. Notwithstanding the foregoing, the Board may not delegate authority to an Officer to determine the Fair Market Value of the Common Stock.

(e) Effect of Board's Decision. All determinations, interpretations and constructions made by the Board in good faith shall not be subject to review by any person and shall be final, binding and conclusive on all persons.

4. SHARES SUBJECT TO THE PLAN.

(a) Share Reserve. Subject to the provisions of Section 11(a) relating to Capitalization Adjustments, the shares of Common Stock that may be issued pursuant to Stock Awards shall not exceed in the aggregate one hundred fifty thousand (150,000) shares of Common Stock, plus an annual increase to be added on January 1st of each year, commencing on January 1, 2005 and ending on January 1, 2013 (each such day, a "Calculation Date"), equal to five percent (5%) of the shares of Common Stock outstanding on each Calculation Date (rounded down to the nearest whole share). Notwithstanding the foregoing, the Board may act, prior to the first day of any fiscal year of the Company, to increase the share reserve by such number of shares of Common Stock as the Board shall determine, which number shall be less than the amount described in the foregoing sentence.

(b) Reversion of Shares to the Share Reserve. If any Stock Award shall for any reason expire or otherwise terminate, in whole or in part, without having been exercised in full, or if any shares of Common Stock issued to a Participant pursuant to a Stock Award are forfeited back to or repurchased by the Company, including, but not limited to, any repurchase or forfeiture caused by the failure to meet a contingency or condition required for

the vesting of such shares, then the shares of Common Stock not acquired under such Stock Award shall revert to and again become available for issuance under the Plan. If any shares subject to a Stock Award are not delivered to a Participant because such shares are withheld for the payment of taxes or the Stock Award is exercised through a reduction of shares subject to the Stock Award (*i.e.*, "net exercised"), the number of shares that are not delivered shall revert to and again become available for issuance under the Plan. If the exercise price of any Stock Award is satisfied by tendering shares of Common Stock held by the Participant (either by actual delivery or attestation), then the number of such tendered shares shall revert to and again become available for issuance under the Plan.

(c) Source of Shares. The shares of Common Stock subject to the Plan may be unissued shares or reacquired shares, bought on the market or otherwise.

(d) Section 162(m) Limitation on Annual Grants. Subject to the provisions of Section 11(a) relating to Capitalization Adjustments, at such time as the Company may be subject to the applicable provisions of Section 162(m) of the Code, no Participant shall be eligible to be granted during any calendar year Options and/or Stock Appreciation Rights covering more than one hundred thousand (100,000) shares of Common Stock.

5. ELIGIBILITY.

(a) Eligibility for Specific Stock Awards. Stock Awards may be granted to Employees, Directors and Consultants; *provided*, *however*, that Options and Stock Appreciation Rights may not be granted to Employees, Directors, and Consultants who are providing Continuous Services only to any "parent" of the Company, as such term is defined in Section

424(e) of the Code, unless such Stock Awards comply with the distribution requirements of Section 409A of the Code.

(b) Consultants. A Consultant shall not be eligible for the grant of a Stock Award if, at the time of grant, a Form S-8 Registration Statement under the Securities Act ("Form S-8") is not available to register either the offer or the sale of the Company's securities to such Consultant because of the nature of the services that the Consultant is providing to the Company, because the Consultant is not a natural person, or because of any other rule governing the use of Form S-8.

6. OPTION PROVISIONS.

Each Option shall be in such form and shall contain such terms and conditions as the Board shall deem appropriate. All Options shall be designated as nonstatutory stock options at the time of grant. The provisions of separate Options need not be identical, but each Option shall include (through incorporation of the provisions hereof by reference in the Option or otherwise) the substance of each of the following provisions:

(a) Term. The Board shall determine the term of an Option.

(b) Exercise Price of an Option. The exercise price of each Option shall be not less than one hundred percent (100%) of the Fair Market Value of the Common Stock subject to the Option on the date the Option is granted. Notwithstanding the foregoing, an Option may be granted with an exercise price lower than one hundred percent (100%) of the Fair Market Value of the Common Stock subject to the Option if such Option is granted pursuant to an assumption of or substitution for another option pursuant to a Corporate Transaction and in a manner consistent with the provisions of Sections 409A and 424(a) of the Code.

(c) Consideration. The purchase price of Common Stock acquired pursuant to an Option shall be paid, to the extent permitted by applicable law, either (i) in cash at the time the Option is exercised or (ii) at the discretion of the Board, (1) by delivery to the Company of other Common Stock, (2) by a "net exercise" of the Option (as further described below) or (3) pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of Common Stock, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds. Unless otherwise specifically provided in the Option, the purchase price of Common Stock acquired pursuant to an Option that is paid by delivery to the Company of other Common Stock acquired, directly or indirectly, from the Company, shall be paid only by shares of the Common Stock of the Company that have been held for more than six (6) months (or such longer or shorter period of time required to avoid a charge to earnings for financial accounting purposes). At any time that the Company is incorporated in Delaware, payment of the Common Stock's "par value," as defined in the Delaware General Corporation Law, shall not be made by deferred payment.

In the case of any deferred payment arrangement, interest shall be compounded at least annually and shall be charged at the minimum rate of interest necessary to avoid (1) the treatment as interest, under any applicable provisions of the Code, of any amounts other than

amounts stated to be interest under the deferred payment arrangement and (2) the treatment of the Option as a variable award for financial accounting purposes.

In the case of a "net exercise" of an Option, the Company will not require a payment of the exercise price of the Option from the Participant but will reduce the number of shares of Common Stock issued upon the exercise by the largest number of whole shares that has a Fair Market Value that does not exceed the aggregate exercise price. With respect to any remaining balance of the aggregate exercise price, the Company shall accept a cash payment from the Participant. The shares of Common Stock so used to pay the exercise price of an Option under a "net exercise" will be considered to have resulted from the exercise of the Option, and accordingly, the Option will not again be exercisable with respect to such shares, the shares actually delivered to the Participant, and any shares withheld for purposes of tax withholding.

(d) Transferability of an Option. An Option shall be transferable to the extent provided in the Option Agreement. If the Option does not provide for transferability, then the Option shall not be transferable except by will or by the laws of descent and distribution and shall be exercisable during the lifetime of the Optionholder only by the Optionholder. Notwithstanding the foregoing, the Optionholder may, by delivering written notice to the Company,

in a form provided by or otherwise satisfactory to the Company, designate a third party who, in the event of the death of the Optionholder, shall thereafter be entitled to exercise the Option.

(e) Vesting Generally. The total number of shares of Common Stock subject to an Option may, but need not, vest and therefore become exercisable in periodic installments that may, but need not, be equal. The Option may be subject to such other terms and conditions on the time or times when it may be exercised (which may be based on performance or other criteria) as the Board may deem appropriate. The vesting provisions of individual Options may vary. The provisions of this Section 6(e) are subject to any Option provisions governing the minimum number of shares of Common Stock as to which an Option may be exercised.

(f) Termination of Continuous Service. In the event that an Optionholder's Continuous Service terminates (other than upon the Optionholder's death or Disability), the Optionholder may exercise his or her Option (to the extent that the Optionholder was entitled to exercise such Option as of the date of termination) but only within such period of time ending on the earlier of (i) the date three (3) months following the termination of the Optionholder's Continuous Service (or such longer or shorter period specified in the Option Agreement) or (ii) the expiration of the term of the Option as set forth in the Option Agreement. If, after termination, the Optionholder does not exercise his or her Option within the time specified in the Option Agreement, the Option shall terminate.

(g) Extension of Termination Date. An Optionholder's Option Agreement may also provide that if the exercise of the Option following the termination of the Optionholder's Continuous Service (other than upon the Optionholder's death or Disability) would be prohibited at any time solely because the issuance of shares of Common Stock would violate the registration requirements under the Securities Act, then the Option shall terminate on the earlier of (i) the expiration of the term of the Option set forth in the Option Agreement or (ii) the expiration of a period of three (3) months after the termination of the Optionholder's Continuous

Service during which the exercise of the Option would not be in violation of such registration requirements.

(h) Disability of Optionholder. In the event that an Optionholder's Continuous Service terminates as a result of the Optionholder's Disability, the Optionholder may exercise his or her Option (to the extent that the Optionholder was entitled to exercise such Option as of the date of termination), but only within such period of time ending on the earlier of (i) the date twelve (12) months following such termination (or such longer or shorter period specified in the Option Agreement or (ii) the expiration of the term of the Option as set forth in the Option Agreement. If, after termination, the Optionholder does not exercise his or her Option within the time specified herein, the Option shall terminate.

(i) Death of Optionholder. In the event that (i) an Optionholder's Continuous Service terminates as a result of the Optionholder's death or (ii) the Optionholder dies within the period (if any) specified in the Option Agreement after the termination of the Optionholder's Continuous Service for a reason other than death, then the Option may be exercised (to the extent the Optionholder was entitled to exercise such Option as of the date of death) by the Optionholder's estate, by a person who acquired the right to exercise the Option by bequest or inheritance or by a person designated to exercise the option upon the Optionholder's death pursuant to Section 6(d), but only within the period ending on the earlier of (1) the date eighteen (18) months following the date of death (or such longer or shorter period specified in the Option Agreement, or (2) the expiration of the term of such Option as set forth in the Option Agreement. If, after death, the Option is not exercised within the time specified herein, the Option shall terminate.

(j) Retirement of an Optionholder. In the event that an Optionholder's Continuous Service terminates as a result of the Optionholder's Retirement, the Optionholder may exercise his or her Option (to the extent that the Optionholder was entitled to exercise such Option as of the date of termination of employment due to Retirement), but only within such period of time ending on the earlier of (i) the date twenty-four (24) months following such termination (or such longer or shorter period specified in the Option Agreement or (ii) the expiration of the term of the Option as set forth in the Option Agreement. If, after termination, the Optionholder does not exercise his or her Option within the time specified herein, the Option shall terminate.

(k) Early Exercise. The Option may, but need not, include a provision whereby the Optionholder may elect at any time before the Optionholder's Continuous Service terminates to exercise the Option as to any part or all of the shares of Common Stock subject to the Option prior to the full vesting of the Option. Any unvested shares of Common Stock so purchased may be subject to a repurchase option in favor of the Company or to any other restriction the Board determines to be appropriate. The Company will not exercise its repurchase option until at least six (6) months (or such longer or shorter period of time required to avoid a charge to earnings for financial accounting purposes) have elapsed following exercise of the Option unless the Board otherwise specifically provides in the Option.

7. PROVISIONS OF STOCK AWARDS OTHER THAN OPTIONS.

(a) Restricted Stock Awards. Each Restricted Stock Award agreement shall be in such form and shall contain such terms and conditions as the Board shall deem appropriate. The terms and conditions of Restricted Stock Award agreements may change from time to time, and the terms and conditions of separate Restricted Stock Award agreements need not be identical; *provided*, *however*, that each Restricted Stock Award agreement shall include (through incorporation of the provisions hereof by reference in the agreement or otherwise) the substance of each of the following provisions:

(i) ***Purchase Price*****.** At the time of the grant of a Restricted Stock Award, the Board will determine the price to be paid by the Participant for each share subject to the Restricted Stock Award. To the extent required by applicable law, the price to be paid by the Participant for each share of the Restricted Stock Award will not be less than the par value of a share of Common Stock. A Restricted Stock Award may be awarded as a stock bonus (*i.e.*, with no cash purchase price to be paid) to the extent permissible under applicable law.

(ii) ***Consideration*****.** At the time of the grant of a Restricted Stock Award, the Board will determine the consideration permissible for the payment of the purchase price of the Restricted Stock Award. The purchase price of Common Stock acquired pursuant to the Restricted Stock Award shall be paid in one of the following ways: (i) in cash at the time of purchase; or (ii) by services rendered or to be rendered to the Company; *provided*, *however*, that at any time that the Company is incorporated in Delaware, the Common Stock's "par value," as defined in the Delaware General Corporation Law, must be paid in a form of consideration that is permissible under the Delaware General Corporation Law.

(iii) ***Vesting*****.** Shares of Common Stock acquired under a Restricted Stock Award may, but need not, be subject to a share repurchase option in favor of the Company in accordance with a vesting schedule to be determined by the Board.

(iv) ***Termination of Participant's Continuous Service*****.** In the event that a Participant's Continuous Service terminates, the Company may repurchase or otherwise reacquire any or all of the shares of Common Stock held by the Participant that have not vested as of the date of termination under the terms of the Restricted Stock Award agreement. The Company will not exercise its repurchase option until at least six (6) months (or such longer or shorter period of time required to avoid a charge to earnings for financial accounting purposes) have elapsed following the purchase of the restricted stock unless otherwise determined by the Board or provided in the Restricted Stock Award agreement.

(v) ***Transferability*****.** Rights to purchase or receive shares of Common Stock granted under a Restricted Stock Award shall be transferable by the Participant only upon such terms and conditions as are set forth in the Restricted Stock Award agreement, as the Board shall determine in its discretion, and so long as Common Stock awarded under the Restricted Stock Award remains subject to the terms of the Restricted Stock Award agreement.

(b) Phantom Stock. Each Phantom Stock agreement shall be in such form and shall contain such terms and conditions as the Board shall determine. The terms and conditions of

Phantom Stock agreements may change from time to time, and the terms and conditions of separate Phantom Stock agreements need not be identical; *provided, however*, that each Phantom Stock agreement shall include (through incorporation of the provisions hereof by reference in the agreement or otherwise) the substance of each of the following provisions:

(i) ***Consideration*****.** At the time of grant of a Phantom Stock award, the Board will determine the consideration, if any, to be paid by the Participant upon delivery of each share of Common Stock subject to the Phantom Stock award. To the extent required by applicable law, the consideration to be paid by the Participant for each share of Common Stock subject to a Phantom Stock award will not be less than the par value of a share of Common Stock. Such consideration may be paid in any form permitted under applicable law.

(ii) ***Vesting*****.** At the time of the grant of a Phantom Stock award, the Board may impose such restrictions or conditions to the vesting of the shares Phantom Stock as it deems appropriate.

(iii) ***Payment***. A Phantom Stock award may be settled by the delivery of shares of Common Stock, their cash equivalent, or any combination of the two, as the Board deems appropriate.

(iv) ***Additional Restrictions*****.** At the time of the grant of a Phantom Stock award, the Board, as it deems appropriate, may impose such restrictions or conditions that delay the delivery of the shares of Common Stock (or their cash equivalent) subject to a Phantom Stock award after the vesting of such Award.

(v) ***Dividend Equivalents*****.** Dividend equivalents may be credited in respect of shares of Phantom Stock, as the Board deems appropriate. Such dividend equivalents may be converted into additional shares of Phantom Stock by dividing (1) the aggregate amount or value of the dividends paid with respect to that number of shares of Common Stock equal to the number of shares of Phantom Stock then credited by (2) the Fair Market Value per share of Common Stock on the payment date for such dividend. The additional shares of Phantom Stock credited by reason of such dividend equivalents will be subject to all the terms and conditions of the underlying Phantom Stock award to which they relate.

(vi) ***Termination of Participant's Continuous Service***. Except as otherwise provided in the applicable Stock Award Agreement, shares of Phantom Stock that have not vested will be forfeited upon the Participant's termination of Continuous Service for any reason.

(c) Stock Appreciation Rights. Each Stock Appreciation Rights agreement shall be in such form and shall contain such terms and conditions as the Board shall deem appropriate. The terms and conditions of Stock Appreciation Rights agreements may change from time to time, and the terms and conditions of separate Stock Appreciation Rights agreements need not be identical, but each Stock Appreciation Rights agreement shall include (through incorporation of the provisions hereof by reference in the agreement or otherwise) the substance of each of the following provisions:

(i) ***Strike Price and Calculation of Appreciation*****.** Each Stock Appreciation Right will be denominated in share of Common Stock equivalents. The appreciation distribution

payable on the exercise of a Stock Appreciation Right will be not greater than an amount equal to the excess of (A) the aggregate Fair Market Value (on the date of the exercise of the Stock Appreciation Right) of a number of shares of Common Stock equal to the number of share of Common Stock equivalents in which the Participant is vested under such Stock Appreciation Right and with respect to which the Participant is exercising the Stock Appreciation Right on such date, over (B) the strike price that will be determined by the Committee at the time of grant of the Stock Appreciation Right. The strike price of each Stock Appreciation Right shall be not less than one hundred percent (100%) of the Fair Market Value of the Common Stock subject to the Stock Appreciation Right on the date the Stock Appreciation Right is granted. Notwithstanding the foregoing, a Stock Appreciation Right may be granted with a strike price lower than one hundred percent (100%) of the Fair Market Value of the Common Stock subject to the Stock Appreciation Right if such Stock Appreciation Right is granted pursuant to an assumption of or substitution for another stock appreciation right pursuant to a Corporate Transaction and in a manner consistent with the provisions of Sections 409A and 424(a) of the Code.

(ii) ***Vesting***. At the time of the grant of a Stock Appreciation Right, the Board may impose such restrictions or conditions to the vesting of such Right as it deems appropriate.

(iii) ***Exercise*****.** To exercise any outstanding Stock Appreciation Right, the Participant must provide written notice of exercise to the Company in compliance with the provisions of the Stock Appreciation Rights agreement evidencing such Right.

(iv) ***Payment***. The appreciation distribution in respect of a Stock Appreciation Right may be paid in Common Stock, in cash, or any combination of the two, as the Board deems appropriate.

(v) ***Termination of Continuous Service*****.** In the event that a Participant's Continuous Service terminates, the Participant may exercise his or her Stock Appreciation Right (to the extent that the Participant was entitled to exercise such Stock Appreciation Right as of the date of termination) but only within such period of time ending on the earlier of (i) the date three (3) months following the termination of the Participant's Continuous Service (or such longer or shorter period specified in the Stock Appreciation Rights agreement) or (ii) the expiration of the term of the Stock Appreciation Right as set forth in the Stock Appreciation Rights agreement. If, after such termination, the Participant does not exercise his or her Stock Appreciation Right within the time specified in the Stock Appreciation Rights agreement, the Stock Appreciation Right shall terminate.

(d) Other Stock Awards. Other forms of Stock Awards valued in whole or in part by reference to, or otherwise based on, Common Stock may be granted either alone or in addition to Stock Awards provided for under Section 6 and the preceding provisions of this Section 7. Subject to the provisions of the Plan, the Board shall have sole and complete authority to determine the persons to whom and the time or times at which such Other Stock Awards will be granted, the number of shares of Common Stock (or the cash equivalent thereof) to be granted pursuant to such Awards and all other terms and conditions of such Awards.

8. SECURITIES LAW COMPLIANCE.

The Company shall seek to obtain from each regulatory commission or agency having jurisdiction over the Plan such authority as may be required to grant Stock Awards and to issue and sell shares of Common Stock upon exercise of the Stock Awards; *provided, however*, that this undertaking shall not require the Company to register under the Securities Act the Plan, any Stock Award or any Common Stock issued or issuable pursuant to any such Stock Award. If, after reasonable efforts, the Company is unable to obtain from any such regulatory commission or agency the authority which counsel for the Company deems necessary for the lawful issuance and sale of Common Stock under the Plan, the Company shall be relieved from any liability for failure to issue and sell Common Stock upon exercise of such Stock Awards unless and until such authority is obtained.

9. USE OF PROCEEDS FROM STOCK.

Proceeds from the sale of Common Stock pursuant to Stock Awards shall constitute general funds of the Company.

10. MISCELLANEOUS.

(a) Acceleration of Exercisability and Vesting. The Board shall have the power to accelerate the time at which a Stock Award may first be exercised or the time during which a Stock Award or any part thereof will vest in accordance with the Plan, notwithstanding the provisions in the Stock Award stating the time at which it may first be exercised or the time during which it will vest.

(b) Stockholder Rights. Subject to the further limitations of Section 7(b)(iv) hereof, no Participant shall be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares of Common Stock subject to such Stock Award unless and until such Participant has satisfied all requirements for exercise of the Stock Award pursuant to its terms.

(c) No Employment or other Service Rights. Nothing in the Plan or any instrument executed or Stock Award granted pursuant thereto shall confer upon any Participant any right to continue to serve the Company or an Affiliate in the capacity in effect at the time the Stock Award was granted or shall affect the right of the Company or an Affiliate to terminate (i) the employment of an Employee with or without notice and with or without cause, (ii) the service of a Consultant pursuant to the terms of such Consultant's agreement with the Company or an Affiliate or (iii) the service of a Director pursuant to the Bylaws of the Company or an Affiliate, and any applicable provisions of the corporate law of the state in which the Company or the Affiliate is incorporated, as the case may be.

(d) Investment Assurances. The Company may require a Participant, as a condition of exercising or acquiring Common Stock under any Stock Award, (i) to give written assurances satisfactory to the Company as to the Participant's knowledge and experience in financial and business matters and/or to employ a purchaser representative reasonably satisfactory to the Company who is knowledgeable and experienced in financial and business matters and that he or she is capable of evaluating, alone or together with the purchaser representative, the merits and risks of exercising the Stock Award; and (ii) to give written assurances satisfactory to the

Company stating that the Participant is acquiring Common Stock subject to the Stock Award for the Participant's own account and not with any present intention of selling or otherwise distributing the Common Stock. The foregoing requirements, and any assurances given pursuant to such requirements, shall be inoperative if (1) the issuance of the shares of Common Stock upon the exercise or acquisition of Common Stock under the Stock Award has been registered under a then currently effective registration statement under the Securities Act or (2) as to any particular requirement, a determination is made by counsel for the Company that such requirement need not be met in the circumstances under the then applicable securities laws. The Company may, upon advice of counsel to the Company, place legends on stock certificates issued under the Plan as such counsel deems necessary or appropriate in order to comply with applicable securities laws, including, but not limited to, legends restricting the transfer of the Common Stock.

(e) Withholding Obligations. To the extent provided by the terms of a Stock Award Agreement, the Participant may satisfy any federal, state or local tax withholding obligation relating to the exercise or acquisition of Common Stock under a Stock Award by any of the following means (in addition to the Company's right to withhold from any compensation paid to the Participant by the Company) or by a combination of such means: (i) tendering a cash payment; (ii) authorizing the Company to withhold shares of Common Stock from the shares of Common Stock otherwise issuable to the Participant as a result of the exercise or acquisition of Common Stock under the Stock Award; *provided, however*, that no shares of Common Stock are withheld with a value exceeding the minimum amount of tax required to be withheld by law (or such lesser amount as may be necessary to avoid variable award accounting); or (iii) delivering to the Company owned and unencumbered shares of Common Stock.

(f) Deferrals. To the extent permitted by applicable law, the Board, in its sole discretion, may determine that the delivery of Common Stock or the payment of cash, upon the exercise, vesting or settlement of all or a portion of any Stock Award may be deferred and may establish programs and procedures for deferral elections to be made by Participants. Deferrals by Participants will be made in accordance with Section 409A of the Code. Consistent with Section 409A of the Code, the Board may provide for distributions while a Participant is still an employee. The Board is authorized to make deferrals of Stock Awards and determine when, and in what annual percentages, Participants may receive payments, including lump sum payments, following the Participant's termination of employment or retirement, and implement such other terms and conditions consistent with the provisions of the Plan and in accordance with applicable law.

(g) Compliance with Section 409A. To the extent that the Board determines that any Stock Award granted hereunder is subject to Section 409A of the Code, the Stock Award Agreement evidencing such Stock Award shall incorporate the terms and conditions necessary to avoid the consequences specified in Section 409A(a)(1) of the Code. To the extent applicable, the Plan and Stock Award Agreements shall be interpreted in accordance with Section 409A of the Code, including without limitation any applicable guidance that may be issued or amended in the future.

11. ADJUSTMENTS UPON CHANGES IN STOCK.

(a) Capitalization Adjustments. If any change is made in, or other event occurs with respect to, the Common Stock subject to the Plan or subject to any Stock Award without the receipt of consideration by the Company (through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or other transaction not involving the receipt of consideration by the Company (each a "Capitalization Adjustment"), the Plan will be appropriately adjusted in the class(es) and maximum number of securities subject to the Plan pursuant to Sections 4(a), 4(b) and 4(d), and the outstanding Stock Awards will be appropriately adjusted in the class(es) and number of securities and price per share of Common Stock subject to such outstanding Stock Awards. The Board shall make such adjustments, and its determination shall be final, binding and conclusive. (The conversion of any convertible securities of the Company shall not be treated as a transaction "without receipt of consideration" by the Company.)

(b) Dissolution or Liquidation. In the event of a dissolution or liquidation of the Company, then all outstanding Stock Awards shall terminate immediately prior to the completion of such dissolution or liquidation.

(c) Corporate Transaction. In the event of a Corporate Transaction, any surviving corporation or acquiring corporation may assume or continue any or all Stock Awards outstanding under the Plan or may substitute similar stock awards for Stock Awards outstanding under the Plan (it being understood that similar stock awards include, but are not limited to, awards to acquire the same consideration paid to the stockholders or the Company, as the case may be, pursuant to the Corporate Transaction), and any reacquisition or repurchase rights held by the Company in respect of Common Stock issued pursuant to Stock Awards may be assigned by the Company to the successor of the Company (or the successor's parent company), if any, in connection with such Corporate Transaction. In the event that any surviving corporation or acquiring corporation does not assume or continue any or all such outstanding Stock Awards or substitute similar stock awards for such outstanding Stock Awards, then with respect to Stock Awards that have been not assumed, continued or substituted and that are held by Participants whose Continuous Service has not terminated prior to the effective time of the Corporate Transaction, the vesting of such Stock Awards (and, if applicable, the time at which such Stock Awards may be exercised) shall (contingent upon the effectiveness of the Corporate Transaction) be accelerated in full to a date prior to the effective time of such Corporate Transaction as the Board shall determine (or, if the Board shall not determine such a date, to the date that is five (5) days prior to the effective time of the Corporate Transaction), the Stock Awards shall terminate if not exercised (if applicable) at or prior to such effective time, and any reacquisition or repurchase rights held by the Company with respect to such Stock Awards held by Participants whose Continuous Service has not terminated shall (contingent upon the effectiveness of the Corporate Transaction) lapse. With respect to any other Stock Awards outstanding under the Plan that have not been assumed, continued or substituted, the vesting of such Stock Awards (and, if applicable, the time at which such Stock Award may be exercised) shall not be accelerated, unless otherwise provided in a written agreement between the Company or any Affiliate and the holder of such Stock Award, and such Stock Awards shall terminate if not exercised (if applicable) prior to the effective time of the Corporate Transaction.

(d) Change in Control. A Stock Award held by any Participant whose Continuous Service has not terminated prior to the effective time of a Change in Control may be subject to additional acceleration of vesting and exercisability upon or after such event as may be provided in the Stock Award Agreement for such Stock Award or as may be provided in any other written agreement between the Company or any Affiliate and the Participant, but in the absence of such provision, no such acceleration shall occur.

12. AMENDMENT OF THE PLAN AND STOCK AWARDS.

(a) Amendment of Plan. The Board at any time, and from time to time, may amend the Plan. However, except as provided in Section 11(a) relating to Capitalization Adjustments, no amendment shall be effective unless approved by the stockholders of the Company to the extent stockholder approval is necessary to satisfy applicable law.

(b) Stockholder Approval. The Board, in its sole discretion, may submit any other amendment to the Plan for stockholder approval, including, but not limited to, amendments to the Plan intended to satisfy the requirements of Section 162(m) of the Code and the regulations thereunder regarding the exclusion of performance-based compensation from the limit on corporate deductibility of compensation paid to Covered Employees.

(c) No Impairment of Rights. Rights under any Stock Award granted before amendment of the Plan shall not be impaired by any amendment of the Plan unless (i) the Company requests the consent of the Participant and (ii) the Participant consents in writing.

(d) Amendment of Stock Awards. The Board at any time, and from time to time, may amend the terms of any one or more Stock Awards; *provided, however*, that the rights under any Stock Award shall not be impaired by any such amendment unless (i) the Company requests the consent of the Participant and (ii) the Participant consents in writing. Notwithstanding the foregoing, subject to the limitations of applicable law, if any, the Board may

amend the terms of any one or more Stock Awards without the affected Participant's consent if necessary to bring the Stock Award into compliance with Section 409A of the Code.

13. TERMINATION OR SUSPENSION OF THE PLAN.

(a) Plan Term. The Board may suspend or terminate the Plan at any time. No Stock Awards may be granted under the Plan while the Plan is suspended or after it is terminated.

(b) No Impairment of Rights. Suspension or termination of the Plan shall not impair rights and obligations under any Stock Award granted while the Plan is in effect except with the written consent of the Participant.

14. EFFECTIVE DATE OF PLAN.

The Plan shall become effective as determined by the Board, but no Stock Award shall be exercised (or, in the case of a stock bonus, shall be granted) unless and until the Plan has been approved by the stockholders of the Company, which approval shall be within twelve (12) months before or after the date the Plan is adopted by the Board.

15. CHOICE OF LAW.

The law of the State of Delaware shall govern all questions concerning the construction, validity and interpretation of this Plan, without regard to such state's conflict of laws rules.

GTX, INC.
2004 EQUITY INCENTIVE PLAN
STOCK OPTION AGREEMENT
(Nonstatutory Stock Option)

Pursuant to your Stock Option Grant Notice ("Grant Notice") and this Stock Option Agreement, GTx, Inc. (the "Company") has granted you an option under its 2004 Equity Incentive Plan (the "Plan") to purchase the number of shares of the Company's Common Stock indicated in your Grant Notice at the exercise price indicated in your Grant Notice. Defined terms not explicitly defined in this Stock Option Agreement but defined in the Plan shall have the same definitions as in the Plan.

The details of your option are as follows:

1. VESTING. Subject to the limitations contained herein, your option will vest as provided in your Grant Notice, *provided* that vesting will cease upon the termination of your Continuous Service and that your vesting may be accelerated as provided in the Plan and in Section 9 below.

2. NUMBER OF SHARES AND EXERCISE PRICE. The number of shares of Common Stock subject to your option and your exercise price per share referenced in your Grant Notice may be adjusted from time to time for Capitalization Adjustments.

3. EXERCISE PRIOR TO VESTING (*"EARLY EXERCISE"*). If permitted in your Grant Notice (*i.e.*, the "Exercise Schedule" indicates that "Early Exercise" of your option is permitted) and subject to the provisions of your option, you may elect at any time that is both (i) during the period of your Continuous Service and (ii) during the term of your option, to exercise all or part of your option, including the nonvested portion of your option; *provided, however,* that:

(i) a partial exercise of your option shall be deemed to cover first vested shares of Common Stock and then the earliest vesting installment of unvested shares of Common Stock;

(ii) any shares of Common Stock so purchased from installments that have not vested as of the date of exercise shall be subject to the purchase option in favor of the Company as described in the Company's form of Early Exercise Stock Purchase Agreement;

(iii) you shall enter into the Company's form of Early Exercise Stock Purchase Agreement with a vesting schedule that will result in the same vesting as if no early exercise had occurred; and

4. METHOD OF PAYMENT. Payment of the exercise price is due in full upon exercise of all or any part of your option. You may elect to make payment of the exercise price in cash or by check or in any other manner ***permitted by your Grant Notice,*** which may include one or more of the following:

(i) In the Company's sole discretion at the time your option is exercised and provided that at the time of exercise the Common Stock is publicly traded and quoted regularly

in *The Wall Street Journal*, pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of Common Stock, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds.

(ii) Provided that at the time of exercise the Common Stock is publicly traded and quoted regularly in *The Wall Street Journal*, by delivery of already-owned shares of Common Stock either that you have held for the period required to avoid a charge to the Company's reported earnings (generally six (6) months) or that you did not acquire, directly or indirectly from the Company, that are owned free and clear of any liens, claims, encumbrances or security interests, and that are valued at Fair Market Value on the date of exercise. "Delivery" for these purposes, in the sole discretion of the Company at the time you exercise your option, shall include delivery to the Company of your attestation of ownership of such shares of Common Stock in a form approved by the Company. Notwithstanding the foregoing, you may not exercise your option by tender to the Company of Common Stock to the extent such tender would violate the provisions of any law, regulation or agreement restricting the redemption of the Company's stock.

5. WHOLE SHARES. You may exercise your option only for whole shares of Common Stock.

6. SECURITIES LAW COMPLIANCE. Notwithstanding anything to the contrary contained herein, you may not exercise your option unless the shares of Common Stock issuable upon such exercise are then registered under the Securities Act or, if such shares of Common Stock are not then so registered, the Company has determined that such exercise and issuance would be exempt from the registration requirements of the Securities Act. The exercise of your option also must comply with other applicable laws and regulations governing your option, and you may not exercise your option if the Company determines that such exercise would not be in material compliance with such laws and regulations.

7. TERM. You may not exercise your option before the commencement or after the expiration of its term. The term of your option commences on the Date of Grant and expires upon the earliest of the following:

(i) three (3) months after the termination of your Continuous Service for any reason other than your Disability or death, *provided* that if during any part of such three (3) month period your option is not exercisable solely because of the condition set forth in Section 6, your option shall not expire until the earlier of the Expiration Date or until it shall have been exercisable for an aggregate period of three (3) months after the termination of your Continuous Service;

(ii) twelve (12) months after the termination of your Continuous Service due to your Disability;

(iii) eighteen (18) months after your death if you die either during your Continuous Service or within three (3) months after your Continuous Service terminates;

(iv) twenty-four (24) months after the termination of your Continuous Service due to your Retirement;

(v) twelve (12) months after the termination of your Continuous Service due to a termination by the Company or its successor without Cause or a Constructive Termination where such termination occurs within twelve months after a Change in Control;

(vi) the Expiration Date indicated in your Grant Notice; or

8. EXERCISE.

(i) You may exercise the vested portion of your option (and the unvested portion of your option if your Grant Notice so permits) during its term by delivering a Notice of Exercise (in a form designated by the Company) together with the exercise price to the Secretary of the Company, or to such other person as the Company may designate, during regular business hours, together with such additional documents as the Company may then require.

(ii) By exercising your option you agree that, as a condition to any exercise of your option, the Company may require you to enter into an arrangement providing for the payment by you to the Company of any tax withholding obligation of the Company arising by reason of (1) the exercise of your option, (2) the lapse of any substantial risk of forfeiture to which the shares of Common Stock are subject at the time of exercise, or (3) the disposition of shares of Common Stock acquired upon such exercise.

9. VESTING ACCELERATION AFTER A CHANGE IN CONTROL

(a) Double Trigger Acceleration. If a Change in Control occurs and either (i) your Continuous Service with the Company or its successor or the successor's parent (together, the "Successor Company") is terminated by the Successor Company without Cause or (ii) your Continuous Service with the Successor Company is terminated as a result of a Constructive Termination, in either case, within twelve months after the effective time of the Change in Control, then, immediately prior to such termination, your option shall become fully vested and, if applicable, fully exercisable. In the event that you are required to resign your position with the Company as a condition of a Change in Control, (for example, if you, as an officer of the Company, must resign your position as a condition of the Change of Control transaction), then your option shall become fully vested and exercisable immediately prior to the effectiveness of such resignation.

(b) "***Cause***" means that, in the reasonable determination of the Company or its successor, (i) you have committed an act that materially injures the business of the Company; (ii) you have refused or failed to follow lawful and reasonable directions of the Board or the appropriate individual to whom you report; (iii) you have willfully or habitually neglected your duties with the Company; (iv) you have been convicted of a felony that is likely to inflict or has inflicted material injury on the business of the Company; or (v) you have committed a material fraud, misappropriation, embezzlement or other act of gross dishonesty that resulted in material loss, damage or injury to the Company. Notwithstanding the foregoing, Cause based on the conduct described in clause (ii) or clause (iii) shall not exist unless the conduct described in such clause has not been cured within fifteen (15) days following receipt by you of written notice

from the Company or the Board, as the case may be, specifying the particulars of your conduct constituting Cause.

(c) ***"Constructive Termination"*** means that you voluntarily terminate employment with the Company or its successor within twelve (12) months following a Change in Control after any of the following are undertaken without your express written consent:

(i) the assignment to you of any duties or responsibilities which results in a significant diminution in your function as in effect immediately prior to the effective date of the Change in Control; *provided*, *however*, that a mere change in your title or reporting relationships shall not constitute a Constructive Termination;

(ii) a material/five percent (5%) or greater reduction by the Company in your annual base salary, as in effect on the effective date of the Change in Control;

(iii) any failure by the Company to continue in effect any benefit plan or program, including fringe benefits, incentive plans and plans with respect to the receipt of securities of the Company, in which you are participating immediately prior to the effective date of the Change in Control (hereinafter referred to as "Benefit Plans"); or the taking of any action by the Company that would adversely affect your participation in or reduce your benefits under the Benefit Plans; *provided*, *however*, that a "Constructive Termination" shall not exist under this paragraph following a Change in Control if the Company offers a range of benefit plans and programs which, taken as a whole, are comparable to the Benefit Plans;

(iv) a relocation of your business office to a location more than fifty (50) miles from the location at which you performed duties as of the effective date of the Change in Control, except for required travel by you on the Company's business to an extent substantially consistent with your business travel obligations prior to the Change in Control; or

(v) a material breach by the Company of any provision of the this Stock Option Agreement.

10. TRANSFERABILITY. Your option is not transferable, except by will or by the laws of descent and distribution, and is exercisable during your life only by you. Notwithstanding the foregoing, by delivering written notice to the Company, in a form satisfactory to the Company, you may designate a third party who, in the event of your death, shall thereafter be entitled to exercise your option.

11. OPTION NOT A SERVICE CONTRACT. Your option is not an employment or service contract, and nothing in your option shall be deemed to create in any way whatsoever any obligation on your part to continue in the employ of the Company or an Affiliate, or of the Company or an Affiliate to continue your employment. In addition, nothing in your option shall obligate the Company or an Affiliate, their respective stockholders, Boards of Directors, Officers or Employees to continue any relationship that you might have as a Director or Consultant for the Company or an Affiliate.

12. WITHHOLDING OBLIGATIONS.

(i) At the time you exercise your option, in whole or in part, or at any time thereafter as requested by the Company, you hereby authorize withholding from payroll and any other amounts payable to you, and otherwise agree to make adequate provision for (including by means of a "cashless exercise" pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board to the extent permitted by the Company), any sums required to satisfy the federal, state, local and foreign tax withholding obligations of the Company or an Affiliate, if any, which arise in connection with the exercise of your option.

(ii) Upon your request and subject to approval by the Company, in its sole discretion, and compliance with any applicable legal conditions or restrictions, the Company may withhold from fully vested shares of Common Stock otherwise issuable to you upon the exercise of your option a number of whole shares of Common Stock having a Fair Market Value, determined by the Company as of the date of exercise, not in excess of the minimum amount of tax required to be withheld by law (or such lower amount as may be necessary to avoid variable award accounting). If the date of determination of any tax withholding obligation is deferred to a date later than the date of exercise of your option, share withholding pursuant to the preceding sentence shall not be permitted unless you make a proper and timely election under Section 83(b) of the Code, covering the aggregate number of shares of Common Stock acquired upon such exercise with respect to which such determination is otherwise deferred, to accelerate the determination of such tax withholding obligation to the date of exercise of your option. Notwithstanding the filing of such election, shares of Common Stock shall be withheld solely from fully vested shares of Common Stock determined as of the date of exercise of your option that are otherwise issuable to you upon such exercise. Any adverse consequences to you arising in connection with such share withholding procedure shall be your sole responsibility.

(iii) You may not exercise your option unless the tax withholding obligations of the Company and/or any Affiliate are satisfied. Accordingly, you may not be able to exercise your option when desired even though your option is vested, and the Company shall have no obligation to issue a certificate for such shares of Common Stock or release such shares of Common Stock from any escrow provided for herein unless such obligations are satisfied.

13. NOTICES. Any notices provided for in your option or the Plan shall be given in writing and shall be deemed effectively given upon receipt or, in the case of notices delivered by mail by the Company to you, five (5) days after deposit in the United States mail, postage prepaid, addressed to you at the last address you provided to the Company.

14. GOVERNING PLAN DOCUMENT. Your option is subject to all the provisions of the Plan, the provisions of which are hereby made a part of your option, and is further subject to all interpretations, amendments, rules and regulations, which may from time to time be promulgated and adopted pursuant to the Plan. In the event of any conflict between the provisions of your option and those of the Plan, the provisions of the Plan shall control.

GTX, INC.
AMENDED AND RESTATED 2004 NON-EMPLOYEE
DIRECTORS' STOCK OPTION PLAN
Adopted January 14, 2004
Approved by Stockholders January 14, 2004
Amended and Restated on February 15, 2006
Approved by Stockholders April 26, 2006
Amended by the Board on November 4, 2008

1. PURPOSES.

(a) Amendment and Restatement. This Plan amends and restates the GTx, Inc. 2004 Non-Employee Directors' Stock Option Plan adopted January 14, 2004 (the "***Prior Plan***"). All outstanding Options granted under the Prior Plan shall remain subject to the terms of the Prior Plan. All Options granted subsequent to the Effective Date shall be subject to the terms of this Plan (as an amendment and restatement of the Prior Plan).

(b) Eligible Option Recipients. The persons eligible to receive Options are the Non-Employee Directors of the Company.

(c) Available Options. The purpose of the Plan is to provide a means by which Non-Employee Directors may be given an opportunity to benefit from increases in value of the Common Stock through the granting of Nonstatutory Stock Options.

(d) General Purpose. The Company, by means of the Plan, seeks to retain the services of its Non-Employee Directors, to secure and retain the services of new Non-Employee Directors and to provide incentives for such persons to exert maximum efforts for the success of the Company and its Affiliates.

2. DEFINITIONS.

(a) "***Accountant***" means the independent public accountants of the Company.

(b) "***Affiliate***" means any parent corporation or subsidiary corporation of the Company, whether now or hereafter existing, as those terms are defined in Sections 424(e) and (f), respectively, of the Code.

(c) "***Annual Grant***" means an Option granted annually to all Non-Employee Directors who meet the specified criteria pursuant to Section 6(b).

(d) "***Annual Meeting***" means the annual meeting of the stockholders of the Company.

(e) "***Board***" means the Board of Directors of the Company.

(f) "***Capitalization Adjustment***" has the meaning ascribed to that term in Section 11(a).

(g) "***Change in Control***" means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) any Exchange Act Person becomes the Owner, directly or indirectly, of securities of the Company representing more than fifty percent (50%) of the combined voting power of the Company's then outstanding securities other than by virtue of a merger, consolidation or similar transaction. Notwithstanding the foregoing, a Change in Control shall not be deemed to occur solely because the level of Ownership held by any Exchange Act Person (the "***Subject Person***") exceeds the designated percentage threshold of the outstanding voting securities as a result of a repurchase or other acquisition of voting securities by the Company reducing the number of shares outstanding, provided that if a Change in Control would occur (but for the operation of this sentence) as a result of the acquisition of voting securities by the Company, and after such share acquisition, the Subject Person becomes the Owner of any additional voting securities that, assuming the repurchase or other acquisition had not occurred, increases the percentage of the then outstanding voting securities Owned by the Subject Person over the designated percentage threshold, then a Change in Control shall be deemed to occur;

(ii) there is consummated a merger, consolidation or similar transaction involving (directly or indirectly) the Company and, immediately after the consummation of such merger, consolidation or similar transaction, the stockholders of the Company immediately prior thereto do not Own, directly or indirectly, outstanding voting securities representing more than fifty percent (50%) of the combined outstanding voting power of the surviving Entity in such merger, consolidation or similar transaction or more than fifty percent (50%) of the combined outstanding voting power of the parent of the surviving Entity in such merger, consolidation or similar transaction;

(iii) the stockholders of the Company approve or the Board approves a plan of complete dissolution or liquidation of the Company, or a complete dissolution or liquidation of the Company shall otherwise occur;

(iv) there is consummated a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries, other than a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries to an Entity, more than fifty percent (50%) of the combined voting power of the voting securities of which are Owned by stockholders of the Company in substantially the same proportions as their Ownership of the Company immediately prior to such sale, lease, license or other disposition; or

(v) individuals who, on the date this Plan is adopted by the Board, are members of the Board (the "***Incumbent Board***") cease for any reason to constitute at least a majority of the members of the Board; (provided, however, that if the appointment or election (or nomination for election) of

any new Board member was approved or recommended by a majority vote of the members of the Incumbent Board then still in office, such new member shall, for purposes of this Plan, be considered as a member of the Incumbent Board).

(h) "***Code***" means the Internal Revenue Code of 1986, as amended.

(i) "***Common Stock***" means the common stock of the Company.

(j) "***Company***" means GTx, Inc., a Delaware corporation.

(k) "***Consultant***" means any person, including an advisor, (i) engaged by the Company or an Affiliate to render consulting or advisory services and who is compensated for such services or (ii) serving as a member of the Board of Directors of an Affiliate. However, the term "Consultant" shall not include either Directors of the Company who are not compensated by the Company for their services as Directors or Directors of the Company who are merely paid a director's fee by the Company for their services as Directors.

(l) "***Continuous Service***" means that the Optionholder's service with the Company or an Affiliate, whether as an Employee, Director or Consultant, is not interrupted or terminated. The Optionholder's Continuous Service shall not be deemed to have terminated merely because of a change in the capacity in which the Optionholder renders service to the Company or an Affiliate as an Employee, Consultant or Director or a change in the entity for which the Optionholder renders such service, provided that there is no interruption or termination of the Optionholder's Continuous Service. For example, a change in status from a Non-Employee Director of the Company to a Consultant of an Affiliate or an Employee of the Company will not constitute an interruption of Continuous Service. The Board or the chief executive officer of the Company, in that party's sole discretion, may determine whether Continuous Service shall be considered interrupted in the case of any leave of absence approved by that party, including sick leave, military leave or any other personal leave.

(m) "***Corporate Transaction***" means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) a sale or other disposition of all or substantially all, as determined by the Board in its discretion, of the consolidated assets of the Company and its Subsidiaries;

(ii) a sale or other disposition of at least ninety percent (90%) of the outstanding securities of the Company;

(iii) a merger, consolidation or similar transaction following which the Company is not the surviving corporation; or

(iv) a merger, consolidation or similar transaction following which the Company is the surviving corporation but the shares of Common Stock outstanding immediately preceding the merger, consolidation or similar transaction are converted or exchanged by virtue of the merger, consolidation or similar transaction into other property, whether in the form of securities, cash or otherwise.

(n) "***Director***" means a member of the Board of Directors of the Company.

(o) "***Disability***" means the inability of a person, in the opinion of a qualified physician acceptable to the Company, to perform the major duties of that person's position with the Company or an Affiliate of the Company because of the sickness or injury of the person.

(p) "***Effective Date***" means the date that this Plan (as an amendment and restatement of the Prior Plan) is approved by the stockholders of the Company.

(q) "***Employee***" means any person employed by the Company or an Affiliate. Service as a Director or payment of a director's fee by the Company or an Affiliate shall not be sufficient to constitute "***employment***" by the Company or an Affiliate.

(r) "***Entity***" means a corporation, partnership or other entity.

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

(t) "***Exchange Act Person***" means any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act), except that "Exchange Act Person" shall not include (A) the Company or any Subsidiary of the Company, (B) any employee benefit plan of the Company or any Subsidiary of the Company or any trustee or other fiduciary holding securities under an employee benefit plan of the Company or any Subsidiary of the Company, (C) an underwriter temporarily holding securities pursuant to an offering of such securities, or (D) an Entity Owned, directly or indirectly, by the stockholders of the Company in substantially the same proportions as their Ownership of stock of the Company.

(u) "***Fair Market Value***" means, as of any date, the value of the Common Stock determined as follows:

(i) If the Common Stock is listed on any established stock exchange or traded on the Nasdaq Global Market or any other established market, the Fair Market Value of a share of Common Stock shall be the closing sales price for such stock as quoted on such exchange or market (or the exchange or market with the greatest volume of trading in the Common Stock) on the date of determination, as reported in The Wall Street Journal or such other source as the Board deems reliable.

(ii) Unless otherwise provided by the Board, if there is no closing sales price for the Common Stock on the date of determination, then the Fair Market Value shall be the closing sales price on the last preceding date for which such quotation exists.

(iii) In the absence of such markets for the Common Stock, the Fair Market Value shall be determined by the Board in good faith and in a manner that complies with Section 409A of the Code.

(v) "***Initial Grant***" means an Option granted to a Non-Employee Director who meets the specified criteria pursuant to Section 6(a).

(w) "***Non-Employee Director***" means a Director who is not an Employee.

(x) "***Nonstatutory Stock Option***" means an Option not intended to qualify as an incentive stock option within the meaning of Section 422 of the Code and the regulations promulgated thereunder.

(y) "***Officer***" means a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act and the rules and regulations promulgated thereunder.

(z) "***Option***" means a Nonstatutory Stock Option granted pursuant to the Plan.

(aa) "***Option Agreement***" means a written agreement between the Company and an Optionholder evidencing the terms and conditions of an individual Option grant. Each Option Agreement shall be subject to the terms and conditions of the Plan.

(bb) "***Optionholder***" means a person to whom an Option is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Option.

(cc) "***Own***," "***Owned***," "***Owner***," "***Ownership***". A person or Entity shall be deemed to "Own," to have "Owned," to be the "Owner" of, or to have acquired "Ownership" of securities if such person or Entity, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has or shares voting power, which includes the power to vote or to direct the voting, with respect to such securities.

(dd) "***Plan***" means this GTx, Inc. Amended and Restated 2004 Non-Employee Directors' Stock Option Plan.

(ee) "***Rule 16b-3***" means Rule 16b-3 promulgated under the Exchange Act or any successor to Rule 16b-3, as in effect from time to time.

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

(gg) "***Subsidiary***" means, with respect to the Company, (i) any corporation of which more than fifty percent (50%) of the outstanding capital stock having ordinary voting power to elect a majority of the board of directors of such corporation (irrespective of whether, at the time, stock of any other class or classes of such corporation shall have or might have voting power by reason of the happening of any contingency) is at the time, directly or indirectly, Owned by the Company, and (ii) any partnership in which the Company has a direct or indirect interest (whether in the form of voting or participation in profits or Capital contribution) of more than fifty percent (50%).

3. ADMINISTRATION.

(a) **Administration by Board**. The Board shall administer the Plan. The Board may not delegate administration of the Plan to a committee.

(b) **Powers of Board.** The Board shall have the power, subject to, and within the limitations of, the express provisions of the Plan:

(i) To determine the provisions of each Option to the extent not specified in the Plan.

(ii) To construe and interpret the Plan and Options granted under it, and to establish, amend and revoke rules and regulations for its administration. The Board, in the

exercise of this power, may correct any defect, omission or inconsistency in the Plan or in any Option Agreement, in a manner and to the extent it shall deem necessary or expedient to make the Plan fully effective.

(iii) To amend the Plan or an Option as provided in Section 12.

(iv) Generally, to exercise such powers and to perform such acts as the Board deems necessary or expedient to promote the best interests of the Company and that are not in conflict with the provisions of the Plan.

(c) **Effect of Board's Decision.** All determinations, interpretations and constructions made by the Board in good faith shall not be subject to review by any person and shall be final, binding and conclusive on all persons.

4. SHARES SUBJECT TO THE PLAN.

(a) **Share Reserve**. Subject to the provisions of Section 11 relating to adjustments upon changes in the Common Stock, the Common Stock that may be issued pursuant to Options shall not exceed in the aggregate twenty six thousand eight hundred (26,800) shares of Common Stock, plus an annual increase for ten years beginning on January 1, 2007 and ending on (and including) January 1, 2016 equal to the lesser of (i) the number of shares of Common Stock subject to Options granted during the prior calendar year, or (ii) ten thousand (10,000) shares of Common Stock. Notwithstanding the foregoing, the Board may act, prior to the first day of any fiscal year of the Company, to increase the share reserve by such number of shares of Common Stock as the Board shall determine, which number shall be less than each of (i) and (ii).

(b) Reversion of Shares to the Share Reserve. If any Option shall for any reason expire or otherwise terminate, in whole or in part, without having been exercised in full, the shares of Common Stock not acquired under such Option shall revert to and again become available for issuance under the Plan.

(c) Source of Shares. The shares of Common Stock subject to the Plan may be unissued shares or reacquired shares, bought on the market or otherwise.

5. ELIGIBILITY.

The Options, as set forth in Section 6, automatically shall be granted under the Plan to all Non-Employee Directors who meet the criteria specified in Section 6. Notwithstanding the foregoing, a Non-Employee Director shall not be eligible for the grant of an Option under the Plan if the Non-Employee Director is the Owner, directly or indirectly, of securities of the Company representing more than ten percent (10%) of the combined voting power of the Company's then outstanding securities.

6. NON-DISCRETIONARY GRANTS.

(a) Initial Grants. Without any further action of the Board, each person who after the Effective Date is elected or appointed for the first time to be a Non-Employee Director

automatically shall, upon the date of his or her initial election or appointment to be a Non-Employee Director, be granted an Initial Grant on the terms and conditions set forth herein.

(b) Annual Grants. Without any further action of the Board, on the day following each Annual Meeting, commencing with the Annual Meeting in 2006, each person who is then a Non-Employee Director automatically shall be granted an Annual Grant on the terms and conditions set forth herein; *provided*, *however*, that if the person has not been serving as a Non-Employee Director for the entire period since the preceding Annual Meeting, then the number of shares subject to such Annual Grant shall be reduced *pro rata* for each full month prior to the date of grant during which such person did not serve as a Non-Employee Director.

(c) Number of Shares Subject to Initial Grants and Annual Grants. The number of shares of Common Stock subject to each Initial Grant and each Annual Grant shall be determined as follows:

(i) The number of shares of Common Stock subject to each Initial Grant shall initially be one thousand (1,000) shares of Common Stock, which such number of shares may be increased or decreased by the Board in its sole discretion.

(ii) The number of shares of Common Stock subject to each Annual Grant shall initially be eight hundred (800) shares of Common Stock, which such number of shares may be increased or decreased by the Board in its sole discretion; *provided*, *however*, that any increase or decrease in number of shares subject to an Annual Grant shall be applicable to all Non-Employee Directors receiving an Annual Grant on a particular grant date.

7. OPTION PROVISIONS.

Each Option shall be in such form and shall contain such terms and conditions as required by the Plan. Each Option shall contain such additional terms and conditions, not inconsistent with the Plan, as the Board shall deem appropriate. Each Option shall include (through incorporation of provisions hereof by reference in the Option or otherwise) the substance of each of the following provisions:

(a) Term. No Option shall be exercisable after the expiration of ten (10) years from the date it was granted.

(b) Exercise Price. The exercise price of each Option shall be one hundred percent (100%) of the Fair Market Value of the stock subject to the Option on the date the Option is granted. Notwithstanding the foregoing, an Option may be granted with an exercise price lower than one hundred percent (100%) of the Fair Market Value of the Common Stock subject to the Option if such Option is granted pursuant to an assumption of or substitution for another option pursuant to a Corporate Transaction and in a manner consistent with the provisions of Sections 409A and 424(a) of the Code.

(c) Consideration. The purchase price of stock acquired pursuant to an Option may be paid, to the extent permitted by applicable law, in any combination of (i) cash or check, (ii) delivery to the Company of other Common Stock or (iii) pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of

Common Stock, results in either the receipt of cash (or check) by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds. The purchase price of Common Stock acquired pursuant to an Option that is paid by delivery to the Company of other Common Stock acquired, directly or indirectly from the Company, shall be paid only by shares of the Common Stock of the Company that have been held for more than six (6) months (or such longer or shorter period of time required to avoid a charge to earnings for financial accounting purposes).

(d) Transferability. An Option is transferable by will or by the laws of descent and distribution. An Option also may be transferable upon written consent of the Company if, at the time of transfer, a Form S-8 registration statement under the Securities Act is available for the exercise of the Option and the subsequent resale of the underlying securities. In addition, an Optionholder may, by delivering written notice to the Company, in a form provided by or otherwise satisfactory to the Company, designate a third party who, in the event of the death of the Optionholder, shall thereafter be entitled to exercise the Option.

(e) Vesting. Options shall vest as follows:

(i) Initial Grants: 1/3rd of the shares shall vest annually on the anniversary of the date of grant, so that the Initial Grant is fully vested after 3 years.

(ii) Annual Grants: 1/3rd of the shares shall vest annually on the anniversary of the date of grant, so that the Annual Grant is fully vested after 3 years.

(f) Early Exercise. The Option may, but need not, include a provision whereby the Optionholder may elect at any time before the Optionholder's Continuous Service terminates to exercise the Option as to any part or all of the shares of Common Stock subject to the Option prior to the full vesting of the Option. Any unvested shares of Common Stock so purchased may be subject to a repurchase option in favor of the Company or to any other restriction the Board determines to be appropriate. The Company will not exercise its repurchase option until at least six (6) months (or such longer or shorter period of time required to avoid a charge to earnings for financial accounting purposes) have elapsed following exercise of the Option unless the Board otherwise specifically provides in the Option.

(g) Termination of Continuous Service. In the event an Optionholder's Continuous Service terminates (other than upon the Optionholder's death or Disability), the Optionholder may exercise his or her Option (to the extent that the Optionholder was entitled to exercise it as of the date of termination) but only within such period of time ending on the earlier of (i) the date three (3) months following the termination of the Optionholder's Continuous Service, or (ii) the expiration of the term of the Option as set forth in the Option Agreement. If the Optionholder's Continuous Service terminates either as a condition of a Change in Control or upon the effectiveness of a Change in Control then the Optionholder may exercise the outstanding vested portion his or her Option within such period of time ending on the earlier of (i) the date twelve (12) months following the termination of the Optionholder's Continuous Service, or (ii) the expiration of the term of the Option as set forth in the Option Agreement. If, after termination, the Optionholder does not exercise his or her Option within the time specified in the Option Agreement, the Option shall terminate.

(h) Extension of Termination Date. If the exercise of the Option following the termination of the Optionholder's Continuous Service (other than upon the Optionholder's death or Disability) would be prohibited at any time solely because the issuance of shares would violate the registration requirements under the Securities Act, then the Option shall terminate on the earlier of (i) the expiration of the term of the Option as set forth in the Option Agreement or (ii) the expiration of a period of three (3) months after the termination of the Optionholder's Continuous Service during which the exercise of the Option would not be in violation of such registration requirements.

(i) Disability of Optionholder. In the event an Optionholder's Continuous Service terminates as a result of the Optionholder's Disability, the Optionholder may exercise his or her Option (to the extent that the Optionholder was entitled to exercise it as of the date of termination), but only within such period of time ending on the earlier of (i) the date twelve (12) months following such termination or (ii) the expiration of the term of the Option as set forth in the Option Agreement. If, after termination, the Optionholder does not exercise his or her Option within the time specified herein, the Option shall terminate.

(j) Death of Optionholder. In the event (i) an Optionholder's Continuous Service terminates as a result of the Optionholder's death or (ii) the Optionholder dies within the three-month period after the termination of the Optionholder's Continuous Service for a reason other than death, then the Option may be exercised (to the extent the Optionholder was entitled to exercise the Option as of the date of death) by the Optionholder's estate, by a person who acquired the right to exercise the Option by bequest or inheritance or by a person designated to exercise the Option upon the Optionholder's death, but only within the period ending on the earlier of (1) the date eighteen (18) months following the date of death or (2) the expiration of the term of such Option as set forth in the Option Agreement. If, after death, the Option is not exercised within the time specified herein, the Option shall terminate.

8. SECURITIES LAW COMPLIANCE.

The Company shall seek to obtain from each regulatory commission or agency having jurisdiction over the Plan such authority as may be required to grant Options and to issue and sell shares of Common Stock upon exercise of the Options; provided, however, that this undertaking shall not require the Company to register under the Securities Act the Plan, any Option or any stock issued or issuable pursuant to any such Option. If, after reasonable efforts, the Company is unable to obtain from any such regulatory commission or agency the authority which counsel for the Company deems necessary for the lawful issuance and sale of stock under the Plan, the Company shall be relieved from any liability for failure to issue and sell stock upon exercise of such Options unless and until such authority is obtained.

9. USE OF PROCEEDS FROM STOCK.

Proceeds from the sale of stock pursuant to Options shall constitute general funds of the Company.

10. MISCELLANEOUS.

(a) Stockholder Rights. No Optionholder shall be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares subject to such Option unless and until such Optionholder has satisfied all requirements for exercise of the Option pursuant to its terms.

(b) No Service Rights. Nothing in the Plan or any instrument executed or Option granted pursuant thereto shall confer upon any Optionholder any right to continue to serve the Company as a Non-Employee Director or shall affect the right of the Company or an Affiliate to terminate (i) the employment of an Employee with or without notice and with or without cause, (ii) the service of a Consultant pursuant to the terms of such Consultant's agreement with the Company or an Affiliate or (iii) the service of a Director pursuant to the Bylaws of the Company or an Affiliate, and any applicable provisions of the corporate law of the state in which the Company or the Affiliate is incorporated, as the case may be.

(c) Investment Assurances. The Company may require an Optionholder, as a condition of exercising or acquiring stock under any Option, (i) to give written assurances satisfactory to the Company as to the Optionholder's knowledge and experience in financial and business matters and/or to employ a purchaser representative reasonably satisfactory to the Company who is knowledgeable and experienced in financial and business matters and that he or she is capable of evaluating, alone or together with the purchaser representative, the merits and risks of exercising the Option; and (ii) to give written assurances satisfactory to the Company stating that the Optionholder is acquiring the stock subject to the Option for the Optionholder's own account and not

with any present intention of selling or otherwise distributing the stock. The foregoing requirements, and any assurances given pursuant to such requirements, shall be inoperative if (1) the issuance of the shares upon the exercise or acquisition of stock under the Option has been registered under a then currently effective registration statement under the Securities Act or (2) as to any particular requirement, a determination is made by counsel for the Company that such requirement need not be met in the circumstances under the then applicable securities laws. The Company may, upon advice of counsel to the Company, place legends on stock certificates issued under the Plan as such counsel deems necessary or appropriate in order to comply with applicable securities laws, including, but not limited to, legends restricting the transfer of the stock.

(d) Withholding Obligations. The Optionholder may satisfy any federal, state or local tax withholding obligation relating to the exercise or acquisition of stock under an Option by any of the following means (in addition to the Company's right to withhold from any compensation paid to the Optionholder by the Company) or by a combination of such means: (i) tendering a cash payment; (ii) authorizing the Company to withhold shares from the shares of the Common Stock otherwise issuable to the Optionholder as a result of the exercise or acquisition of stock under the Option; provided, however, that no shares of Common Stock are withheld with a value exceeding the minimum amount of tax required to be withheld by law; or (iii) delivering to the Company owned and unencumbered shares of the Common Stock.

(e) Deferrals. To the extent permitted by applicable law, the Board, in its sole discretion, may determine that the delivery of Common Stock upon the exercise of all or a

portion of any Option may be deferred and may establish programs and procedures for deferral elections to be made by Optionholders. Deferrals by Optionholders will be made in accordance with Section 409A of the Code.

(f) Compliance with Section 409A. To the extent that the Board determines that any Option granted hereunder is subject to Section 409A of the Code, the Option Agreement evidencing such Option shall incorporate the terms and conditions necessary to avoid the consequences specified in Section 409A(a)(1) of the Code. To the extent applicable, the Plan and Option Agreements shall be interpreted in accordance with Section 409A of the Code, including without limitation any applicable guidance that may be issued or amended in the future.

11. ADJUSTMENTS UPON CHANGES IN COMMON STOCK.

(a) Capitalization Adjustments. If any change is made in, or other events occur with respect to, the stock subject to the Plan, or subject to any Option, without the receipt of consideration by the Company (through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, stock split, liquidating dividend, combination of shares, exchange of shares, change in corporate structure or other transaction not involving the receipt of consideration by the Company (each a "***Capitalization Adjustment***")), the Plan will be appropriately adjusted in the class(es) and maximum number of securities subject both to the Plan pursuant to Section 4 and to the nondiscretionary Options specified in Section 6, and the outstanding Options will be appropriately adjusted in the class(es) and number of securities and price per share of stock subject to such outstanding Options. The Board shall make such adjustments, and its determination shall be final, binding and conclusive. (The conversion of any convertible securities of the Company shall not be treated as a transaction "without receipt of consideration" by the Company.)

(b) Dissolution or Liquidation. In the event of a dissolution or liquidation of the Company, then all outstanding Options shall terminate immediately prior to the completion of such dissolution or liquidation.

(c) Corporate Transaction. In the event of a Corporate Transaction, any surviving corporation or acquiring corporation may assume any or all Options outstanding under the Plan or may substitute similar stock options for Options outstanding under the Plan (it being understood that similar stock options include, but are not limited to, options to acquire the same consideration paid to the stockholders or the Company, as the case may be, pursuant to the Corporate Transaction). In the event that any surviving corporation or acquiring corporation does not assume any or all such outstanding Options or substitute similar stock options for such outstanding Options, then with respect to Options that have been neither assumed nor substituted and that are held by Optionholders whose Continuous Service has not terminated prior to the effective time of the Corporate Transaction, the vesting of such Options (and, if applicable, the time at which such Options may be exercised) shall (contingent upon the effectiveness of the Corporate Transaction) be accelerated in full to a date prior to the effective time of such Corporate Transaction as the Board shall determine (or, if the Board shall not determine such a date, to the date that is five (5) days prior to the effective time of the Corporate Transaction), and the Options shall terminate if not exercised (if applicable) at or prior to such effective time. With respect to any other Options outstanding under the Plan that have been neither assumed nor

substituted, the vesting of such Options (and, if applicable, the time at which such Options may be exercised) shall not be accelerated unless otherwise provided in Section 11(d) or in a written agreement between the Company or any Affiliate and the holder of such Options, and such Options shall terminate if not exercised (if applicable) prior to the effective time of the Corporate Transaction.

(d) Change in Control. If a Change in Control occurs, then, immediately prior to such Change in Control, the Optionholder's Options shall become fully vested and exercisable. In the event that an Optionholder is required to resign his or her position as a Non-Employee Director as a condition of a Change in Control, the outstanding Options of such Optionholder shall become fully vested and exercisable immediately prior to the effectiveness of such resignation.

(e) Parachute Payments. If the acceleration of the vesting and exercisability of Options provided for in Section 11(c), together with payments and other benefits of an Optionholder, (collectively, the "***Payment***") (i) constitute a "***parachute payment***" within the meaning of Section 280G of the Code, or any comparable successor provisions, and (ii) but for this Section 11(e) would be subject to the excise tax imposed by Section 4999 of the Code, or any comparable successor provisions (the "***Excise Tax***"), then such Payment shall be either (1) provided to such Optionholder in full, or (2) provided to such Optionholder as to such lesser extent that would result in no portion of such Payment being subject to the Excise Tax, whichever of the foregoing amounts, when taking into account applicable federal, state, local and foreign income and employment taxes, the Excise Tax, and any other applicable taxes, results in the receipt by such Optionholder, on an after-tax basis, of the greatest amount of the Payment, notwithstanding that all or some portion of the Payment may be subject to the Excise Tax.

Unless the Company and such Optionholder otherwise agree in writing, any determination required under this Section 11(e) shall be made in writing in good faith by the Accountant. If a reduction in the Payment is to be made as provided above, reductions shall occur in the following order unless the Optionholder elects in writing a different order (provided, however, that such election shall be subject to Company approval if made on or after the date that triggers the Payment or a portion thereof): reduction of cash payments; cancellation of accelerated vesting of Options; reduction of employee benefits. If acceleration of vesting of Options is to be reduced, such acceleration of vesting shall be cancelled in the reverse order of date of grant of Options (i.e., earliest granted Option cancelled last) unless the Optionholder elects in writing a different order for cancellation.

For purposes of making the calculations required by this Section 11(e), the Accountant may make reasonable assumptions and approximations concerning applicable taxes and may rely on reasonable, good faith interpretations concerning the application of the Code and other applicable legal authority. The Company and the Optionholder shall furnish to the Accountant such information and documents as the Accountant may reasonably request in order to make such a determination. The Company shall bear all costs the Accountant may reasonably incur in connection with any calculations contemplated by this Section 11(e).

If, notwithstanding any reduction described above, the Internal Revenue Service (the "***IRS***") determines that the Optionholder is liable for the Excise Tax as a result of the Payment,

then the Optionholder shall be obligated to pay back to the Company, within thirty (30) days after a final IRS determination or, in the event that the Optionholder challenges the final IRS determination, a final judicial determination, a portion of the Payment equal to the "Repayment Amount." The Repayment Amount with respect to the Payment shall be the smallest such amount, if any, as shall be required to be paid to the Company so that the Optionholder's net after-tax proceeds with respect to the Payment (after taking into account the payment of the Excise Tax and all other applicable taxes imposed on the Payment) shall be maximized. The Repayment Amount with respect to the Payment shall be zero if a Repayment Amount of more than zero would not result in the Optionholder's net after-tax proceeds with respect to the Payment being maximized. If the Excise Tax is not eliminated pursuant to this paragraph, the Optionholder shall pay the Excise Tax.

Notwithstanding any other provision of this Section 11(e), if (i) there is a reduction in the Payment as described above, (ii) the IRS later determines that the Optionholder is liable for the Excise Tax, the payment of which would result in the maximization of the Optionholder's net after-tax proceeds of the Payment (calculated as if the Payment had not previously been reduced), and (iii) the Optionholder pays the Excise Tax, then the Company shall pay or otherwise provide to the Optionholder that portion of the Payment that was reduced pursuant to this Section 11(e) contemporaneously or as soon as administratively possible after the Optionholder pays the Excise Tax so that the Optionholder's net after-tax proceeds with respect to the Payment are maximized.

If the Optionholder either (i) brings any action to enforce rights pursuant to this Section 11(e), or (ii) defends any legal challenge to his or her rights under this Section 11(e), the Optionholder shall be entitled to recover attorneys' fees and costs incurred in connection with such action, regardless of the outcome of such action; provided, however, that if such action is commenced by the Optionholder, the court finds that the action was brought in good faith.

12. AMENDMENT OF THE PLAN AND OPTIONS.

(a) Amendment of Plan. The Board, at any time and from time to time, may amend the Plan. However, except as provided in Section 11 relating to adjustments upon changes in Common Stock, no amendment shall be effective unless approved by the stockholders of the Company to the extent stockholder approval is necessary to satisfy the requirements of applicable laws.

(b) Stockholder Approval. The Board, in its sole discretion, may submit any other amendment to the Plan for stockholder approval.

(c) No Impairment of Rights. Rights under any Option granted before amendment of the Plan shall not be impaired by any amendment of the Plan unless (i) the Company requests the consent of the Optionholder and (ii) the Optionholder consents in writing.

(d) Amendment of Options. The Board, at any time, and from time to time, may amend the terms of any one or more Options; provided, however, that the rights under any Option shall not be impaired by any such amendment unless (i) the Company requests the consent of the Optionholder and (ii) the Optionholder consents in writing. Notwithstanding the

foregoing, subject to the limitations of applicable law, if any, the Board may amend the terms of any one or more Options without the affected Optionholder's consent if necessary to bring the Option into compliance with Section 409A of the Code.

13. TERMINATION OR SUSPENSION OF THE PLAN.

(a) Plan Term. The Board may suspend or terminate the Plan at any time. No Options may be granted under the Plan while the Plan is suspended or after it is terminated.

(b) No Impairment of Rights. Suspension or termination of the Plan shall not impair rights and obligations under any Option granted while the Plan is in effect except with the written consent of the Optionholder.

14. EFFECTIVE DATE OF PLAN.

This Plan (as an amendment and restatement of the Prior Plan) shall become effective on the Effective Date.

15. CHOICE OF LAW.

The law of the state of Delaware shall govern all questions concerning the construction, validity and interpretation of this Plan, without regard to such state's conflict of laws rules.

GTX, INC.

2013 EQUITY INCENTIVE PLAN

ADOPTED BY THE BOARD: FEBRUARY 14, 2013

APPROVED BY THE STOCKHOLDERS: MAY 2, 2013

AMENDED AND RESTATED BY THE BOARD: FEBRUARY 12, 2015

APPROVED BY THE STOCKHOLDERS: MAY 6, 2015

1. **GENERAL**.

(a) This GTx, Inc. (the "**Company**") 2013 Equity Incentive Plan (the "**Plan**") is the successor to and continuation of the Company's Amended and Restated 2004 Equity Incentive Plan (the "**2004 Plan**"). Following the Effective Date, no additional stock awards will be granted under the 2004 Plan or any other Prior Plan. Any unallocated shares that otherwise remain available for grant under the Prior Plans (including the 2004 Plan) as of 12:01 a.m. Eastern Standard Time on the Effective Date (the "**Prior Plans' Available Reserve**") will cease to be available under the Prior Plans at such time. Instead, that number of shares of Common Stock equal to the Prior Plans' Available Reserve will be added to the Share Reserve (as further described in Section 3(a) below) and become immediately available for grant and issuance pursuant to Stock Awards granted under the Plan. For clarity, each outstanding stock award granted under any of the Prior Plans remains subject to the terms of the Prior Plan under which such award was granted. From and after the Effective Date, any shares subject to outstanding stock awards granted under the Prior Plans (including the 2004 Plan) that (i) expire or terminate for any reason prior to exercise or settlement, (ii) are forfeited because of the failure to meet a contingency or condition required to vest such shares or are repurchased at the original issuance price, or (iii) are otherwise reacquired or are withheld (or not issued) to satisfy a tax withholding obligation in connection with an award (the "**Returning Shares**") will immediately be added to the Share Reserve (as further described in Section 3(a) below) as and when such shares become Returning Shares, and become available for issuance pursuant to Awards granted hereunder. All Awards granted on or after the Effective Date of the Plan will be subject to the terms of the Plan.

(b) **Eligible Award Recipients**. Employees, Directors and Consultants are eligible to receive Awards under the Plan.

(c) **Available Awards**. The Plan provides for the grant of the following Awards: (i) Incentive Stock Options; (ii) Nonstatutory Stock Options; (iii) Stock Appreciation Rights; (iv) Restricted Stock Awards; (v) Restricted Stock Unit Awards; (vi) Performance Stock Awards; (vii) Performance Cash Awards; and (viii) Other Stock Awards.

(d) **Purpose**. The Company, by means of the Plan, seeks to secure and retain the services of the group of persons eligible to receive Awards as set forth in Section 1(b), to provide incentives for such persons to exert maximum efforts for the success of the Company and any Affiliate, and to provide a means by which such eligible recipients may be given an opportunity

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to benefit from increases in the value of the Common Stock through the grant of Awards under the Plan.

2. **ADMINISTRATION**.

(a) **Administration by Board**. The Board will administer the Plan. The Board may delegate administration of the Plan to a Committee or Committees, as provided in Section 2(c).

(b) **Powers of Board**. The Board will have the power, subject to, and within the limitations of, the express provisions of the Plan:

(i) To determine (A) who will be granted Awards, (B) when and how each Award will be granted, (C) what type of Award will be granted, (D) the provisions of each Award (which need not be identical), including when a Participant will be permitted to exercise or otherwise receive cash or Common Stock under the Award, (E) the number of shares of Common Stock subject to, or the cash value of, an Award, and (F) the Fair Market Value applicable to a Stock Award.

(ii) To construe and interpret the Plan and Awards granted under it, and to establish, amend and revoke rules and regulations for administration of the Plan and Awards. The Board, in the exercise of these powers, may correct any defect, omission or inconsistency in the Plan or in any Award Agreement or in the written terms of a Performance Cash Award, in a manner and to the extent it will deem necessary or expedient to make the Plan or Award fully effective.

(iii) To settle all controversies regarding the Plan and Awards granted under it.

(iv) To accelerate, in whole or in part, the time at which an Award may be exercised or vest (or at which cash or shares of Common Stock may be issued).

(v) To suspend or terminate the Plan at any time. Except as otherwise provided in the Plan or an Award Agreement, suspension or termination of the Plan will not materially impair a Participant's rights under any of the Participant's then-outstanding Awards without the Participant's written consent, except as provided in subsection (viii) below.

(vi) To amend the Plan in any respect the Board deems necessary or advisable, including, without limitation, adopting amendments relating to Incentive Stock Options and nonqualified deferred compensation under Section 409A and/or making the Plan or Awards granted under the Plan exempt from or compliant with the requirements for Incentive Stock Options or exempt from or compliant with the requirements for nonqualified deferred compensation under Section 409A, subject to the limitations, if any, of applicable law. If required by applicable law or listing requirements, and except as

provided in Section 9(a) relating to Capitalization Adjustments, the Company will seek stockholder approval of any amendment of the Plan that (A) materially increases the number of shares of Common Stock available for issuance under the Plan, (B) materially expands the class of individuals eligible to receive Awards under the Plan, (C) materially increases the benefits accruing to Participants under the Plan, (D) materially reduces the price at which shares of Common Stock may be issued or purchased under the Plan, (E) materially extends the term of the Plan, or (F) materially

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expands the types of Awards available for issuance under the Plan. Except as otherwise provided in the Plan (including subsection (viii) below) or an Award Agreement, no amendment of the Plan will materially impair a Participant's rights under an outstanding Award without the Participant's written consent.

(vii) To submit any amendment to the Plan for stockholder approval, including, but not limited to, amendments to the Plan intended to satisfy the requirements of (A) Section 162(m) of the Code regarding the exclusion of performance-based compensation from the limit on corporate deductibility of compensation paid to Covered Employees, (B) Section 422 of the Code regarding "**incentive stock options**" or (C) Rule 16b-3.

(viii) To approve forms of Award Agreements for use under the Plan and to amend the terms of any one or more outstanding Awards, including, but not limited to, amendments to provide terms more favorable to the Participant than previously provided in the Award Agreement, subject to any specified limits in the Plan that are not subject to Board discretion; provided, that no such amendment shall materially impair a Participant's rights under an existing Award unless the Company requests the consent of the affected Participant, and the Participant consents in writing. A Participant's rights will not be deemed to have been materially impaired by any such amendment if the Board, in its sole discretion, determines that the amendment, taken as a whole, does not materially impair the Participant's rights. In addition, subject to the limitations of applicable law, if any, the Board may amend the terms of any one or more Awards without the affected Participant's consent (A) to maintain the qualified status of the Award as an Incentive Stock Option under Section 422 of the Code, (B) to change the terms of an Incentive Stock Option, if such change results in impairment of the Award solely because it impairs the qualified status of the Award as an Incentive Stock Option under Section 422 of the Code, (C) to clarify the manner of exemption from, or to bring the Award into compliance with, Section 409A, or (D) to comply with other applicable laws or listing requirements.

(ix) Generally, to exercise such powers and to perform such acts as the Board deems necessary or expedient to promote the best interests of the Company and that are not in conflict with the provisions of the Plan and/or Award Agreements.

(x) To adopt such procedures and sub-plans as are necessary or appropriate to permit participation in the Plan by Employees, Directors or Consultants who are foreign nationals or employed outside the United States (provided that Board approval will not be necessary for immaterial modifications to the Plan or any Award Agreement that are required for compliance with the laws of the relevant foreign jurisdiction).

(xi) To effect, with the consent of any adversely affected Participant, (A) the reduction of the exercise, purchase or strike price of any outstanding Stock Award, (B) the cancellation of any outstanding Stock Award and the grant in substitution therefor of a new (1) Option or SAR, (2) Restricted Stock Award, (3) Restricted Stock Unit Award, (4) Other Stock Award, (5) cash award and/or (6) award of other valuable consideration determined by the Board, in its sole discretion, with any such substituted award (x) covering the same or a different number of shares of Common Stock as the cancelled Stock Award and (y) granted under the Plan or another equity or compensatory plan of the Company, or (C) any other action that is treated as a repricing under generally accepted accounting principles.

(c) **Delegation to Committee**.

(i) **General**. The Board may delegate some or all of the administration of the Plan to a Committee or Committees. If administration of the Plan is delegated to a Committee, the Committee will have, in connection with the administration of the Plan, the powers theretofore possessed by the Board that have been delegated to the Committee, including the power to delegate to a subcommittee of the Committee any of the administrative powers the Committee is authorized to exercise (and references in this Plan to the Board will thereafter be to such Committee or subcommittee). Any delegation of administrative powers will be reflected in resolutions, not inconsistent with the provisions of the Plan, adopted from time to time by the Board or Committee (as applicable). The Committee may, at any time, abolish the subcommittee and/or revest in the Committee any powers delegated to the subcommittee. The Board may retain the authority to concurrently administer the Plan with the Committee and may, at any time, revest in the Board some or all of the powers previously delegated.

(ii) **Section 162(m) and Rule 16b-3 Compliance**. The Committee may consist solely of two (2) or more Outside Directors, in accordance with Section 162(m) of the Code, or solely of two (2) or more Non-Employee Directors, in accordance with Rule 16b-3.

(d) **Delegation to an Officer**. The Board may delegate to one (1) or more Officers the authority to do one or both of the following: (i) designate Employees who are not Officers to be recipients of Options and SARs (and, to the extent permitted by applicable law, other Stock Awards) and, to the extent permitted by applicable law, the terms of such Options and SARs; and (ii) determine the number of shares of Common Stock to be subject to such Stock Awards granted to such Employees; provided, however, that the Board resolutions regarding such delegation will specify the total number of shares of Common Stock that may be subject to the Stock Awards granted by such Officer and that such Officer may not grant a Stock Award to himself or herself. Any such Stock Awards will be granted on the form of Stock Award Agreement most recently approved for use by the Committee or the Board, unless otherwise provided for in the resolutions approving the delegation authority. The Board may not delegate authority to an Officer who is acting solely in the capacity of an Officer (and not also as a Director) to determine the Fair Market Value pursuant to Section 13(w)(iii) below.

(e) **Effect of Board's Decision**. All determinations, interpretations and constructions made by the Board in good faith will not be subject to review by any person and will be final, binding and conclusive on all persons.

3. **SHARES SUBJECT TO THE PLAN**.

(a) **Share Reserve**.

(i) Subject to Section 9(a) relating to Capitalization Adjustments, the aggregate number of shares of Common Stock that may be issued pursuant to Stock Awards under the Plan as of the Effective Date initially will be equal to the sum of (A) one hundred thousand (100,000) shares of

Common Stock (provided that such shares may not be issued in respect of Awards until such shares have been registered on Form S-8 under the Securities Act),

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(B) the shares that are subject to the Prior Plans' Available Reserve on the Effective Date, provided that such number will not exceed three hundred twenty thousand eight hundred fifteen (320,815) shares, and (C) the Returning Shares, but only if, as and when such shares become Returning Shares, provided that such number will not exceed six hundred nine thousand three hundred fifty five (609,355) shares (such sum, the "**Share Reserve**").

(ii) In addition, on January 1st of each year, for ten years, commencing on January 1, 2014, the Share Reserve will automatically be increased by a number of shares of Common Stock equal to four percent (4%) of the total number of shares of Common Stock outstanding on December 31st of the preceding calendar year. The Board may act prior to January 1st of a given year to provide that there will be no January 1st increase in the Share Reserve for such year or that the increase in the Share Reserve for such year will be a smaller number of shares of Common Stock than would otherwise occur pursuant to the preceding sentence.

(iii) For clarity, the Share Reserve is a limitation on the number of shares of Common Stock that may be issued under the Plan. As a single share may be subject to grant more than once (e.g., if an Option expires unexercised, the shares underlying such expired Option may be made subject to new Stock Awards), the Share Reserve is not a limit on the number of Stock Awards that can be granted under the Plan.

(iv) Shares may be issued under the terms of the Plan in connection with a merger or acquisition as permitted by NASDAQ Listing Rule 5635(c), or, if applicable, NYSE Listed Company Manual Section 303A.08, AMEX Company Guide Section 711, or other applicable rule, and such issuance will not reduce the number of shares available for issuance under the Plan.

(b) **Reversion of Shares to the Share Reserve**. If a Stock Award or any portion of a Stock Award (i) expires or otherwise terminates without all of the shares covered by the Stock Award having been issued or (ii) is settled in cash (i.e., the Participant receives cash rather than stock), such expiration, termination or settlement will not reduce (or otherwise offset) the number of shares of Common Stock that are available for issuance under the Plan. If any shares of Common Stock issued under a Stock Award are forfeited back to or repurchased by the Company because of the failure to meet a contingency or condition required to vest such shares in the Participant, then the shares that are forfeited or repurchased will revert to and again become available for issuance under the Plan. Any shares reacquired by the Company in satisfaction of tax withholding obligations on a Stock Award or as consideration for the exercise or purchase price of a Stock Award will again become available for issuance under the Plan.

(c) **Incentive Stock Option Limit**. Subject to Section 9(a) relating to Capitalization Adjustments, the aggregate maximum number of shares of Common Stock that may be issued on the exercise of Incentive Stock Options will be equal to five hundred thousand (500,000) shares.

(d) **Section 162(m) Limitations**. Subject to Section 9(a) relating to Capitalization Adjustments, at such times as the Company is subject to the applicable provisions of Section 162(m) of the Code, the following limitations will apply.

(i) A maximum of five hundred thousand (500,000) shares of Common Stock subject to Options, SARs and Other Stock Awards whose value is determined by reference to an increase over an exercise or strike price of at least 100% of the Fair Market Value on the date any such Stock Award is granted may be granted to any one Participant during any calendar year.

(ii) A maximum of five hundred thousand (500,000) shares of Common Stock subject to Performance Stock Awards may be granted to any one Participant during any one calendar year (whether the grant, vesting or exercise is contingent upon the attainment during the Performance Period of the Performance Goals).

(iii) A maximum of two million dollars ($2,000,000.00) may be granted as a Performance Cash Award to any one Participant during any one calendar year.

(iv) If a Performance Stock Award is in the form of an Option, it will count only against the Performance Stock Award limit. If a Performance Stock Award could (but is not required to) be paid out in cash, it will count only against the Performance Stock Award limit.

(e) **Source of Shares**. The stock issuable under the Plan will be shares of authorized but unissued or reacquired Common Stock, including shares repurchased by the Company on the open market or otherwise.

4. **ELIGIBILITY**.

(a) **Eligibility for Specific Stock Awards**. Incentive Stock Options may be granted only to employees of the Company or a "parent corporation" or "subsidiary corporation" thereof (as such terms are defined in Sections 424(e) and 424(f) of the Code). Stock Awards other than Incentive Stock Options may be granted to Employees, Directors and Consultants; provided, however, that Stock Awards may not be granted to Employees, Directors and Consultants who are providing Continuous Service only to any "parent" of the Company, as such term is defined in Rule 405, unless (i) the stock underlying such Stock Awards is treated as "service recipient stock" under Section 409A (for example, because the Stock Awards are granted pursuant to a corporate transaction such as a spin off transaction), or (ii) the Company, in consultation with its legal counsel, has determined that such Stock Awards are otherwise exempt from or comply with the distribution requirements of Section 409A.

(b) **Ten Percent Stockholders**. A Ten Percent Stockholder will not be granted an Incentive Stock Option unless the exercise price of such Option is at least 110% of the Fair Market Value on the date of grant and the Option is not exercisable after the expiration of five (5) years from the date of grant.

5. **PROVISIONS RELATING TO OPTIONS AND STOCK APPRECIATION RIGHTS**.

Each Option or SAR will be in such form and will contain such terms and conditions as the Board deems appropriate. All Options will be separately designated Incentive Stock Options or Nonstatutory Stock Options at the time of grant, and, if certificates are issued, a separate certificate or certificates will

be issued for shares of Common Stock purchased on exercise of

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each type of Option. If an Option is not specifically designated as an Incentive Stock Option, or if an Option is designated as an Incentive Stock Option but some portion or all of the Option fails to qualify as an Incentive Stock Option under the applicable rules, then the Option (or portion thereof) will be a Nonstatutory Stock Option. The provisions of separate Options or SARs need not be identical; provided, however, that each Award Agreement will conform to (through incorporation of provisions hereof by reference in the applicable Award Agreement or otherwise) the substance of each of the following provisions:

(a) **Term**. Subject to the provisions of Section 4(b) regarding Ten Percent Stockholders, no Option or SAR will be exercisable after the expiration of ten (10) years from the date of its grant or such shorter period specified in the Award Agreement.

(b) **Exercise Price**. Subject to the provisions of Section 4(b) regarding Ten Percent Stockholders, the exercise or strike price of each Option or SAR will be not less than 100% of the Fair Market Value of the Common Stock subject to the Option or SAR on the date the Award is granted. Notwithstanding the foregoing, an Option or SAR may be granted with an exercise or strike price lower than 100% of the Fair Market Value of the Common Stock subject to the Award if such Award is granted pursuant to an assumption of or substitution for another option or stock appreciation right pursuant to a Corporate Transaction and in a manner consistent with the provisions of Section 409A and, if applicable, Section 424(a) of the Code. Each SAR will be denominated in Common Stock equivalents.

(c) **Purchase Price for Options**. The purchase price of Common Stock acquired pursuant to the exercise of an Option may be paid, to the extent permitted by applicable law and as determined by the Board in its sole discretion, by any combination of the methods of payment set forth below. The Board will have the authority to grant Options that do not permit all of the following methods of payment (or otherwise restrict the ability to use certain methods) and to grant Options that require the consent of the Company to use a particular method of payment. The permitted methods of payment are as follows:

(i) by cash, which may be in the form of a check, bank draft, money order, wire transfer or similar electronic transfer of readily available funds;

(ii) pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of the stock subject to the Option, results in either the receipt of cash by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds;

(iii) by delivery to the Company (either by actual delivery or attestation) of shares of Common Stock;

(iv) if an Option is a Nonstatutory Stock Option, by a “net exercise” arrangement pursuant to which the Company will reduce the number of shares of Common Stock issuable upon exercise by the largest whole number of shares with a Fair Market Value that does not exceed the aggregate exercise price; provided, however, that the Company will accept cash or other payment from the Participant to the extent of any remaining balance of the aggregate exercise price not satisfied by such reduction in the number of whole shares to be issued. Shares

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of Common Stock will no longer be subject to an Option and will not be exercisable thereafter to the extent that (A) shares issuable upon exercise are used to pay the exercise price pursuant to the “net exercise,” (B) shares are delivered to the Participant as a result of such exercise, and (C) shares are withheld to satisfy tax withholding obligations; or

(v) in any other form of legal consideration that may be acceptable to the Board and specified in the applicable Award Agreement.

(d) **Exercise and Payment of a SAR**. To exercise any outstanding SAR, the Participant must provide written notice of exercise to the Company in compliance with the provisions of the Stock Appreciation Right Agreement evidencing such SAR. The appreciation distribution payable on the exercise of a SAR will be not greater than an amount equal to the excess of (A) the aggregate Fair Market Value (on the date of the exercise of the SAR) of a number of shares of Common Stock equal to the number of Common Stock equivalents in which the Participant is vested under such SAR and with respect to which the Participant is exercising the SAR on such date, over (B) the aggregate exercise price of the number of Common Stock equivalents with respect to which the Participant is exercising the SAR on such date. The appreciation distribution may be paid in Common Stock, in cash, in any combination of the two or in any other form of consideration, as determined by the Board and contained in the Stock Appreciation Right Agreement evidencing such SAR.

(e) **Transferability of Options and SARs**. The Board may, in its sole discretion, impose such limitations on the transferability of Options and SARs as the Board will determine. In the absence of a determination by the Board to the contrary, the following restrictions on the transferability of Options and SARs will apply:

(i) **Restrictions on Transfer**. An Option or SAR will not be transferable except by will or by the laws of descent and distribution (or pursuant to subsections (ii) and (iii) below), and will be exercisable during the lifetime of the Participant only by the Participant. The Board may permit transfer of the Option or SAR in a manner that is not prohibited by applicable tax and securities laws. Except as explicitly provided herein, neither an Option nor a SAR may be transferred for consideration.

(ii) **Domestic Relations Orders**. Subject to the approval of the Board or a duly authorized Officer, an Option or SAR may be transferred pursuant to the terms of a domestic relations order, official marital settlement agreement or other divorce or separation instrument as permitted by Treasury Regulation Section 1.421-1(b)(2). If an Option is an Incentive Stock Option, such Option may be deemed to be a Nonstatutory Stock Option as a result of such transfer.

(iii) **Beneficiary Designation**. Subject to the approval of the Board or a duly authorized Officer, a Participant may, by delivering written notice to the Company, in a form approved by the Company (or the designated broker), designate a third party who, on the death of the Participant, will thereafter be entitled to exercise the Option or SAR and receive the Common Stock or other consideration resulting from such exercise. In the absence of

such a designation, the executor or administrator of the Participant's estate will be entitled to exercise the Option or SAR and receive the Common Stock or other consideration resulting from such

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exercise. However, the Company may prohibit designation of a beneficiary at any time, including due to any conclusion by the Company that such designation would be inconsistent with the provisions of applicable laws.

(f) **Vesting Generally**. The total number of shares of Common Stock subject to an Option or SAR may vest and therefore become exercisable in periodic installments that may or may not be equal. The Option or SAR may be subject to such other terms and conditions on the time or times when it may or may not be exercised (which may be based on the satisfaction of Performance Goals or other criteria) as the Board may deem appropriate. The vesting provisions of individual Options or SARs may vary.

(g) **Termination of Continuous Service**. Except as otherwise provided in the applicable Award Agreement, or other agreement between the Participant and the Company or any Affiliate, if a Participant's Continuous Service terminates (other than for Cause and other than upon the Participant's death, Disability or Retirement), the Participant may exercise his or her Option or SAR (to the extent that the Participant was entitled to exercise such Award as of the date of termination of Continuous Service) within the period of time ending on the earlier of (i) the date which occurs three (3) months following the termination of the Participant's Continuous Service and (ii) the expiration of the term of the Option or SAR as set forth in the applicable Option Agreement or Stock Appreciation Right Agreement. If, after termination of Continuous Service, the Participant does not exercise the Participant's Option or SAR within the applicable time frame, the Option or SAR will terminate.

(h) **Extension of Termination Date**. If the exercise of an Option or SAR following the termination of the Participant's Continuous Service (other than for Cause and other than upon the Participant's death, Disability or Retirement) would be prohibited at any time solely because the issuance of shares of Common Stock would violate the registration requirements under the Securities Act, then the Option or SAR will terminate on the earlier of (i) the expiration of a total period of three (3) months (that need not be consecutive) after the termination of the Participant's Continuous Service during which the exercise of the Option or SAR would not be in violation of such registration requirements, and (ii) the expiration of the term of the Option or SAR as set forth in the applicable Award Agreement. In addition, unless otherwise provided in a Participant's applicable Award Agreement, if the sale of any Common Stock received upon exercise of an Option or SAR following the termination of the Participant's Continuous Service (other than for Cause) would violate the Company's insider trading policy, then the Option or SAR will terminate on the earlier of (i) the expiration of a period of months (that need not be consecutive) equal to the applicable post-termination exercise period after the termination of the Participant's Continuous Service during which the sale of the Common Stock received upon exercise of the Option or SAR would not be in violation of the Company's insider trading policy, or (ii) the expiration of the term of the Option or SAR as set forth in the applicable Option Agreement or Stock Appreciation Right Agreement.

(i) **Disability of Participant**. Except as otherwise provided in the applicable Award Agreement, or other agreement between the Participant and the Company or any Affiliate, if a Participant's Continuous Service terminates as a result of the Participant's Disability, the Participant may exercise the Participant's Option or SAR (to the extent that the Participant was entitled to exercise such Option or SAR as of the date of termination of Continuous Service), but

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only within such period of time ending on the earlier of (i) the date which occurs twelve (12) months following such termination of Continuous Service, and (ii) the expiration of the term of the Option or SAR as set forth in the applicable Award Agreement. If, after termination of Continuous Service, the Participant does not exercise the Participant's Option or SAR within the applicable time frame, the Option or SAR (as applicable) will terminate.

(j) **Death of Participant**. Except as otherwise provided in the applicable Award Agreement, or other agreement between the Participant and the Company or any Affiliate, if (i) a Participant's Continuous Service terminates as a result of the Participant's death, or (ii) the Participant dies within the period (if any) specified in the applicable Option Agreement or Stock Appreciation Right Agreement for exercisability after the termination of the Participant's Continuous Service (for a reason other than death), then the Option or SAR may be exercised (to the extent the Participant was entitled to exercise such Option or SAR as of the date of death) by the Participant's estate, by a person who acquired the right to exercise the Option or SAR by bequest or inheritance or by a person designated to exercise the Option or SAR upon the Participant's death, but only within the period ending on the earlier of (i) the date which occurs eighteen (18) months following the date of death, and (ii) the expiration of the term of such Option or SAR as set forth in the applicable Option Agreement or Stock Appreciation Right Agreement. If, after the Participant's death, the Option or SAR is not exercised within the applicable time frame, the Option or SAR will terminate.

(k) **Retirement of a Participant**. Except as otherwise provided in the applicable Award Agreement, or other agreement between the Participant and the Company or any Affiliate, if a Participant's Continuous Service terminates as a result of the Participant's Retirement, the Participant may exercise the Participant's Option or SAR (to the extent that the Participant was entitled to exercise such Option or SAR as of the date of the Participant's termination of Continuous Service due to Retirement), but only within the period ending upon the earlier of (i) the date which occurs twenty-four (24) months following such termination (or such longer or shorter period specified in the Award Agreement) and (ii) the expiration of the term of such Option or SAR as set forth in the applicable Option Agreement or Stock Appreciation Right Agreement. If, after the Participant's termination of Continuous Service due to Retirement, the Participant does not exercise the Participant's Option or SAR within the applicable time frame, the Option or SAR (as applicable) will terminate.

(l) **Termination for Cause**. Except as explicitly provided otherwise in a Participant's Award Agreement or other individual written agreement between the Company or any Affiliate and the Participant, if a Participant's Continuous Service is terminated for Cause, the Option or SAR will terminate upon the date on which the event giving rise to the termination for Cause first occurred, and the Participant will be prohibited from exercising his or her Option or SAR from and after the date on which the event giving rise to the termination for Cause first occurred (or, if required by law, the date of termination of Continuous Service). If a Participant's Continuous Service is suspended pending an investigation of the existence of Cause, all of the Participant's rights under the Option or SAR will also be suspended during the investigation period.

(m) **Non-Exempt Employees**. If an Option or SAR is granted to an Employee who is a non-exempt employee for purposes of the Fair Labor Standards Act of 1938, as amended, the

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Option or SAR will not be first exercisable for any shares of Common Stock until at least six (6) months following the date of grant of the Option or SAR (although the Award may vest prior to such date). Consistent with the provisions of the Worker Economic Opportunity Act, (i) if such non-exempt Employee dies or suffers a Disability, (ii) upon a Corporate Transaction in which such Option or SAR is not assumed, continued, or substituted, (iii) upon a Change in Control, or (iv) upon the Participant's Retirement, the vested portion of any Options and SARs may be exercised earlier than six (6) months following the date of grant. The foregoing provision is intended to operate so that any income derived by a non-exempt employee in connection with the exercise or vesting of an Option or SAR will be exempt from such employee's regular rate of pay. To the extent permitted and/or required for compliance with the Worker Economic Opportunity Act to ensure that any income derived by a non-exempt employee in connection with the exercise, vesting or issuance of any shares under any other Stock Award will be exempt from the employee's regular rate of pay, the provisions of this paragraph will apply to all Stock Awards and are hereby incorporated by reference into such Stock Award Agreements.

6. **PROVISIONS OF STOCK AWARDS OTHER THAN OPTIONS AND SARS**.

(a) **Restricted Stock Awards**. Each Restricted Stock Award Agreement will be in such form and will contain such terms and conditions as the Board deems appropriate. To the extent consistent with the Company's bylaws, at the Board's election, shares of Common Stock may be (x) held in book entry form subject to the Company's instructions until any restrictions relating to the Restricted Stock Award lapse, or (y) evidenced by a certificate, which certificate will be held in such form and manner as determined by the Board. The terms and conditions of Restricted Stock Award Agreements may change from time to time, and the terms and conditions of separate Restricted Stock Award Agreements need not be identical. Each Restricted Stock Award Agreement will conform to (through incorporation of the provisions hereof by reference in the applicable Award Agreement or otherwise) the substance of each of the following provisions:

(i) **Consideration**. A Restricted Stock Award may be awarded in consideration for (A) cash, check, bank draft or money order payable to the Company, (B) past services to the Company or an Affiliate, or (C) any other form of legal consideration (including future services) that may be acceptable to the Board, in its sole discretion, and permissible under applicable law.

(ii) **Vesting**. Shares of Common Stock awarded under the Restricted Stock Award Agreement may be subject to forfeiture to the Company in accordance with a vesting schedule to be determined by the Board and set forth in the Restricted Stock Award Agreement.

(iii) **Termination of Participant's Continuous Service**. If a Participant's Continuous Service terminates, the Company may receive through a forfeiture condition or a repurchase right, any or all of the shares of Common Stock held by the Participant that have not vested as of the date of termination of Continuous Service under the terms of the Restricted Stock Award Agreement.

(iv) **Transferability**. Rights to acquire shares of Common Stock under the Restricted Stock Award Agreement will be transferable by the Participant only upon such terms

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and conditions as are set forth in the Restricted Stock Award Agreement, as the Board will determine in its sole discretion, so long as Common Stock awarded under the Restricted Stock Award Agreement remains subject to the terms of the Restricted Stock Award Agreement.

(v) **Dividends**. A Restricted Stock Award Agreement may provide that any dividends paid on Restricted Stock will be subject to the same vesting and forfeiture restrictions as apply to the shares subject to the Restricted Stock Award to which they relate.

(b) **Restricted Stock Unit Awards**. Each Restricted Stock Unit Award Agreement will be in such form and will contain such terms and conditions as the Board deems appropriate. The terms and conditions of Restricted Stock Unit Award Agreements may change from time to time, and the terms and conditions of separate Restricted Stock Unit Award Agreements need not be identical. Each Restricted Stock Unit Award Agreement will conform to (through incorporation of the provisions hereof by reference in the applicable Award Agreement or otherwise) the substance of each of the following provisions:

(i) **Consideration**. At the time of grant of a Restricted Stock Unit Award, the Board will determine the consideration, if any, to be paid by the Participant upon delivery of each share of Common Stock subject to the Restricted Stock Unit Award. The consideration to be paid (if any) by the Participant for each share of Common Stock subject to a Restricted Stock Unit Award may be paid in any form of legal consideration that may be acceptable to the Board, in its sole discretion, and permissible under applicable law.

(ii) **Vesting**. At the time of the grant of a Restricted Stock Unit Award, the Board may impose such restrictions on or conditions to the vesting of the Restricted Stock Unit Award as it, in its sole discretion, deems appropriate, as set forth in the Restricted Stock Unit Award Agreement.

(iii) **Payment**. A Restricted Stock Unit Award may be settled by the delivery of shares of Common Stock, their cash equivalent, any combination thereof or in any other form of consideration, as determined by the Board and set forth in the Restricted Stock Unit Award Agreement.

(iv) **Additional Restrictions**. At the time of the grant of a Restricted Stock Unit Award, the Board, as it deems appropriate, may impose restrictions or conditions that delay the delivery of the shares of Common Stock (or their cash equivalent) subject to a Restricted Stock Unit Award to a time after the vesting of such Restricted Stock Unit Award.

(v) **Dividend Equivalents**. Dividend equivalents may be credited in respect of shares of Common Stock covered by a Restricted Stock Unit Award, as determined by the Board and set forth in the Restricted Stock Unit Award Agreement. At the sole discretion of the Board, such dividend equivalents may be converted into additional shares of Common Stock covered by the Restricted Stock Unit Award in such manner as determined by the Board. Any additional shares covered by the Restricted Stock Unit Award credited by reason of such dividend equivalents will be subject to all of the same terms and conditions of the underlying Restricted Stock Unit Award Agreement to which they relate.

(vi) **Termination of Participant's Continuous Service**. Except as otherwise provided in the applicable Restricted Stock Unit Award Agreement, such portion of the Restricted Stock Unit Award that has not vested will be forfeited upon the Participant's termination of Continuous Service.

(c) **Performance Awards**.

(i) **Performance Stock Awards**. A Performance Stock Award is a Stock Award (covering a number of shares not in excess of that set forth in Section 3(d) above) that is payable (including that may be granted, may vest or be exercised) contingent upon the attainment during a Performance Period of certain Performance Goals. A Performance Stock Award may, but need not, require the completion of a specified period of Continuous Service. The length of any Performance Period, the Performance Goals to be achieved during the Performance Period, and the measure of whether and to what degree such Performance Goals have been attained will be conclusively determined by the Committee (or, if not required for compliance with Section 162(m) of the Code, the Board), in its sole discretion. In addition, to the extent permitted by applicable law and the applicable Award Agreement, the Board may determine that cash may be used in payment of Performance Stock Awards.

(ii) **Performance Cash Awards**. A Performance Cash Award is a cash award (for a dollar value not in excess of that set forth in Section 3(d) above) that is payable contingent upon the attainment during a Performance Period of certain Performance Goals. A Performance Cash Award may also require the completion of a specified period of Continuous Service. At the time of grant of a Performance Cash Award, the length of any Performance Period, the Performance Goals to be achieved during the Performance Period, and the measure of whether and to what degree such Performance Goals have been attained will be conclusively determined by the Committee (or, if not required for compliance with Section 162(m) of the Code, the Board), in its sole discretion. The Board may specify the form of payment of Performance Cash Awards, which may be cash or other property, or may provide for a Participant to have the option for his or her Performance Cash Award, or such portion thereof as the Board may specify, to be paid, in whole or in part, in cash or other property.

(iii) **Board Discretion**. The Board retains the discretion to reduce or eliminate the compensation or economic benefit due upon attainment of Performance Goals and to define the manner of calculating the Performance Criteria it selects to use for a Performance Period.

(iv) **Section 162(m) Compliance**. Unless otherwise permitted in compliance with the requirements of Section 162(m) of the Code with respect to an Award intended to qualify as "performance-based compensation" thereunder, the Committee will establish the Performance Goals applicable to, and the formula for calculating the amount payable under, the Award no later than the earlier of (A) the date which occurs ninety (90) days after the commencement of the applicable Performance Period, and (B) the date on which twenty-five percent (25%) of the Performance Period has elapsed, and in any event at a time when the achievement of the applicable Performance Goals remains substantially uncertain. Prior to the payment of any compensation under an Award intended to qualify as "performance-based compensation" under Section 162(m) of the Code, the Committee will certify in writing the extent to which any Performance Goals and any other material terms under such Award have

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been satisfied (other than in cases where such Performance Goals relate solely to the increase in the value of the Common Stock). Notwithstanding satisfaction of the achievement of any Performance Goals, the number of shares of Common Stock, Options, cash or other benefits granted, issued, retainable and/or vested under an Award on account of satisfaction of such Performance Goals may be reduced by the Committee on the basis of such further considerations as the Committee, in its sole discretion, will determine.

(d) **Other Stock Awards**. Other forms of Stock Awards valued in whole or in part by reference to, or otherwise based on, Common Stock, including the appreciation in value thereof may be granted either alone or in addition to Stock Awards provided for under Section 5 and the preceding provisions of this Section 6. Subject to the provisions of the Plan, the Board will have sole and complete authority to determine the persons to whom and the time or times at which such Other Stock Awards will be granted, the number of shares of Common Stock (or the cash equivalent thereof) to be granted pursuant to such Other Stock Awards and all other terms and conditions of such Other Stock Awards.

7. **COVENANTS OF THE COMPANY**.

(a) **Availability of Shares**. The Company will keep available at all times the number of shares of Common Stock reasonably required to satisfy then-outstanding Stock Awards.

(b) **Securities Law Compliance**. The Company will seek to obtain from each regulatory commission or agency having jurisdiction over the Plan such authority as may be required to grant Stock Awards and to issue and sell shares of Common Stock upon exercise of the Stock Awards; provided, however, that this undertaking will not require the Company to register under the Securities Act the Plan, any Stock Award or any Common Stock issued or issuable pursuant to any such Stock Award. If, after reasonable efforts and at a reasonable cost, the Company is unable to obtain from any such regulatory commission or agency the authority that counsel for the Company deems necessary for the lawful issuance and sale of Common Stock under the Plan, the Company will be relieved from any liability for failure to issue and sell Common Stock upon exercise of such Stock Awards unless and until such authority is obtained. A Participant will not be eligible for the grant of an Award or the subsequent issuance of cash or Common Stock pursuant to the Award if such grant or issuance would be in violation of any applicable securities law.

(c) **No Obligation to Notify or Minimize Taxes**. The Company will have no duty or obligation to any Participant to advise such Participant as to the time or manner of exercising such Stock Award. Furthermore, the Company will have no duty or obligation to warn or otherwise advise any Participant of a pending termination or expiration of an Award or a possible period during which the Award may not be exercised. The Company has no duty or obligation to minimize the tax consequences of an Award to the holder of such Award.

8. **MISCELLANEOUS**.

(a) **Use of Proceeds from Sales of Common Stock**. Proceeds from the sale of shares of Common Stock pursuant to Stock Awards will constitute general funds of the Company.

(b) **Corporate Action Constituting Grant of Awards**. Corporate action constituting a grant by the Company of an Award to any Participant will be deemed completed as of the date of such corporate action, unless otherwise determined by the Board, regardless of when the instrument, certificate, or letter evidencing the Award is communicated to, or actually received or accepted by, the Participant. In the event that the corporate records (e.g., Board consents, resolutions or minutes) documenting the corporate action constituting the grant contain terms (e.g., exercise price, vesting schedule or number of

shares) that are inconsistent with those in the Award Agreement as a result of a clerical error in the papering of the Award Agreement, the corporate records will control and the Participant will have no legally binding right to the incorrect term in the Award Agreement.

(c) **Stockholder Rights**. No Participant will be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares of Common Stock subject to an Award unless and until (i) such Participant has satisfied all requirements for exercise of, or the issuance of shares of Common Stock under, the Award, pursuant to its terms, and (ii) the issuance of the Common Stock subject to such Award has been entered into the books and records of the Company.

(d) **No Employment or Other Service Rights**. Nothing in the Plan, any Award Agreement or any other instrument executed thereunder or in connection with any Award granted pursuant thereto will confer upon any Participant any right to continue to serve the Company or an Affiliate in the capacity in effect at the time the Award was granted or will affect the right of the Company or an Affiliate to terminate (i) the employment of an Employee with or without notice and with or without cause, including, but not limited to, Cause, (ii) the service of a Consultant pursuant to the terms of such Consultant's agreement with the Company or an Affiliate, or (iii) the service of a Director pursuant to the bylaws of the Company or an Affiliate, and any applicable provisions of the corporate law of the state in which the Company or the Affiliate is incorporated, as the case may be.

(e) **Change in Time Commitment**. In the event a Participant's regular level of time commitment in the performance of his or her services for the Company and any Affiliates is reduced (for example, and without limitation, if the Participant is an Employee of the Company and the Employee has a change in status from a full-time Employee to a part-time Employee or takes an extended leave of absence) after the date of grant of any Award to the Participant, the Board has the right in its sole discretion to (i) make a corresponding reduction in the number of shares or cash amount subject to any portion of such Award that is scheduled to vest or become payable after the date of such change in time commitment, and (ii) in lieu of or in combination with such a reduction, extend the vesting or payment schedule applicable to such Award. In the event of any such reduction or extension, the Participant will only have rights with respect to the Award, as so reduced or extended.

(f) **Incentive Stock Option Limitations.** To the extent that the aggregate Fair Market Value (determined at the time of grant) of Common Stock with respect to which Incentive Stock Options are exercisable for the first time by any Optionholder during any calendar year (under all plans of the Company and any Affiliates) exceeds $100,000 (or such other limit established in the Code) or otherwise does not comply with the rules governing Incentive Stock Options, the Options or portions thereof that exceed such limit (according to the

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order in which they were granted) or otherwise do not comply with such rules will be treated as Nonstatutory Stock Options, notwithstanding any contrary provision of the applicable Option Agreement(s).

(g) **Investment Assurances**. The Company may require a Participant, as a condition of exercising or acquiring Common Stock under any Award, (i) to give written assurances satisfactory to the Company as to the Participant's knowledge and experience in financial and business matters and/or to employ a purchaser representative reasonably satisfactory to the Company who is knowledgeable and experienced in financial and business matters and that he or she is capable of evaluating, alone or together with the purchaser representative, the merits and risks of exercising the Award, and (ii) to give written assurances satisfactory to the Company stating that the Participant is acquiring Common Stock subject to the Award for the Participant's own account and not with any present intention of selling or otherwise distributing the Common Stock. The foregoing requirements, and any assurances given pursuant to such requirements, will be inoperative if (i) the issuance of the shares upon the exercise or acquisition of Common Stock under the Stock Award has been registered under a then currently effective registration statement under the Securities Act, or (ii) as to any particular requirement, a determination is made by counsel for the Company that such requirement need not be met in the circumstances under the then applicable securities laws. The Company may, upon advice of counsel to the Company, place legends on stock certificates issued under the Plan as such counsel deems necessary or appropriate in order to comply with applicable securities laws, including, but not limited to, legends restricting the transfer of the Common Stock.

(h) **Withholding Obligations**. Unless prohibited by the terms of an Award Agreement, the Company may, in its sole discretion, satisfy any federal, state or local tax withholding obligation relating to an Award by any of the following means or by a combination of such means: (i) causing the Participant to tender a cash payment; (ii) withholding shares of Common Stock from the shares of Common Stock issued or otherwise issuable to the Participant in connection with the Award; provided, however, that no shares of Common Stock are withheld with a value exceeding the minimum amount of tax required to be withheld by law (or such lesser amount as may be necessary to avoid classification of the Stock Award as a liability for financial accounting purposes); (iii) withholding cash from an Award settled in cash; (iv) withholding payment from any amounts otherwise payable to the Participant; or (v) by such other method as may be set forth in the Award Agreement.

(i) **Electronic Delivery**. Any reference herein to a "**written**" agreement or document will include any agreement or document delivered electronically, filed publicly at www.sec.gov (or any successor website thereto), or posted on the Company's intranet (or other electronic medium controlled by the Company or a third party administrator designated by the Company, including the Company's stock plan administrator, to which the Participant has access).

(j) **Deferrals**. To the extent permitted by applicable law, the Board, in its sole discretion, may determine that the delivery of Common Stock or the payment of cash, upon the exercise, vesting or settlement of all or a portion of any Award may be deferred and may establish programs and procedures for deferral elections to be made by Participants. Deferrals by Participants will be made in accordance with Section 409A. Consistent with Section 409A, the

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Board may provide for distributions while a Participant is still an employee or otherwise providing services to the Company. The Board is authorized to make deferrals of Awards and determine when, and in what annual percentages, Participants may receive payments, including lump sum payments, following the Participant's termination of Continuous Service, and implement such other terms and conditions consistent with the provisions of the Plan and in accordance with applicable law.

(k) **Compliance with Section 409A**. Unless otherwise expressly provided for in an Award Agreement, the Plan and Award Agreements will be interpreted to the greatest extent possible in a manner that makes the Plan and the Awards granted hereunder exempt from Section 409A, and, to the extent not so exempt, in compliance with Section 409A. If the Board determines that any Award granted hereunder is not exempt from and is therefore subject to Section 409A, the Award Agreement evidencing such Award will incorporate the terms and conditions necessary to avoid the consequences specified in Section 409A(a)(1) of the Code, and to the extent an Award Agreement is silent on terms necessary for compliance, such terms are hereby incorporated by

reference into the Award Agreement. Notwithstanding anything to the contrary in the Plan (and unless the Award Agreement specifically provides otherwise), if the shares of Common Stock are publicly traded, and if a Participant holding an Award that constitutes "deferred compensation" under Section 409A is a "specified employee" for purposes of Section 409A, no distribution or payment of any amount that is due because of a "separation from service" (as defined in Section 409A without regard to alternative definitions thereunder) will be issued or paid before the date that is six (6) months following the date of such Participant's "separation from service" or, if earlier, the date of the Participant's death, unless such distribution or payment can be made in a manner that complies with Section 409A, and any amounts so deferred will be paid in a lump sum on the day after such six (6) month period elapses, with the balance paid thereafter on the original schedule.

(l) **Clawback/Recovery**. All Awards granted under the Plan will be subject to recoupment in accordance with any clawback policy that the Company is required to adopt pursuant to the listing standards of any national securities exchange or association on which the Company's securities are listed or as is otherwise required by the Dodd-Frank Wall Street Reform and Consumer Protection Act or other applicable law. In addition, the Board may impose such other clawback, recovery or recoupment provisions in an Award Agreement as the Board determines necessary or appropriate, including, but not limited to, a reacquisition right in respect of previously acquired shares of Common Stock or other cash or property upon the occurrence of an event that constitutes Cause. No recovery of compensation under such a clawback policy will be an event giving rise to a right to resign for "good reason" or "constructive termination" (or similar term) under any agreement with the Company.

9. **ADJUSTMENTS UPON CHANGES IN COMMON STOCK; OTHER CORPORATE EVENTS**.

(a) **Capitalization Adjustments.** In the event of a Capitalization Adjustment, the Board will appropriately and proportionately adjust: (i) the class(es) and maximum number of securities subject to the Plan pursuant to Section 3(a); (ii) the class(es) and maximum number of securities that may be issued pursuant to the exercise of Incentive Stock Options pursuant to Section 3(c); (iii) the class(es) and maximum number of securities that may be awarded to any

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person pursuant to Section 3(d); and (iv) the class(es) and number of securities and price per share of stock subject to outstanding Stock Awards. The Board will make such adjustments, and its determination will be final, binding and conclusive.

(b) **Dissolution or Liquidation**. Except as otherwise provided in the Stock Award Agreement, in the event of a dissolution or liquidation of the Company, all outstanding Stock Awards (other than Stock Awards consisting of vested and outstanding shares of Common Stock not subject to a forfeiture condition or the Company's right of repurchase) will terminate immediately prior to the completion of such dissolution or liquidation, and the shares of Common Stock subject to the Company's repurchase rights or subject to a forfeiture condition may be repurchased or reacquired by the Company notwithstanding the fact that the holder of such Stock Award is providing Continuous Service; provided, however, that the Board may, in its sole discretion, cause some or all Stock Awards to become fully vested, exercisable and/or no longer subject to repurchase or forfeiture (to the extent such Stock Awards have not previously expired or terminated) before the dissolution or liquidation is completed but contingent on its completion.

(c) **Corporate Transaction**. In the event of a Corporate Transaction, any surviving corporation or acquiring corporation may assume or continue any or all Stock Awards outstanding under the Plan or may substitute similar stock awards for Stock Awards outstanding under the Plan (it being understood that similar stock awards include, but are not limited to, awards to acquire the same consideration paid to the stockholders or the Company, as the case may be, pursuant to the Corporate Transaction), and any reacquisition or repurchase rights held by the Company in respect of Common Stock issued pursuant to Stock Awards may be assigned by the Company to the successor of the Company (or the successor's parent company), if any, in connection with such Corporate Transaction. In the event that any surviving corporation or acquiring corporation does not assume or continue any or all such outstanding Stock Awards or substitute similar stock awards for such outstanding Stock Awards, then with respect to Stock Awards that have not been assumed, continued or substituted and that are held by Participants whose Continuous Service has not terminated prior to the effective time of the Corporate Transaction, the vesting of such Stock Awards (and, if applicable, the time at which such Stock Awards may be exercised) shall (contingent upon the effectiveness of the Corporate Transaction) be accelerated in full to a date prior to the effective time of such Corporate Transaction as the Board shall determine (or, if the Board shall not determine such a date, to the date that is five (5) days prior to the effective time of the Corporate Transaction), the Stock Awards shall terminate if not exercised (if applicable) at or prior to such effective time, and any reacquisition or repurchase rights held by the Company with respect to such Stock Awards held by Participants whose Continuous Service has not terminated shall (contingent upon the effectiveness of the Corporate Transaction) lapse. With respect to any other Stock Awards outstanding under the Plan that have not been assumed, continued or substituted, the vesting of such Stock Awards (and, if applicable, the time at which such Stock Award may be exercised) shall not be accelerated, unless otherwise provided in a written agreement between the Company or any Affiliate and the holder of such Stock Award, and such Stock Awards shall terminate if not exercised (if applicable) prior to the effective time of the Corporate Transaction.

(d) **Change in Control.** A Stock Award held by any Participant whose Continuous Service has not terminated prior to the effective time of a Change in Control may be subject to additional acceleration of vesting and exercisability upon or after such event as may be provided in the Stock Award Agreement for such Stock Award or as may be provided in any other written agreement between the Company or any Affiliate and the Participant, but in the absence of such provision, no such acceleration shall occur.

(e) **Payment for Stock Awards in Lieu of Exercise**. If a Stock Award will terminate if not exercised prior to the effective time of a Corporate Transaction or Change in Control, the Board may provide, in its sole discretion, that the holder of such Stock Award may not exercise such Stock Award but instead will receive a payment, in such form as may be determined by the Board, equal in value, at the effective time, to the excess, if any, of (i) the value of the property the Participant would have received on the exercise of the Stock Award (including, at the discretion of the Board, any unvested portion of such Stock Award), over (ii) any exercise price payable by such holder in connection with such exercise.

(f) **Parachute Payments**.

(i) Except as otherwise expressly provided by the Board, including in a Stock Award Agreement, if any payment or benefit a Participant will or may receive from the Company 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 (a "**Payment**") will be equal to the Reduced Amount. The "Reduced Amount" will 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 Participant'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 will occur in the manner (the "**Reduction Method**") that results in the greatest economic benefit for the Participant. 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**").

(ii) Notwithstanding any provision of Section 9(f)(i) 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, will be modified so as to avoid the imposition of taxes pursuant to Section 409A as follows: (A) as a first priority, the modification will preserve to the greatest extent possible, the greatest economic benefit for the Participant 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), will 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

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meaning of Section 409A will be reduced (or eliminated) before Payments that are not deferred compensation within the meaning of Section 409A.

(iii) If a Participant receives a Payment for which the Reduced Amount was determined pursuant to clause (x) of Section 9(f)(i) and the Internal Revenue Service determines thereafter that some portion of the Payment is subject to the Excise Tax, the Participant will promptly return to the Company a sufficient amount of the Payment (after reduction pursuant to clause (x) of Section 9(f)(i)) 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(f)(i), the Participant will have no obligation to return any portion of the Payment pursuant to the preceding sentence.

10. **TERMINATION OR SUSPENSION OF THE PLAN**.

The Board may suspend or terminate the Plan at any time. No Incentive Stock Options may be granted after the tenth (10th) anniversary of the earlier of (i) the date the Plan is adopted by the Board and (ii) the date the Plan is approved by the stockholders of the Company. No Awards may be granted under the Plan while the Plan is suspended or after it is terminated.

11. **EFFECTIVE DATE OF PLAN**.

The Plan is effective as of the Effective Date.

12. **CHOICE OF LAW**.

The laws of the State of Delaware will govern all questions concerning the construction, validity and interpretation of this Plan, without regard to that state's conflict of laws rules.

13. **DEFINITIONS.** As used in the Plan, the following definitions will apply to the capitalized terms indicated below:

(a) "**Affiliate**" means, at the time of determination, any "parent" or "subsidiary" of the Company, as such terms are defined in Rule 405. The Board will have the authority to determine the time or times at which "parent" or "subsidiary" status is determined within the foregoing definition.

(b) "**Award**" means a Stock Award or a Performance Cash Award.

(c) "**Award Agreement**" means a written agreement between the Company and a Participant evidencing the terms and conditions of an Award.

(d) "**Board**" means the Board of Directors of the Company.

(e) "**Capitalization Adjustment**" means any change that is made in, or other events that occur with respect to, the Common Stock subject to the Plan or subject to any Stock Award after the Effective Date without the receipt of consideration by the Company through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, stock split, reverse stock split, combination of shares, exchange of

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shares, change in corporate structure, or any similar equity restructuring transaction, as that term is used in Statement of Financial Accounting Standards Board Accounting Standards Codification Topic 718 (or any successor thereto). Notwithstanding the foregoing, the conversion of any convertible securities of the Company will not be treated as a Capitalization Adjustment.

(f) "**Cause**" will have the meaning ascribed to such term in any written agreement between the Participant and the Company defining such term. In the absence of such an agreement, such term means, with respect to a Participant, the occurrence of any of the following events: (i) Participant's willful failure substantially to perform the Participant's duties and responsibilities to the Company or deliberate violation of a Company policy; (ii) Participant's commission of any act of fraud, embezzlement, dishonesty or any other willful misconduct that has caused or is reasonably expected to result in material injury to the Company; (iii) unauthorized use or disclosure by Participant of any proprietary information or trade secrets of the Company or any Affiliate or any other party to whom the Participant owes an obligation of nondisclosure as a result of the Participant's relationship with the Company or any Affiliate; or (iv) Participant's willful breach of any of the Participant's obligations under any written agreement or covenant with the Company or any Affiliate. The determination as to whether a Participant is being terminated for Cause will be made in good faith by the Company and will be final and binding on the Participant. Any determination by the Company that the Continuous Service of a Participant was terminated with or without Cause for the purposes of outstanding Stock Awards held by such Participant will have no effect upon any determination of the rights or obligations of the Company or such Participant for any other purpose.

(g) "**Change in Control**" means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) any Exchange Act Person becomes the Owner, directly or indirectly, of securities of the Company representing more than fifty percent (50%) of the combined voting power of the Company's then outstanding securities other than by virtue of a merger, consolidation or similar transaction. Notwithstanding the foregoing, a Change in Control will not be deemed to occur (A) on account of the acquisition of securities of the Company directly from the Company, (B) on account of the acquisition of securities of the Company by an investor, any affiliate thereof or any other Exchange Act Person that acquires the Company's securities in a transaction or series of related transactions the primary purpose of which is to obtain financing for the Company through the issuance of equity securities or (C) solely because the level of Ownership held by any Exchange Act Person (the "**Subject Person**") exceeds the designated percentage threshold of the outstanding voting securities as a result of a repurchase or other acquisition of voting securities by the Company reducing the number of shares outstanding, provided that if a Change in Control would occur (but for the operation of this sentence) as a result of the acquisition of voting securities by the Company, and after such share acquisition, the Subject Person becomes the Owner of any additional voting securities that, assuming the repurchase or other acquisition had not occurred, increases the percentage of the then outstanding voting securities Owned by the Subject Person over the designated percentage threshold, then a Change in Control will be deemed to occur;

(ii) there is consummated a merger, consolidation or similar transaction involving (directly or indirectly) the Company and, immediately after the consummation of such merger, consolidation or similar transaction, more than fifty percent (50%) of the issued and outstanding voting stock of the surviving Entity in such transaction is Owned by persons or Entities who were not Owners (taking into account their individual and affiliated Ownership) as of the Effective Date of at least fifty percent (50%) of the voting stock of the Company;

(iii) the stockholders of the Company approve or the Board approves a plan of complete dissolution or liquidation of the Company, or a complete dissolution or liquidation of the Company shall otherwise occur;

(iv) there is consummated a sale, lease, exclusive license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries, other than a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries to an Entity, more than fifty percent (50%) of the combined voting power of the voting securities of which are Owned by stockholders of the Company in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such sale, lease, license or other disposition; or

(v) individuals who, on the date the Plan is adopted by the Board, are members of the Board (the "**Incumbent Board**") cease for any reason to constitute at least a majority of the members of the Board; provided, however, that if the appointment or election (or nomination for election) of any new Board member 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 Plan, be considered as a member of the Incumbent Board.

Notwithstanding the foregoing definition or any other provision of the Plan, (A) the term Change in Control will not include a sale of assets, merger or other transaction effected exclusively for the purpose of changing the domicile of the Company, and (B) the definition of Change in Control (or any analogous term) in an individual written agreement between the Company or any Affiliate and the Participant will supersede the foregoing definition with respect to Awards subject to such agreement; provided, however, that if no definition of Change in Control or any analogous term is set forth in such an individual written agreement, the foregoing definition will apply.

If required for compliance with Section 409A, in no event will a Change in Control be deemed to have occurred if such transaction is not also a "change in the ownership or effective control of" the Company or "a change in the ownership of a substantial portion of the assets of" the Company as determined under Treasury Regulation Section 1.409A-3(i)(5) (without regard to any alternative definition thereunder). The Board may, in its sole discretion and without a Participant's consent, amend the definition of "Change in Control" to conform to the definition of "Change in Control" under Section 409A, and the regulations thereunder.

(h) "**Code**" means the Internal Revenue Code of 1986, as amended, including any applicable regulations and guidance thereunder.

(i) "**Committee**" means a committee of one (1) or more Directors to whom authority has been delegated by the Board in accordance with Section 2(c).

(j) "**Common Stock**" means the common stock of the Company.

(k) "**Company**" means GTx, Inc., a Delaware corporation.

(l) "**Consultant**" means any person, including an advisor, who is (i) engaged by the Company or an Affiliate to render consulting or advisory services and is compensated for such services, or (ii) serving as a member of the board of directors of an Affiliate and is compensated for such services. However, service solely as a Director, or payment of a fee for such service, will not cause a Director to be considered a "Consultant" for purposes of the Plan. Notwithstanding the foregoing, a person is treated as a Consultant under this Plan only if a Form S-8 Registration Statement under the Securities Act is available to register either the offer or the sale of the Company's securities to such person.

(m) "**Continuous Service**" means that the Participant's service with the Company or an Affiliate, whether as an Employee, Director or Consultant, is not interrupted or terminated. A change in the capacity in which the Participant renders service to the Company or an Affiliate as an Employee, Consultant or Director or a change in the Entity for which the Participant renders such service, provided that there is no interruption or termination of the Participant's service with the Company or an Affiliate, will not terminate a Participant's Continuous Service. For example, a change in status from an Employee of the Company to a Consultant of an Affiliate or to a Director will not constitute an interruption of Continuous Service. If the Entity for which a Participant is rendering services ceases to qualify as an Affiliate, as determined by the Board in its sole discretion, such Participant's Continuous Service will be considered to have terminated on the date such Entity ceases to qualify as an Affiliate. To the extent permitted by law, the Board or the chief executive officer of the Company, in that party's sole discretion, may determine whether Continuous Service will be considered interrupted in the case of (i) any leave of absence approved by the Board or chief executive officer, including sick leave, military leave or any other personal leave, or (ii) transfers between the

Company, an Affiliate, or their successors. In addition, if required for exemption from or compliance with Section 409A, the determination of whether there has been a termination of Continuous Service will be made, and such term will be construed, in a manner that is consistent with the definition of "separation from service" as defined under Treasury Regulation Section 1.409A-1(h) (without regard to any alternative definition thereunder). A leave of absence will be treated as Continuous Service for purposes of vesting in a Stock Award only to such extent as may be provided in the Company's leave of absence policy, in the written terms of any leave of absence agreement or policy applicable to the Participant, or as otherwise required by law.

(n) "**Corporate Transaction**" means the consummation, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) a sale or other disposition of all or substantially all, as determined by the Board in its sole discretion, of the consolidated assets of the Company and its Subsidiaries;

(ii) a sale or other disposition of more than fifty percent (50%) of the outstanding securities of the Company;

(iii) a merger, consolidation or similar transaction following which the Company is not the surviving corporation; or (iv) a merger, consolidation or similar transaction following which the Company is the surviving corporation but the shares of Common Stock outstanding immediately preceding the merger, consolidation or similar transaction are converted or exchanged by virtue of the merger, consolidation or similar transaction into other property, whether in the form of securities, cash or otherwise.

To the extent required for compliance with Section 409A, in no event will an event be deemed a Corporate Transaction if such transaction is not also a "change in the ownership or effective control of" the Company or "a change in the ownership of a substantial portion of the assets of" the Company as determined under Treasury Regulation Section 1.409A-3(i)(5) (without regard to any alternative definition thereunder).

(o) "**Covered Employee**" will have the meaning provided in Section 162(m)(3) of the Code and the regulations promulgated thereunder.

(p) "**Director**" means a member of the Board.

(q) "**Disability**" means, with respect to a Participant, the inability of such Participant to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment that can be expected to result in death or that has lasted or can be expected to last for a continuous period of not less than twelve (12) months as provided in Sections 22(e)(3) and 409A(a)(2)(C)(i) of the Code, and will be determined by the Board on the basis of such medical evidence as the Board deems warranted under the circumstances.

(r) "**Effective Date**" means May 2, 2013, the date of the Company's 2013 Annual Meeting of Stockholders.

(s) "**Employee**" means any person employed by the Company or an Affiliate. However, service solely as a Director, or payment of a fee for such services, will not cause a Director to be considered an "Employee" for purposes of the Plan.

(t) "**Entity**" means a corporation, partnership, limited liability company or other entity.

(u) "**Exchange Act**" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

(v) "**Exchange Act Person**" means any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act), except that "Exchange Act Person" will not include (i) the Company or any Subsidiary of the Company, (ii) any employee benefit plan of the Company or any Subsidiary of the Company or any trustee or other fiduciary holding securities under an employee benefit plan of the Company or any Subsidiary of the Company, (iii) an underwriter temporarily holding securities pursuant to a registered public offering of such securities, (iv) an Entity Owned, directly or indirectly, by the stockholders of the Company in

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substantially the same proportions as their Ownership of stock of the Company, or (v) any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act) that, as of the Effective Date, is the Owner, directly or indirectly, of securities of the Company representing more than fifty percent (50%) of the combined voting power of the Company's then outstanding securities.

(w) "**Fair Market Value**" means, as of any date, the value of the Common Stock determined as follows:

(i) If the Common Stock is listed on any established stock exchange or traded on any established market, the Fair Market Value of a share of Common Stock will be, unless otherwise determined by the Board, the closing sales price for such stock as quoted on such exchange or market (or the exchange or market with the greatest volume of trading in the Common Stock) on the date of determination, as reported in a source the Board deems reliable.

(ii) Unless otherwise provided by the Board, if there is no closing sales price for the Common Stock on the date of determination, then the Fair Market Value will be the closing selling price on the last preceding date for which such quotation exists.

(iii) In the absence of such markets for the Common Stock, the Fair Market Value will be determined by the Board in good faith and in a manner that complies with Sections 409A and 422 of the Code.

(x) "**Incentive Stock Option**" means an option granted pursuant to Section 5 of the Plan that is intended to be, and that qualifies as, an "incentive stock option" within the meaning of Section 422 of the Code.

(y) "**Non-Employee Director**" means a Director who either (i) is not a current Employee or officer of the Company or an Affiliate, does not receive compensation, either directly or indirectly, from the Company or an Affiliate for services rendered as a consultant or in any capacity other than as a Director (except for an amount as to which disclosure would not be required under Item 404(a) of Regulation S-K promulgated pursuant to the Securities Act

("**Regulation S-K**")), does not possess an interest in any other transaction for which disclosure would be required under Item 404(a) of Regulation S-K, and is not engaged in a business relationship for which disclosure would be required pursuant to Item 404(b) of Regulation S-K; or (ii) is otherwise considered a "non-employee director" for purposes of Rule 16b-3.

(z) "**Nonstatutory Stock Option**" means any option granted pursuant to Section 5 of the Plan that does not qualify as an Incentive Stock Option.

(aa) "**Officer**" means a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act.

(bb) "**Option**" means an Incentive Stock Option or a Nonstatutory Stock Option to purchase shares of Common Stock granted pursuant to the Plan.

(cc) "**Option Agreement**" means a written agreement between the Company and an Optionholder evidencing the terms and conditions of an Option grant. Each Option Agreement will be subject to the terms and conditions of the Plan.

(dd) "**Optionholder**" means a person to whom an Option is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Option.

(ee) "**Other Stock Award**" means an award based in whole or in part by reference to the Common Stock which is granted pursuant to the terms and conditions of Section 6(d).

(ff) "**Other Stock Award Agreement**" means a written agreement between the Company and a holder of an Other Stock Award evidencing the terms and conditions of an Other Stock Award grant. Each Other Stock Award Agreement will be subject to the terms and conditions of the Plan.

(gg) "**Outside Director**" means a Director who either (i) is not a current employee of the Company or an "affiliated corporation" (within the meaning of Treasury Regulations promulgated under Section 162(m) of the Code), is not a former employee of the Company or an "affiliated corporation" who receives compensation for prior services (other than benefits under a tax-qualified retirement plan) during the taxable year, has not been an officer of the Company or an "affiliated corporation," and does not receive remuneration from the Company or an "affiliated corporation," either directly or indirectly, in any capacity other than as a Director, or (ii) is otherwise considered an "outside director" for purposes of Section 162(m) of the Code

(hh) "**Own,**" "**Owned,**" "**Owner,**" "**Ownership**" means a person or Entity will be deemed to "Own," to have "Owned," to be the "Owner" of, or to have acquired "Ownership" of securities if such person or Entity, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has or shares voting power, which includes the power to vote or to direct the voting, with respect to such securities.

(ii) "**Participant**" means a person to whom an Award is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Award.

(jj) "**Performance Cash Award**" means an award of cash granted pursuant to the terms and conditions of Section 6(c)(ii).

(kk) "**Performance Criteria**" means the one or more criteria that the Board (or, where applicable, the Compensation Committee) will select for purposes of establishing the Performance Goals for a Performance Period. The Performance Criteria that will be used to establish such Performance Goals may be based on any one of, or combination of, the following as determined by the Board: (i) earnings (including earnings per share and net earnings); (ii) earnings before interest, taxes and depreciation; (iii) earnings before interest, taxes, depreciation and amortization; (iv) earnings before interest, taxes, depreciation, amortization and legal settlements; (v) earnings before interest, taxes, depreciation, amortization, legal settlements and other income (expense); (vi) earnings before interest, taxes, depreciation, amortization, legal settlements, other income (expense) and stock-based compensation; (vii) earnings before interest, taxes, depreciation, amortization, legal settlements, other income (expense), stock-based compensation and changes in deferred revenue; (viii) total stockholder return; (ix) return on

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equity or average stockholder's equity; (x) return on assets, investment, or capital employed; (xi) stock price; (xii) margin (including gross margin); (xiii) income (before or after taxes); (xiv) operating income; (xv) operating income after taxes; (xvi) pre-tax profit; (xvii) operating cash flow; (xviii) sales or revenue targets; (xix) increases in revenue or product revenue; (xx) expenses and cost reduction goals; (xxi) improvement in or attainment of working capital levels; (xxii) economic value added (or an equivalent metric); (xxiii) market share; (xxiv) cash flow; (xxv) cash flow per share; (xxvi) share price performance; (xxvii) debt reduction; (xxviii) implementation or completion of projects or processes; (xxix) entry into or completion of strategic transactions, including but not limited to acquisitions and licensing agreements; (xxx) stockholders' equity; (xxxi) capital expenditures; (xxxii) debt levels; (xxxiii) operating profit or net operating profit; (xxxiv) workforce diversity; (xxxv) growth of net income or operating income; (xxxvi) billings; (xxxvii) performance review results; (xxxviii) employee retention; (xxxix) initiation of phases of clinical trials and/or studies by specified dates; (xxxx) patient enrollment rates; (xxxxi) budget management; (xxxxii) regulatory body approval with respect to products, studies and/or trials; (xxxxiii) patient enrollment; and (xxxxiv) to the extent that an Award is not intended to comply with Section 162(m) of the Code, other measures of performance selected by the Board (or, where applicable, the Compensation Committee).

(ll) "**Performance Goals**" means, for a Performance Period, the one or more goals established by the Board (or, where applicable, the Compensation Committee) for the Performance Period based upon the Performance Criteria. Performance Goals may be based on a Company-wide basis, with respect to one or more business units, divisions, Affiliates, or business segments, and in either absolute terms or relative to the performance of one or more comparable companies or the performance of one or more relevant indices. Unless specified otherwise by the Board (or, where applicable, the Compensation Committee) (i) in the Award Agreement at the time the Award is granted or (ii) in such other document setting forth the Performance Goals at the time the Performance Goals are established, the Board (or, where applicable, the Compensation Committee) will appropriately make adjustments in the method of calculating the attainment of Performance Goals for a Performance Period as follows: (1) to exclude restructuring and/or other nonrecurring charges; (2) to exclude exchange rate effects; (3) to exclude the effects of changes to generally accepted accounting principles; (4) to exclude the effects of any statutory adjustments to corporate tax rates; (5) to exclude the effects of any "extraordinary items" as determined under generally accepted accounting principles; (6) to exclude the dilutive effects of acquisitions or joint ventures; (7) to assume that any business divested by the Company achieved performance

objectives at targeted levels during the balance of a Performance Period following such divestiture; (8) to exclude the effect of any change in the outstanding shares of common stock of the Company by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spin-off, combination or exchange of shares or other similar corporate change, or any distributions to common stockholders other than regular cash dividends; (9) to exclude the effects of stock based compensation and the award of bonuses under the Company's bonus plans; (10) to exclude costs incurred in connection with potential acquisitions or divestitures that are required to be expensed under generally accepted accounting principles; (11) to exclude the goodwill and intangible asset impairment charges that are required to be recorded under generally accepted accounting principles; and (12) to exclude the effect of any other unusual, non-recurring gain or loss or other extraordinary item. In addition, the Board (or, where applicable, the Compensation Committee) retains the discretion to reduce or eliminate the compensation or economic benefit due upon

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attainment of Performance Goals and to define the manner of calculating the Performance Criteria it selects to use for such Performance Period. Partial achievement of the specified criteria may result in the payment or vesting corresponding to the degree of achievement as specified in the Stock Award Agreement or the written terms of a Performance Cash Award.

(mm) "**Performance Period**" means the period of time selected by the Board (or, where applicable, the Compensation Committee) over which the attainment of one or more Performance Goals will be measured for the purpose of determining a Participant's right to and the payment of a Stock Award or a Performance Cash Award. Performance Periods may be of varying and overlapping duration, at the sole discretion of the Board (or, where applicable, the Compensation Committee).

(nn) "**Performance Stock Award**" means a Stock Award granted under the terms and conditions of Section 6(c)(i).

(oo) "**Plan**" means this GTx, Inc. 2013 Equity Incentive Plan, as it may be amended from time to time.

(pp) "**Prior Plans**" means (i) the 2004 Plan, (ii) the Genotherapeutics, Inc. Stock Option Plan, (iii) the GTx, Inc. 2000 Stock Option Plan, (iv) the GTx, Inc. 2001 Stock Option Plan, and (v) the GTX, Inc. 2002 Stock Option Plan, in each case, as amended.

(qq) "**Restricted Stock Award**" means an award of shares of Common Stock which is granted pursuant to the terms and conditions of Section 6(a).

(rr) "**Restricted Stock Award Agreement**" means a written agreement between the Company and a holder of a Restricted Stock Award evidencing the terms and conditions of a Restricted Stock Award grant. Each Restricted Stock Award Agreement will be subject to the terms and conditions of the Plan.

(ss) "**Restricted Stock Unit Award**" means a right to receive shares of Common Stock, cash or other consideration which is granted pursuant to the terms and conditions of Section 6(b).

(tt) "**Restricted Stock Unit Award Agreement**" means a written agreement between the Company and a holder of a Restricted Stock Unit Award evidencing the terms and conditions of a Restricted Stock Unit Award grant. Each Restricted Stock Unit Award Agreement will be subject to the terms and conditions of the Plan.

(uu) "**Retirement**" means a Participant's voluntary termination of Continuous Service with the Company either (i) on or after attaining age sixty-five and after having been employed by the Company for at least ten (10) years or (ii) on or after attaining age fifty-five, after having been employed by the Company for at least ten (10) years and with the written authorization of the chief executive officer of the Company or the Board.

(vv) "**Rule 16b-3**" means Rule 16b-3 promulgated under the Exchange Act or any successor to Rule 16b-3, as in effect from time to time.

(ww) "**Rule 405**" means Rule 405 promulgated under the Securities Act.

(xx) "**Section 409A**" means Section 409A of the Code and the regulations and other guidance thereunder and any state law of similar effect.

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

(zz) "**Stock Appreciation Right**" or "**SAR**" means a right to receive the appreciation on Common Stock that is granted pursuant to the terms and conditions of Section 5.

(aaa) "**Stock Appreciation Right Agreement**" means a written agreement between the Company and a holder of a Stock Appreciation Right evidencing the terms and conditions of a Stock Appreciation Right grant. Each Stock Appreciation Right Agreement will be subject to the terms and conditions of the Plan.

(bbb) "**Stock Award**" means any right to receive an award of Common Stock, or any other award that is based on or otherwise relates to Common Stock, that is granted under the Plan, including an Incentive Stock Option, a Nonstatutory Stock Option, a Restricted Stock Award, a Restricted Stock Unit Award, a Stock Appreciation Right, a Performance Stock Award, or any Other Stock Award.

(ccc) "**Stock Award Agreement**" means a written agreement between the Company and a Participant evidencing the terms and conditions of a Stock Award grant. Each Stock Award Agreement will be subject to the terms and conditions of the Plan.

(ddd) "**Subsidiary**" means, with respect to the Company, (i) any corporation of which more than fifty percent (50%) of the outstanding capital stock having ordinary voting power to elect a majority of the board of directors of such corporation (irrespective of whether, at the time, stock of any other class or classes of such corporation will have or might have voting power by reason of the happening of any contingency) is at the time, directly or indirectly, Owned by the Company, and (ii) any partnership, limited liability company or other entity in which the Company has a direct or indirect interest (whether in the form of voting or participation in profits or capital contribution) of more than fifty percent (50%).

(eee) "**Ten Percent Stockholder**" means a person who Owns (or is deemed to Own pursuant to Section 424(d) of the Code) stock possessing more than ten percent (10%) of the total combined voting power of all classes of stock of the Company or any Affiliate.

GTX, INC.

2013 NON-EMPLOYEE DIRECTOR EQUITY INCENTIVE PLAN

ADOPTED BY THE BOARD: FEBRUARY 14, 2013
APPROVED BY THE STOCKHOLDERS: MAY 2, 2013

1. GENERAL.

(a) This GTx, Inc. (the "***Company***") 2013 Non-Employee Director Equity Incentive Plan (the "***Plan***") is the successor to and continuation of the Company's Amended and Restated 2004 Non-Employee Directors' Stock Option Plan (the "***Prior Plan***"). Following the Effective Date, no additional stock awards will be granted under the Prior Plan. Any unallocated shares that otherwise remain available for grant under the Prior Plan as of 12:01 a.m. Eastern Standard Time on the Effective Date (the "***Prior Plan's Available Reserve***") will cease to be available under the Prior Plan at such time. Instead, that number of shares of Common Stock equal to the Prior Plan's Available Reserve will be added to the Share Reserve (as further described in Section 3(a) below) and become immediately available for grant and issuance pursuant to Stock Awards granted under the Plan. For clarity, each outstanding stock award granted under the Prior Plan remains subject to the terms of the Prior Plan. From and after the Effective Date, any shares subject to outstanding stock awards granted under the Prior Plan that (i) expire or terminate for any reason prior to exercise or settlement, (ii) are forfeited because of the failure to meet a contingency or condition required to vest such shares or are repurchased at the original issuance price, or (iii) are otherwise reacquired or are withheld (or not issued) in connection with an award (the "***Returning Shares***") will immediately be added to the Share Reserve (as further described in Section 3(a) below) as and when such shares become Returning Shares, and become available for issuance pursuant to Awards granted hereunder. All Awards granted on or after the Effective Date of the Plan will be subject to the terms of the Plan.

(b) **Eligible Award Recipients.** The persons eligible to receive Awards are the Non-Employee Directors of the Company who are providing services to the Company in such capacity at the time an Award is granted hereunder.

(c) **Available Awards**. The Plan provides for the grant of the following Awards: (i) Nonstatutory Stock Options; (ii) Stock Appreciation Rights; (iii) Restricted Stock Awards; (iv) Restricted Stock Unit Awards; (v) Performance Stock Awards; (vi) Performance Cash Awards; and (vii) Other Stock Awards.

(d) **Purpose.** The Company, by means of the Plan, seeks to retain the services of its Non-Employee Directors, to secure and retain the services of new Non-Employee Directors and to provide incentives for such persons to exert maximum efforts for the success of the Company and its Affiliates.

2. ADMINISTRATION.

(a) **Administration by Board.** The Board will administer the Plan.

(b) **Powers of Board.** The Board will have the power, subject to, and within the limitations of, the express provisions of the Plan:

(i) To determine (A) the Non-Employee Directors who will be granted Awards, (B) when and how each Award will be granted, (C) what type of Award will be granted, (D) the provisions of each Award (which need not be identical), including when a Participant will be permitted to exercise or otherwise receive cash or Common Stock under the Award, (E) the number of shares of Common Stock subject to, or the cash value of, an Award, and (F) the Fair Market Value applicable to a Stock Award.

(ii) To construe and interpret the Plan and Awards granted under it, and to establish, amend and revoke rules and regulations for administration of the Plan and Awards. The Board, in the exercise of these powers, may correct any defect, omission or inconsistency in the Plan or in any Award Agreement or in the written terms of a Performance Cash Award, in a manner and to the extent it will deem necessary or expedient to make the Plan or Award fully effective.

(iii) To settle all controversies regarding the Plan and Awards granted under it.

(iv) To accelerate, in whole or in part, the time at which an Award may be exercised or vest (or at which cash or shares of Common Stock may be issued).

(v) To suspend or terminate the Plan at any time. Except as otherwise provided in the Plan or an Award Agreement, suspension or termination of the Plan will not materially impair a Participant's rights under any of the Participant's then-outstanding Awards without the Participant's written consent, except as provided in subsection (viii) below.

(vi) To amend the Plan in any respect the Board deems necessary or advisable, including, without limitation, adopting amendments relating to nonqualified deferred compensation under Section 409A and/or making the Plan or Awards granted under the Plan exempt from or compliant with the requirements for nonqualified deferred compensation under Section 409A, subject to the limitations, if any, of applicable law. If required by applicable law or listing requirements, and except as provided in Section 9(a) relating to Capitalization Adjustments, the Company will seek stockholder approval of any amendment of the Plan that (A) materially increases the number of shares of Common Stock available for issuance under the Plan, (B) materially expands the class of individuals eligible to receive Awards under the Plan, (C) materially increases the benefits accruing to Participants under the Plan, (D) materially reduces the price at which shares of Common Stock may be issued or purchased under the Plan, (E) materially extends the term of the Plan, or (F) materially expands the types of Awards available for issuance under the Plan. Except as otherwise provided in the Plan (including subsection (viii) below) or an Award Agreement, no amendment of the Plan will materially impair a Participant's rights under an outstanding Award without the Participant's written consent.

(vii) To submit any amendment to the Plan for stockholder approval.

(viii) To approve forms of Award Agreements for use under the Plan and to amend the terms of any one or more outstanding Awards, including, but not limited to,

amendments to provide terms more favorable to the Participant than previously provided in the Award Agreement, subject to any specified limits in the Plan that are not subject to Board discretion; *provided*, that no such amendment shall materially impair a Participant's rights under an existing Award unless the Company requests the consent of the affected Participant, and the Participant consents in writing. A Participant's rights will not be deemed to have been materially impaired by any such amendment if the Board, in its sole discretion, determines that the amendment, taken as a whole, does not materially impair the Participant's rights. In addition, subject to the limitations of applicable law, if any, the Board may amend the terms of any one or more Awards without the affected Participant's consent (A) to clarify the manner of exemption from, or to bring the Award into compliance with, Section 409A, or (B) to comply with other applicable laws or listing requirements.

(ix) Generally, to exercise such powers and to perform such acts as the Board deems necessary or expedient to promote the best interests of the Company and that are not in conflict with the provisions of the Plan and/or Award Agreements.

(x) To adopt such procedures and sub-plans as are necessary or appropriate to permit participation in the Plan by Non-Employee Directors who are foreign nationals or providing services outside the United States (provided that Board approval will not be necessary for immaterial modifications to the Plan or any Award Agreement that are required for compliance with the laws of the relevant foreign jurisdiction).

(xi) To effect, with the consent of any adversely affected Participant, (A) the reduction of the exercise, purchase or strike price of any outstanding Stock Award, (B) the cancellation of any outstanding Stock Award and the grant in substitution therefor of a new (1) Option or SAR, (2) Restricted Stock Award, (3) Restricted Stock Unit Award, (4) Other Stock Award, (5) cash award and/or (6) award of other valuable consideration determined by the Board, in its sole discretion, with any such substituted award (x) covering the same or a different number of shares of Common Stock as the cancelled Stock Award and (y) granted under the Plan or another equity or compensatory plan of the Company, or (C) any other action that is treated as a repricing under generally accepted accounting principles.

(xii) To delegate, to the extent permitted by applicable law and market listing standards, the administration of the Plan to a duly authorized committee or subcommittee of the Board.

(c) Effect of Board's Decision. All determinations, interpretations and constructions made by the Board in good faith will not be subject to review by any person and will be final, binding and conclusive on all persons.

3. SHARES SUBJECT TO THE PLAN.

(a) Share Reserve.

(i) Subject to Section 9(a) relating to Capitalization Adjustments, the aggregate number of shares of Common Stock that may be issued pursuant to Stock Awards under the Plan as of the Effective Date initially will be equal to the sum of (A) twenty thousand (20,000) shares of Common Stock (provided that such shares may not be issued in respect of

Awards until such shares have been registered on Form S-8 under the Securities Act), (B) the shares that are subject to the Prior Plan's Available Reserve on the Effective Date, provided that such number will not exceed twenty thousand four hundred (20,400) shares, and (C) the Returning Shares, but only if, as and when such shares become Returning Shares, provided that such number will not exceed forty-four thousand, nine hundred and sixty six (44,966) shares (such sum, the "***Share Reserve***").

(ii) In addition, on January 1st of each year, for ten years, commencing on January 1, 2014, the Share Reserve will automatically be increased by a number of shares of Common Stock equal to the lesser of (A) one percent (1%) of the total number of shares of Common Stock outstanding on December 31st of the preceding calendar year and (B) fifty thousand (50,000) shares of Common Stock. The Board may act prior to January 1st of a given year to provide that there will be no January 1st increase in the Share Reserve for such year or that the increase in the Share Reserve for such year will be a smaller number of shares of Common Stock than would otherwise occur pursuant to the preceding sentence.

(iii) For clarity, the Share Reserve is a limitation on the number of shares of Common Stock that may be issued under the Plan. As a single share may be subject to grant more than once (*e.g.*, if an Option expires unexercised, the shares underlying such expired Option may be made subject to new Stock Awards), the Share Reserve is not a limit on the number of Stock Awards that can be granted under the Plan.

(iv) Shares may be issued under the terms of the Plan in connection with a merger or acquisition as permitted by NASDAQ Listing Rule 5635(c), or, if applicable, NYSE Listed Company Manual Section 303A.08, AMEX Company Guide Section 711, or other applicable rule, and such issuance will not reduce the number of shares available for issuance under the Plan.

(b) Reversion of Shares to the Share Reserve. If a Stock Award or any portion of a Stock Award (i) expires or otherwise terminates without all of the shares covered by the Stock Award having been issued or (ii) is settled in cash (*i.e.*, the Participant receives cash rather than stock), such expiration, termination or settlement will not reduce (or otherwise offset) the number of shares of Common Stock that are available for issuance under the Plan. If any shares of Common Stock issued under a Stock Award are forfeited back to or repurchased by the Company because of the failure to meet a contingency or condition required to vest such shares in the Participant, then the shares that are forfeited or repurchased will revert to and again become available for issuance under the Plan. Any shares reacquired by the Company in satisfaction of tax withholding obligations on a Stock Award, if applicable, or as consideration for the exercise or purchase price of a Stock Award will again become available for issuance under the Plan.

(c) Source of Shares. The stock issuable under the Plan will be shares of authorized but unissued or reacquired Common Stock, including shares repurchased by the Company on the open market or otherwise.

4. ELIGIBILITY.

Stock Awards may be granted to Non-Employee Directors at such times and in such amounts as determined by the Board in its sole discretion; *provided, however,* that no Non-Employee Director will receive Stock Awards covering more than thirty thousand (30,000) shares of Common Stock in any one calendar year. Notwithstanding the foregoing, a Non-Employee Director shall not be eligible for the grant of an Award under the Plan if the Non-Employee Director is the Owner, directly or indirectly, of securities of the Company representing more than ten percent (10%) of the combined voting power of the Company's then outstanding securities.

5. PROVISIONS RELATING TO OPTIONS AND STOCK APPRECIATION RIGHTS.

Each Option or SAR will be in such form and will contain such terms and conditions as the Board deems appropriate. All Options will be Nonstatutory Stock Options. The provisions of separate Options or SARs need not be identical; *provided, however,* that each Award Agreement will conform to (through incorporation of provisions hereof by reference in the applicable Award Agreement or otherwise) the substance of each of the following provisions:

(a) Term. No Option or SAR will be exercisable after the expiration of ten (10) years from the date of its grant or such shorter period specified in the Award Agreement.

(b) Exercise Price. The exercise or strike price of each Option or SAR will be not less than 100% of the Fair Market Value of the Common Stock subject to the Option or SAR on the date the Award is granted. Notwithstanding the foregoing, an Option or SAR may be granted with an exercise or strike price lower than 100% of the Fair Market Value of the Common Stock subject to the Award if such Award is granted pursuant to an assumption of or substitution for another option or stock appreciation right pursuant to a Corporate Transaction and in a manner consistent with the provisions of Section 409A and, if applicable, Section 424(a) of the Code. Each SAR will be denominated in Common Stock equivalents.

(c) Purchase Price for Options. The purchase price of Common Stock acquired pursuant to the exercise of an Option may be paid, to the extent permitted by applicable law and as determined by the Board in its sole discretion, by any combination of the methods of payment set forth below. The Board will have the authority to grant Options that do not permit all of the following methods of payment (or otherwise restrict the ability to use certain methods) and to grant Options that require the consent of the Company to use a particular method of payment. The permitted methods of payment are as follows:

(i) by cash, which may be in the form of a check, bank draft, money order, wire transfer or similar electronic transfer of readily available funds;

(ii) pursuant to a program developed under Regulation T as promulgated by the Federal Reserve Board that, prior to the issuance of the stock subject to the Option, results in either the receipt of cash by the Company or the receipt of irrevocable instructions to pay the aggregate exercise price to the Company from the sales proceeds;

(iii) by delivery to the Company (either by actual delivery or attestation) of shares of Common Stock;

(iv) by a "net exercise" arrangement pursuant to which the Company will reduce the number of shares of Common Stock issuable upon exercise by the largest whole number of shares with a Fair Market Value that does not exceed the aggregate exercise price; *provided, however,* that the Company will accept cash or other payment from the Participant to the extent of any remaining balance of the aggregate exercise price not satisfied by such reduction in the number of whole shares to be issued. Shares of Common Stock will no longer be subject to an Option and will not be exercisable thereafter to the extent that (A) shares issuable upon exercise are used to pay the exercise price pursuant to the "net exercise," or (B) shares are delivered to the Participant as a result of such exercise; or

(v) in any other form of legal consideration that may be acceptable to the Board and specified in the applicable Award Agreement.

(d) Exercise and Payment of a SAR. To exercise any outstanding SAR, the Participant must provide written notice of exercise to the Company in compliance with the provisions of the Stock Appreciation Right Agreement evidencing such SAR. The appreciation distribution payable on the exercise of a SAR will be not greater than an amount equal to the excess of (A) the aggregate Fair Market Value (on the date of the exercise of the SAR) of a number of shares of Common Stock equal to the number of Common Stock equivalents in which the Participant is vested under such SAR and with respect to which the Participant is exercising the SAR on such date, over (B) the aggregate exercise price of the number of Common Stock equivalents with respect to which the Participant is exercising the SAR on such date. The appreciation distribution may be paid in Common Stock, in cash, in any combination of the two or in any other form of consideration, as determined by the Board and contained in the Stock Appreciation Right Agreement evidencing such SAR.

(e) Transferability of Options and SARs. The Board may, in its sole discretion, impose such limitations on the transferability of Options and SARs as the Board will determine. In the absence of a determination by the Board to the contrary, the following restrictions on the transferability of Options and SARs will apply:

(i) Restrictions on Transfer. An Option or SAR will not be transferable except by will or by the laws of descent and distribution (or pursuant to subsections (ii) and (iii) below), and will be exercisable during the lifetime of the Participant only by the Participant. The Board may permit transfer of the Option or SAR in a manner that is not prohibited by applicable tax and securities laws. Except as explicitly provided herein, neither an Option nor a SAR may be transferred for consideration.

(ii) Domestic Relations Orders. Subject to the approval of the Board, an Option or SAR may be transferred pursuant to the terms of a domestic relations order, official marital settlement agreement or other divorce or separation instrument.

(iii) Beneficiary Designation. Subject to the approval of the Board, a Participant may, by delivering written notice to the Company, in a form approved by the

Company (or the designated broker), designate a third party who, on the death of the Participant, will thereafter be entitled to exercise the Option or SAR and receive the Common Stock or other consideration resulting from such exercise. In the absence of such a designation, the executor or administrator of the Participant's estate will be entitled to exercise the Option or SAR and receive the Common Stock or other consideration resulting from such exercise. However, the Company may prohibit designation of a beneficiary at any time, including due to any conclusion by the Company that such designation would be inconsistent with the provisions of applicable laws.

(f) Vesting Generally. The total number of shares of Common Stock subject to an Option or SAR may vest and therefore become exercisable in periodic installments that may or may not be equal. The Option or SAR may be subject to such other terms and conditions on the time or times when it may or may not be exercised (which may be based on the satisfaction of Performance Goals or other criteria) as the Board may deem appropriate. The vesting provisions of individual Options or SARs may vary.

(g) Termination of Continuous Service. Except as otherwise provided in the applicable Award Agreement, or other agreement between the Participant and the Company, if a Participant's Continuous Service terminates (other than for Cause and other than upon the Participant's death or Disability), the Participant may exercise his or her Option or SAR (to the extent that the Participant was entitled to exercise such Award as of the date of termination of Continuous Service) within the period of time ending on the earlier of (i) the date which occurs three (3) months following the termination of the Participant's Continuous Service and (ii) the expiration of the term of the Option or SAR as set forth in the applicable Option Agreement or Stock Appreciation Right Agreement. If, after termination of Continuous Service, the Participant does not exercise the Participant's Option or SAR within the applicable time frame, the Option or SAR will terminate.

(h) Extension of Termination Date. If the exercise of an Option or SAR following the termination of the Participant's Continuous Service (other than for Cause and other than upon the Participant's death or Disability) would be prohibited at any time solely because the issuance of shares of Common Stock would violate the registration requirements under the Securities Act, then the Option or SAR will terminate on the earlier of (i) the expiration of a total period of three (3) months (that need not be consecutive) after the termination of the Participant's Continuous Service during which the exercise of the Option or SAR would not be in violation of such registration requirements, and (ii) the expiration of the term of the Option or SAR as set forth in the applicable Award Agreement. In addition, unless otherwise provided in a Participant's applicable Award Agreement, if the sale of any Common Stock received upon exercise of an Option or SAR following the termination of the Participant's Continuous Service (other than for Cause) would violate the Company's insider trading policy, then the Option or SAR will terminate on the earlier of (i) the expiration of a period of months (that need not be consecutive) equal to the applicable post-termination exercise period after the termination of the Participant's Continuous Service during which the sale of the Common Stock received upon exercise of the Option or SAR would not be in violation of the Company's insider trading policy, or (ii) the expiration of the term of the Option or SAR as set forth in the applicable Option Agreement or Stock Appreciation Right Agreement.

(i) Disability of Participant. Except as otherwise provided in the applicable Award Agreement, or other agreement between the Participant and the Company, if a Participant's Continuous Service terminates as a result of the Participant's Disability, the Participant may exercise the Participant's Option or SAR (to the extent that the Participant was entitled to exercise such Option or SAR as of the date of termination of Continuous Service), but only within such period of time ending on the earlier of (i) the date which occurs twelve (12) months following such termination of Continuous Service, and (ii) the expiration of the term of the Option or SAR as set forth in the applicable Award Agreement. If, after termination of Continuous Service, the Participant does not exercise the Participant's Option or SAR within the applicable time frame, the Option or SAR (as applicable) will terminate.

(j) Death of Participant. Except as otherwise provided in the applicable Award Agreement, or other agreement between the Participant and the Company, if (i) a Participant's Continuous Service terminates as a result of the Participant's death, or (ii) the Participant dies within the period (if any) specified in the applicable Option Agreement or Stock Appreciation Right Agreement for exercisability after the termination of the Participant's Continuous Service (for a reason other than death), then the Option or SAR may be exercised (to the extent the Participant was entitled to exercise such Option or SAR as of the date of death) by the Participant's estate, by a person who acquired the right to exercise the Option or SAR by bequest or inheritance or by a person designated to exercise the Option or SAR upon the Participant's death, but only within the period ending on the earlier of (i) the date which occurs eighteen (18) months following the date of death, and (ii) the expiration of the term of such Option or SAR as set forth in the applicable Option Agreement or Stock Appreciation Right Agreement. If, after the Participant's death, the Option or SAR is not exercised within the applicable time frame, the Option or SAR will terminate.

(k) Termination for Cause. Except as explicitly provided otherwise in a Participant's Award Agreement or other individual written agreement between the Company and the Participant, if a Participant's Continuous Service is terminated for Cause, the Option or SAR will terminate upon the date on which the event giving rise to the termination for Cause first occurred, and the Participant will be prohibited from exercising his or her Option or SAR from and after the date on which the event giving rise to the termination for Cause first occurred (or, if required by law, the date of termination of Continuous Service). If a Participant's Continuous Service is suspended pending an investigation of the existence of Cause, all of the Participant's rights under the Option or SAR will also be suspended during the investigation period.

6. PROVISIONS OF STOCK AWARDS OTHER THAN OPTIONS AND SARS.

(a) Restricted Stock Awards. Each Restricted Stock Award Agreement will be in such form and will contain such terms and conditions as the Board deems appropriate. To the extent consistent with the Company's bylaws, at the Board's election, shares of Common Stock may be (x) held in book entry form subject to the Company's instructions until any restrictions relating to the Restricted Stock Award lapse, or (y) evidenced by a certificate, which certificate will be held in such form and manner as determined by the Board. The terms and conditions of Restricted Stock Award Agreements may change from time to time, and the terms and conditions of separate Restricted Stock Award Agreements need not be identical. Each Restricted Stock Award Agreement will conform to (through incorporation of the provisions hereof by reference

in the applicable Award Agreement or otherwise) the substance of each of the following provisions:

(i) Consideration. A Restricted Stock Award may be awarded in consideration for (A) cash, check, bank draft or money order payable to the Company, (B) past services to the Company or an Affiliate, or (C) any other form of legal consideration (including future services) that may be acceptable to the Board, in its sole discretion, and permissible under applicable law.

(ii) Vesting. Shares of Common Stock awarded under the Restricted Stock Award Agreement may be subject to forfeiture to the Company in accordance with a vesting schedule to be determined by the Board and set forth in the Restricted Stock Award Agreement.

(iii) Termination of Participant's Continuous Service. If a Participant's Continuous Service terminates, the Company may receive through a forfeiture condition or a repurchase right, any or all of the shares of Common Stock held by the Participant that have not vested as of the date of termination of Continuous Service under the terms of the Restricted Stock Award Agreement.

(iv) Transferability. Rights to acquire shares of Common Stock under the Restricted Stock Award Agreement will be transferable by the Participant only upon such terms and conditions as are set forth in the Restricted Stock Award Agreement, as the Board will determine in its sole discretion, so long as Common Stock awarded under the Restricted Stock Award Agreement remains subject to the terms of the Restricted Stock Award Agreement.

(v) Dividends. A Restricted Stock Award Agreement may provide that any dividends paid on Restricted Stock will be subject to the same vesting and forfeiture restrictions as apply to the shares subject to the Restricted Stock Award to which they relate.

(b) Restricted Stock Unit Awards. Each Restricted Stock Unit Award Agreement will be in such form and will contain such terms and conditions as the Board deems appropriate. The terms and conditions of Restricted Stock Unit Award Agreements may change from time to time, and the terms and conditions of separate Restricted Stock Unit Award Agreements need not be identical. Each Restricted Stock Unit Award Agreement will conform to (through incorporation of the provisions hereof by reference in the applicable Award Agreement or otherwise) the substance of each of the following provisions:

(i) Consideration. At the time of grant of a Restricted Stock Unit Award, the Board will determine the consideration, if any, to be paid by the Participant upon delivery of each share of Common Stock subject to the Restricted Stock Unit Award. The consideration to be paid (if any) by the Participant for each share of Common Stock subject to a Restricted Stock Unit Award may be paid in any form of legal consideration that may be acceptable to the Board, in its sole discretion, and permissible under applicable law.

(ii) Vesting. At the time of the grant of a Restricted Stock Unit Award, the Board may impose such restrictions on or conditions to the vesting of the Restricted Stock Unit Award as it, in its sole discretion, deems appropriate, as set forth in the Restricted Stock Unit Award Agreement.

(iii) Payment. A Restricted Stock Unit Award may be settled by the delivery of shares of Common Stock, their cash equivalent, any combination thereof or in any other form of consideration, as determined by the Board and set forth in the Restricted Stock Unit Award Agreement.

(iv) Additional Restrictions. At the time of the grant of a Restricted Stock Unit Award, the Board, as it deems appropriate, may impose restrictions or conditions that delay the delivery of the shares of Common Stock (or their cash equivalent) subject to a Restricted Stock Unit Award to a time after the vesting of such Restricted Stock Unit Award.

(v) Dividend Equivalents. Dividend equivalents may be credited in respect of shares of Common Stock covered by a Restricted Stock Unit Award, as determined by the Board and set forth in the Restricted Stock Unit Award Agreement. At the sole discretion of the Board, such dividend equivalents may be converted into additional shares of Common Stock covered by the Restricted Stock Unit Award in such manner as determined by the Board. Any additional shares covered by the Restricted Stock Unit Award credited by reason of such dividend equivalents will be subject to all of the same terms and conditions of the underlying Restricted Stock Unit Award Agreement to which they relate.

(vi) Termination of Participant's Continuous Service. Except as otherwise provided in the applicable Restricted Stock Unit Award Agreement, such portion of the Restricted Stock Unit Award that has not vested will be forfeited upon the Participant's termination of Continuous Service.

(c) Performance Awards.

(i) Performance Stock Awards. A Performance Stock Award is a Stock Award that is payable (including that may be granted, may vest or be exercised) contingent upon the attainment during a Performance Period of certain Performance Goals. A Performance Stock Award may, but need not, require the completion of a specified period of Continuous Service. The length of any Performance Period, the Performance Goals to be achieved during the Performance Period, and the measure of whether and to what degree such Performance Goals have been attained will be conclusively determined by the Board, in its sole discretion. In addition, to the extent permitted by applicable law and the applicable Award Agreement, the Board may determine that cash may be used in payment of Performance Stock Awards.

(ii) Performance Cash Awards. A Performance Cash Award is a cash award that is payable contingent upon the attainment during a Performance Period of certain Performance Goals. A Performance Cash Award may also require the completion of a specified period of Continuous Service. At the time of grant of a Performance Cash Award, the length of any Performance Period, the Performance Goals to be achieved during the Performance Period, and the measure of whether and to what degree such Performance Goals have been attained will be conclusively determined by the Board, in its sole discretion. The Board may specify the form of payment of Performance Cash Awards, which may be cash or other property, or may provide for a Participant to have the option for his or her Performance Cash Award, or such portion thereof as the Board may specify, to be paid, in whole or in part, in cash or other property.

(iii) Board Discretion. The Board retains the discretion to reduce or eliminate the compensation or economic benefit due upon attainment of Performance Goals and to define the manner of calculating the Performance Criteria it selects to use for a Performance Period.

(d) Other Stock Awards. Other forms of Stock Awards valued in whole or in part by reference to, or otherwise based on, Common Stock, including the appreciation in value thereof may be granted either alone or in addition to Stock Awards provided for under Section 5 and the preceding provisions of this Section 6. Subject to the provisions of the Plan, the Board will have sole and complete authority to determine the Non-Employee Directors to whom and the time or times at which such Other Stock Awards will be granted, the number of shares of Common Stock (or the cash equivalent thereof) to be granted pursuant to such Other Stock Awards and all other terms and conditions of such Other Stock Awards.

7. COVENANTS OF THE COMPANY.

(a) Availability of Shares. The Company will keep available at all times the number of shares of Common Stock reasonably required to satisfy then-outstanding Stock Awards.

(b) Securities Law Compliance. The Company will seek to obtain from each regulatory commission or agency having jurisdiction over the Plan such authority as may be required to grant Stock Awards and to issue and sell shares of Common Stock upon exercise of the Stock Awards; *provided, however,* that this undertaking will not require the Company to register under the Securities Act the Plan, any Stock Award or any Common Stock issued or issuable pursuant to any such Stock Award. If, after reasonable efforts and at a reasonable cost, the Company is unable to obtain from any such regulatory commission or agency the authority that counsel for the Company deems necessary for the lawful issuance and sale of Common Stock under the Plan, the Company will be relieved from any liability for failure to issue and sell Common Stock upon exercise of such Stock Awards unless and until such authority is obtained. A Participant will not be eligible for the grant of an Award or the subsequent issuance of cash or Common Stock pursuant to the Award if such grant or issuance would be in violation of any applicable securities law.

(c) No Obligation to Notify or Minimize Taxes. The Company will have no duty or obligation to any Participant to advise such Participant as to the time or manner of exercising such Stock Award. Furthermore, the Company will have no duty or obligation to warn or otherwise advise any Participant of a pending termination or expiration of an Award or a possible period during which the Award may not be exercised. The Company has no duty or obligation to minimize the tax consequences of an Award to the holder of such Award.

8. MISCELLANEOUS.

(a) Use of Proceeds from Sales of Common Stock. Proceeds from the sale of shares of Common Stock pursuant to Stock Awards will constitute general funds of the Company.

(b) Corporate Action Constituting Grant of Awards. Corporate action constituting a grant by the Company of an Award to any Participant will be deemed completed as of the date of such corporate action, unless otherwise determined by the Board, regardless of when the instrument, certificate, or letter evidencing the Award is communicated to, or actually received

or accepted by, the Participant. In the event that the corporate records (*e.g.*, Board consents, resolutions or minutes) documenting the corporate action constituting the grant contain terms (*e.g.*, exercise price, vesting schedule or number of shares) that are inconsistent with those in the Award Agreement as a result of a clerical error in the papering of the Award Agreement, the corporate records will control and the Participant will have no legally binding right to the incorrect term in the Award Agreement.

(c) Stockholder Rights. No Participant will be deemed to be the holder of, or to have any of the rights of a holder with respect to, any shares of Common Stock subject to an Award unless and until (i) such Participant has satisfied all requirements for exercise of, or the issuance of shares of Common Stock under, the Award, pursuant to its terms, and (ii) the issuance of the Common Stock subject to such Award has been entered into the books and records of the Company.

(d) No Employment or Other Service Rights. Nothing in the Plan, any Award Agreement or any other instrument executed thereunder or in connection with any Award granted pursuant thereto will confer upon any Participant any right to continue to serve the Company or an Affiliate in the capacity in effect at the time the Award was granted or will affect the right of the Company or an Affiliate to terminate (i) the service of a Director pursuant to the bylaws of the Company or an Affiliate, and any applicable provisions of the corporate law of the state in which the Company or the Affiliate is incorporated, as the case may be; the service of a Consultant pursuant to the terms of such Consultant's agreement with the Company or an Affiliate; or (iii) the employment of an Employee with or without notice and with or without cause, including, but not limited to, Cause.

(e) Investment Assurances. The Company may require a Participant, as a condition of exercising or acquiring Common Stock under any Award, (i) to give written assurances satisfactory to the Company as to the Participant's knowledge and experience in financial and business matters and/or to employ a purchaser representative reasonably satisfactory to the Company who is knowledgeable and experienced in financial and business matters and that he or she is capable of evaluating, alone or together with the purchaser representative, the merits and risks of exercising the Award, and (ii) to give written assurances satisfactory to the Company stating that the Participant is acquiring Common Stock subject to the Award for the Participant's own account and not with any present intention of selling or otherwise distributing the Common Stock. The foregoing requirements, and any assurances given pursuant to such requirements, will be inoperative if (i) the issuance of the shares upon the exercise or acquisition of Common Stock under the Stock Award has been registered under a then currently effective registration statement under the Securities Act, or (ii) as to any particular requirement, a determination is made by counsel for the Company that such requirement need not be met in the circumstances under the then applicable securities laws. The Company may, upon advice of counsel to the Company, place legends on stock certificates issued under the Plan as such counsel deems necessary or appropriate in order to comply with applicable securities laws, including, but not limited to, legends restricting the transfer of the Common Stock.

(i) Withholding Obligations. A Participant may satisfy any federal, state or local tax withholding obligation relating to an Award by any of the following means (in addition to the Company's right to withhold from any compensation paid to the Participant by the

Company, if applicable) or by a combination of such means: (i) tendering a cash payment; (ii) authorizing the Company to withhold shares of Common Stock from the shares of Common Stock issued or otherwise issuable to the Participant in connection with the Award; *provided, however,* that no shares of Common Stock are withheld with a value exceeding the minimum amount of tax required to be withheld by law (or such lesser amount as may be necessary to avoid classification of the Stock Award as a liability for financial accounting purposes); or (iii) by such other method as may be set forth in the Award Agreement.

(f) Electronic Delivery. Any reference herein to a "written" agreement or document will include any agreement or document delivered electronically, filed publicly at www.sec.gov (or any successor website thereto), or posted on the Company's intranet (or other electronic medium controlled by the Company or a third party administrator designated by the Company, including the Company's stock plan administrator, to which the Participant has access).

(g) Deferrals. To the extent permitted by applicable law, the Board, in its sole discretion, may determine that the delivery of Common Stock or the payment of cash, upon the exercise, vesting or settlement of all or a portion of any Award may be deferred and may establish programs and procedures for deferral elections to be made by Participants. Deferrals by Participants will be made in accordance with Section 409A. Consistent with Section 409A, the Board may provide for distributions while a Participant is still a Non-Employee Director or otherwise providing services to the Company. The Board is authorized to make deferrals of Awards and determine when, and in what annual percentages, Participants may receive payments, including lump sum payments, following the Participant's termination of Continuous Service, and implement such other terms and conditions consistent with the provisions of the Plan and in accordance with applicable law.

(h) Compliance with Section 409A. Unless otherwise expressly provided for in an Award Agreement, the Plan and Award Agreements will be interpreted to the greatest extent possible in a manner that makes the Plan and the Awards granted hereunder exempt from Section 409A, and, to the extent not so exempt, in compliance with Section 409A. If the Board determines that any Award granted hereunder is not exempt from and is therefore subject to Section 409A, the Award Agreement evidencing such Award will incorporate the terms and conditions necessary to avoid the consequences specified in Section 409A(a)(1) of the Code, and to the extent an Award Agreement is silent on terms necessary for compliance, such terms are hereby incorporated by reference into the Award Agreement. Notwithstanding anything to the contrary in the Plan (and unless the Award Agreement specifically provides otherwise), if the shares of Common Stock are publicly traded, and if a Participant holding an Award that constitutes "deferred compensation" under Section 409A is a "specified employee" for purposes of Section 409A, no distribution or payment of any amount that is due because of a "separation from service" (as defined in Section 409A without regard to alternative definitions thereunder) will be issued or paid before the date that is six (6) months following the date of such Participant's "separation from service" or, if earlier, the date of the Participant's death, unless such distribution or payment can be made in a manner that complies with Section 409A, and any amounts so deferred will be paid in a lump sum on the day after such six (6) month period elapses, with the balance paid thereafter on the original schedule.

(i) Clawback/Recovery. All Awards granted under the Plan will be subject to recoupment in accordance with any clawback policy that the Company is required to adopt pursuant to the listing standards of any national securities exchange or association on which the Company's securities are listed or other applicable law. In addition, the Board may impose such other clawback, recovery or recoupment provisions in an Award Agreement as the Board determines necessary or appropriate, including, but not limited to, a reacquisition right in respect of previously acquired shares of Common Stock or other cash or property upon the occurrence of an event that constitutes Cause.

9. ADJUSTMENTS UPON CHANGES IN COMMON STOCK; OTHER CORPORATE EVENTS.

(a) Capitalization Adjustments. In the event of a Capitalization Adjustment, the Board will appropriately and proportionately adjust: (i) the class(es) and maximum number of securities subject to the Plan pursuant to Section 3(a); and (ii) the class(es) and number of securities and price per share of stock subject to outstanding Stock Awards. The Board will make such adjustments, and its determination will be final, binding and conclusive.

(b) Dissolution or Liquidation. Except as otherwise provided in the Stock Award Agreement, in the event of a dissolution or liquidation of the Company, all outstanding Stock Awards (other than Stock Awards consisting of vested and outstanding shares of Common Stock not subject to a forfeiture condition or the Company's right of repurchase) will terminate immediately prior to the completion of such dissolution or liquidation, and the shares of Common Stock subject to the Company's repurchase rights or subject to a forfeiture condition may be repurchased or reacquired by the Company notwithstanding the fact that the holder of such Stock Award is providing Continuous Service; *provided, however,* that the Board may, in its sole discretion, cause some or all Stock Awards to become fully vested, exercisable and/or no longer subject to repurchase or forfeiture (to the extent such Stock Awards have not previously expired or terminated) before the dissolution or liquidation is completed but contingent on its completion.

(c) Corporate Transaction. In the event of a Corporate Transaction, any surviving corporation or acquiring corporation may assume or continue any or all Stock Awards outstanding under the Plan or may substitute similar stock awards for Stock Awards outstanding under the Plan (it being understood that similar stock awards include, but are not limited to, awards to acquire the same consideration paid to the stockholders or the Company, as the case may be, pursuant to the Corporate Transaction), and any reacquisition or repurchase rights held by the Company in respect of Common Stock issued pursuant to Stock Awards may be assigned by the Company to the successor of the Company (or the successor's parent company), if any, in connection with such Corporate Transaction. In the event that any surviving corporation or acquiring corporation does not assume or continue any or all such outstanding Stock Awards or substitute similar stock awards for such outstanding Stock Awards, then with respect to Stock Awards that have not been assumed, continued or substituted and that are held by Participants whose Continuous Service has not terminated prior to the effective time of the Corporate Transaction, the vesting of such Stock Awards (and, if applicable, the time at which such Stock Awards may be exercised) shall (contingent upon the effectiveness of the Corporate Transaction) be accelerated in full to a date prior to the effective time of such Corporate Transaction as the

Board shall determine (or, if the Board shall not determine such a date, to the date that is five (5) days prior to the effective time of the Corporate Transaction), the Stock Awards shall terminate if not exercised (if applicable) at or prior to such effective time, and any reacquisition or repurchase rights held by the Company with respect to such Stock Awards held by Participants whose Continuous Service has not terminated shall (contingent upon the effectiveness of the Corporate Transaction) lapse. With respect to any other Stock Awards outstanding under the Plan that have not been assumed, continued or substituted, the vesting of such Stock Awards (and, if applicable, the time at which such Stock Award may be exercised) shall not be accelerated, unless otherwise provided in a written agreement between the Company or any Affiliate and the holder of such Stock Award, and such Stock Awards shall terminate if not exercised (if applicable) prior to the effective time of the Corporate Transaction.

(d) Change in Control. If a Change in Control occurs, then, immediately prior to such Change in Control, all Stock Awards held by a Participant whose Continuous Service has not terminated prior to such time shall become fully vested and, as applicable, exercisable. If a Participant is required to resign his or her position as a Non-Employee Director as a condition of a Change in Control, then, all Stock Awards held by such Participant shall become fully vested and, as applicable, exercisable as of immediately prior to such resignation.

(e) Payment for Stock Awards in Lieu of Exercise. If a Stock Award will terminate if not exercised prior to the effective time of a Corporate Transaction or Change in Control, the Board may provide, in its sole discretion, that the holder of such Stock Award may not exercise such Stock Award but instead will receive a payment, in such form as may be determined by the Board, equal in value, at the effective time, to the excess, if any, of (i) the value of the property the Participant would have received on the exercise of the Stock Award (including, at the discretion of the Board, any unvested portion of such Stock Award), over (ii) any exercise price payable by such holder in connection with such exercise.

(f) Parachute Payments.

(i) Except as otherwise expressly provided by the Board, including in a Stock Award Agreement, if any payment or benefit a Participant will or may receive from the Company 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 (a "***Payment***") will be equal to the Reduced Amount. The "Reduced Amount" will 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 Participant'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 will occur in the manner (the "***Reduction Method***") that results in the greatest economic benefit for the Participant. 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***").

(ii) Notwithstanding any provision of Section 9(f)(i) 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, will be modified so as to avoid the imposition of taxes pursuant to Section 409A as follows: (A) as a first priority, the modification will preserve to the greatest extent possible, the greatest economic benefit for the Participant 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), will 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 will be reduced (or eliminated) before Payments that are not deferred compensation within the meaning of Section 409A.

(iii) If a Participant receives a Payment for which the Reduced Amount was determined pursuant to clause (x) of Section 9(f)(i) and the Internal Revenue Service determines thereafter that some portion of the Payment is subject to the Excise Tax, the Participant will promptly return to the Company a sufficient amount of the Payment (after reduction pursuant to clause (x) of Section 9(f)(i)) 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(f)(i), the Participant will have no obligation to return any portion of the Payment pursuant to the preceding sentence.

10. TERMINATION OR SUSPENSION OF THE PLAN.

The Board may suspend or terminate the Plan at any time. No Awards may be granted under the Plan while the Plan is suspended or after it is terminated.

11. EFFECTIVE DATE OF PLAN.

The Plan is effective as of the Effective Date.

12. CHOICE OF LAW.

The laws of the State of Delaware will govern all questions concerning the construction, validity and interpretation of this Plan, without regard to that state's conflict of laws rules.

13. DEFINITIONS. As used in the Plan, the following definitions will apply to the capitalized terms indicated below:

(a) "***Affiliate***" means, at the time of determination, any "parent" or "subsidiary" of the Company, as such terms are defined in Rule 405. The Board will have the authority to determine the time or times at which "parent" or "subsidiary" status is determined within the foregoing definition.

(b) "***Award***" means a Stock Award or a Performance Cash Award.

(c) "***Award Agreement***" means a written agreement between the Company and a Participant evidencing the terms and conditions of an Award.

(d) "***Board***" means the Board of Directors of the Company.

(e) "***Capitalization Adjustment***" means any change that is made in, or other events that occur with respect to, the Common Stock subject to the Plan or subject to any Stock Award after the Effective Date without the receipt of consideration by the Company through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, stock split, reverse stock split, combination of shares, exchange of shares, change in corporate structure, or any similar equity restructuring transaction, as that term is used in Statement of Financial Accounting Standards Board Accounting Standards Codification Topic 718 (or any successor thereto). Notwithstanding the foregoing, the conversion of any convertible securities of the Company will not be treated as a Capitalization Adjustment.

(f) "***Cause***" will have the meaning ascribed to such term in any written agreement between the Participant and the Company defining such term. In the absence of such an agreement, such term means, with respect to a Participant, the occurrence of any of the following events: (i) Participant's willful failure substantially to perform the Participant's duties and responsibilities to the Company or deliberate violation of a Company policy; (ii) Participant's commission of any act of fraud, embezzlement, dishonesty or any other willful misconduct that has caused or is reasonably expected to result in material injury to the Company; (iii) unauthorized use or disclosure by Participant of any proprietary information or trade secrets of the Company or any Affiliate or any other party to whom the Participant owes an obligation of nondisclosure as a result of the Participant's relationship with the Company or any Affiliate; or (iv) Participant's willful breach of any of the Participant's obligations under any written agreement or covenant with the Company or any Affiliate. The determination as to whether a Participant is being terminated for Cause will be made in good faith by the Company and will be final and binding on the Participant. Any determination by the Company that the Continuous Service of a Participant was terminated with or without Cause for the purposes of outstanding Stock Awards held by such Participant will have no effect upon any determination of the rights or obligations of the Company or such Participant for any other purpose.

(g) "***Change in Control***" means the occurrence, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) any Exchange Act Person becomes the Owner, directly or indirectly, of securities of the Company representing more than fifty percent (50%) of the combined voting power of the Company's then outstanding securities other than by virtue of a merger, consolidation or similar transaction. Notwithstanding the foregoing, a Change in Control will not be deemed to occur (A) on account of the acquisition of securities of the Company directly from the Company, (B) on account of the acquisition of securities of the Company by an investor, any affiliate thereof or any other Exchange Act Person that acquires the Company's securities in a transaction or series of related transactions the primary purpose of which is to obtain financing for the Company through the issuance of equity securities or (C) solely because the level of Ownership held by any Exchange Act Person (the "***Subject Person***") exceeds the designated

percentage threshold of the outstanding voting securities as a result of a repurchase or other acquisition of voting securities by the Company reducing the number of shares outstanding, provided that if a Change in Control would occur (but for the operation of this sentence) as a result of the acquisition of voting securities by the Company, and after such share acquisition, the Subject Person becomes the Owner of any additional voting securities that, assuming the repurchase or other acquisition had not occurred, increases the percentage of the then outstanding voting securities Owned by the Subject Person over the designated percentage threshold, then a Change in Control will be deemed to occur;

(ii) there is consummated a merger, consolidation or similar transaction involving (directly or indirectly) the Company and, immediately after the consummation of such merger, consolidation or similar transaction, more than fifty percent (50%) of the issued and outstanding voting stock of the surviving Entity in such transaction is Owned by persons or Entities who were not Owners (taking into account their individual and affiliated Ownership) as of the Effective Date of at least fifty percent (50%) of the voting stock of the Company;

(iii) the stockholders of the Company approve or the Board approves a plan of complete dissolution or liquidation of the Company, or a complete dissolution or liquidation of the Company shall otherwise occur;

(iv) there is consummated a sale, lease, exclusive license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries, other than a sale, lease, license or other disposition of all or substantially all of the consolidated assets of the Company and its Subsidiaries to an Entity, more than fifty percent (50%) of the combined voting power of the voting securities of which are Owned by stockholders of the Company in substantially the same proportions as their Ownership of the outstanding voting securities of the Company immediately prior to such sale, lease, license or other disposition; or

(v) individuals who, on the date the Plan is adopted by the Board, are members of the Board (the "***Incumbent Board***") cease for any reason to constitute at least a majority of the members of the Board; *provided, however,* that if the appointment or election (or nomination for election) of any new Board member 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 Plan, be considered as a member of the Incumbent Board.

Notwithstanding the foregoing definition or any other provision of the Plan, (A) the term Change in Control will not include a sale of assets, merger or other transaction effected exclusively for the purpose of changing the domicile of the Company, and (B) the definition of Change in Control (or any analogous term) in an individual written agreement between the Company or any Affiliate and the Participant will supersede the foregoing definition with respect to Awards subject to such agreement; *provided, however,* that if no definition of Change in Control or any analogous term is set forth in such an individual written agreement, the foregoing definition will apply.

If required for compliance with Section 409A, in no event will a Change in Control be deemed to have occurred if such transaction is not also a "change in the ownership or effective control of" the Company or "a change in the ownership of a substantial portion of the assets of"

the Company as determined under Treasury Regulation Section 1.409A3(i)(5) (without regard to any alternative definition thereunder). The Board may, in its sole discretion and without a Participant's consent, amend the definition of "Change in Control" to conform to the definition of "Change in Control" under Section 409A, and the regulations thereunder.

(h) "***Code***" means the Internal Revenue Code of 1986, as amended, including any applicable regulations and guidance thereunder.

(i) "***Common Stock***" means the common stock of the Company.

(j) "***Company***" means GTx, Inc., a Delaware corporation.

(k) "***Consultant***" means any person, including an advisor, who is (i) engaged by the Company or an Affiliate to render consulting or advisory services and is compensated for such services, or (ii) serving as a member of the board of directors of an Affiliate and is compensated for such services. However, service solely as a Director, or payment of a fee for such service, will not cause a Director to be considered a "Consultant" for purposes of the Plan. Notwithstanding the foregoing, a person is treated as a Consultant under this Plan only if a Form S-8 Registration Statement under the Securities Act is available to register either the offer or the sale of the Company's securities to such person.

(l) "***Continuous Service***" means that the Participant's service with the Company or an Affiliate, whether as an Employee, Director or Consultant, is not interrupted or terminated. A change in the capacity in which the Participant renders service to the Company or an Affiliate as an Employee, Consultant or Director or a change in the Entity for which the Participant renders such service, provided that there is no interruption or termination of the Participant's service with the Company or an Affiliate, will not terminate a Participant's Continuous Service. For example, a change in status from a Non-Employee Director of the Company to a Consultant of an Affiliate will not constitute an interruption of Continuous Service. If the Entity for which a Participant is rendering services ceases to qualify as an Affiliate, as determined by the Board in its sole discretion, such Participant's Continuous Service will be considered to have terminated on the date such Entity ceases to qualify as an Affiliate. To the extent permitted by law, the Board, in its sole discretion, may determine whether Continuous Service will be considered interrupted in the case of (i) any leave of absence approved by the Board, or (ii) transfers between the Company, an Affiliate, or their successors. In addition, if required for exemption from or compliance with Section 409A, the determination of whether there has been a termination of Continuous Service will be made, and such term will be construed, in a manner that is consistent with the definition of "***separation from service***" as defined under Treasury Regulation Section 1.409A1(h) (without regard to any alternative definition thereunder). A leave of absence will be treated as Continuous Service *for purposes of vesting* in a Stock Award only to such extent as may be provided in the Company's leave of absence policy, in the written terms of any leave of absence agreement or policy applicable to the Participant, or as otherwise required by law.

(m) "***Corporate Transaction***" means the consummation, in a single transaction or in a series of related transactions, of any one or more of the following events:

(i) a sale or other disposition of all or substantially all, as determined by the Board in its sole discretion, of the consolidated assets of the Company and its Subsidiaries;

(ii) a sale or other disposition of more than fifty percent (50%) of the outstanding securities of the Company;

(iii) a merger, consolidation or similar transaction following which the Company is not the surviving corporation; or

(iv) a merger, consolidation or similar transaction following which the Company is the surviving corporation but the shares of Common Stock outstanding immediately preceding the merger, consolidation or similar transaction are converted or exchanged by virtue of the merger, consolidation or similar transaction into other property, whether in the form of securities, cash or otherwise.

To the extent required for compliance with Section 409A, in no event will an event be deemed a Corporate Transaction if such transaction is not also a "change in the ownership or effective control of" the Company or "a change in the ownership of a substantial portion of the assets of" the Company as determined under Treasury Regulation Section 1.409A3(i)(5) (without regard to any alternative definition thereunder).

(n) "***Director***" means a member of the Board.

(o) "***Disability***" means, with respect to a Participant, the inability of such Participant to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment that can be expected to result in death or that has lasted or can be expected to last for a continuous period of not less than twelve (12) months as provided in Sections 22(e)(3) and 409A(a)(2)(C)(i) of the Code, and will be determined by the Board on the basis of such medical evidence as the Board deems warranted under the circumstances.

(p) "***Effective Date***" means May 2, 2013, the date of the Company's 2013 Annual Meeting of Stockholders.

(q) "***Employee***" means any person employed by the Company or an Affiliate. However, service solely as a Director, or payment of a fee for such services, will not cause a Director to be considered an "Employee" for purposes of the Plan.

(r) "***Entity***" means a corporation, partnership, limited liability company or other entity.

(s) "***Exchange Act***" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

(t) "***Exchange Act Person***" means any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act), except that "Exchange Act Person" will

not include (i) the Company or any Subsidiary of the Company, (ii) any employee benefit plan of the Company or any Subsidiary of the Company or any trustee or other fiduciary holding securities under an employee benefit plan of the Company or any Subsidiary of the Company, (iii) an underwriter temporarily holding securities pursuant to a registered public offering of such securities, (iv) an Entity Owned, directly or indirectly, by the stockholders of the Company in substantially the same proportions as their Ownership of stock of the Company, or (v) any natural person, Entity or "group" (within the meaning of Section 13(d) or 14(d) of the Exchange Act) that, as of the Effective Date, is the Owner, directly or indirectly, of securities of the Company representing more than fifty percent (50%) of the combined voting power of the Company's then outstanding securities.

(u) "***Fair Market Value***" means, as of any date, the value of the Common Stock determined as follows:

(i) If the Common Stock is listed on any established stock exchange or traded on any established market, the Fair Market Value of a share of Common Stock will be, unless otherwise determined by the Board, the closing sales price for such stock as quoted on such exchange or market (or the exchange or market with the greatest volume of trading in the Common Stock) on the date of determination, as reported in a source the Board deems reliable.

(ii) Unless otherwise provided by the Board, if there is no closing sales price for the Common Stock on the date of determination, then the Fair Market Value will be the closing selling price on the last preceding date for which such quotation exists.

(iii) In the absence of such markets for the Common Stock, the Fair Market Value will be determined by the Board in good faith and in a manner that complies with Sections 409A and 422 of the Code.

(v) "***Non-Employee Director***" means a Director who either (i) is not a current Employee or officer of the Company or an Affiliate, does not receive compensation, either directly or indirectly, from the Company or an Affiliate for services rendered as a consultant or in any capacity other than as a Director (except for an amount as to which disclosure would not be required under Item 404(a) of Regulation SK promulgated pursuant to the Securities Act ("***Regulation SK***")), does not possess an interest in any other transaction for which disclosure would be required under Item 404(a) of Regulation SK, and is not engaged in a business relationship for which disclosure would be required pursuant to Item 404(b) of Regulation SK; or (ii) is otherwise considered a "Non-Employee director" for purposes of Rule 16b3.

(w) "***Nonstatutory Stock Option***" means an Option granted pursuant to Section 5 of the Plan (which, for the avoidance of doubt, is not an "incentive stock option" within the meaning of Section 422 of the Code).

(x) "***Officer***" means a person who is an officer of the Company within the meaning of Section 16 of the Exchange Act.

(y) "***Option***" means a Nonstatutory Stock Option to purchase shares of Common Stock granted pursuant to the Plan.

(z) "***Option Agreement***" means a written agreement between the Company and an Optionholder evidencing the terms and conditions of an Option grant. Each Option Agreement will be subject to the terms and conditions of the Plan.

(aa) "***Optionholder***" means a person to whom an Option is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Option.

(bb) "***Other Stock Award***" means an award based in whole or in part by reference to the Common Stock which is granted pursuant to the terms and conditions of Section 6(d).

(cc) "***Other Stock Award Agreement***" means a written agreement between the Company and a holder of an Other Stock Award evidencing the terms and conditions of an Other Stock Award grant. Each Other Stock Award Agreement will be subject to the terms and conditions of the Plan.

(dd) "***Own,***" "***Owned,***" "***Owner,***" "***Ownership***" means a person or Entity will be deemed to "Own," to have "Owned," to be the "Owner" of, or to have acquired "Ownership" of securities if such person or Entity, directly or indirectly, through any contract, arrangement, understanding, relationship or otherwise, has or shares voting power, which includes the power to vote or to direct the voting, with respect to such securities.

(ee) "***Participant***" means a person to whom an Award is granted pursuant to the Plan or, if applicable, such other person who holds an outstanding Award.

(ff) "***Performance Cash Award***" means an award of cash granted pursuant to the terms and conditions of Section 6(c)(ii).

(gg) "***Performance Criteria***" means the one or more criteria that the Board will select for purposes of establishing the Performance Goals for a Performance Period. The Performance Criteria that will be used to establish such Performance Goals may be based on any one of, or combination of, the following as determined by the Board: (i) earnings (including earnings per share and net earnings); (ii) earnings before interest, taxes and depreciation; (iii) earnings before interest, taxes, depreciation and amortization; (iv) earnings before interest, taxes, depreciation, amortization and legal settlements; (v) earnings before interest, taxes, depreciation, amortization, legal settlements and other income (expense); (vi) earnings before interest, taxes, depreciation, amortization, legal settlements, other income (expense) and stock-based compensation; (vii) earnings before interest, taxes, depreciation, amortization, legal settlements, other income (expense), stock-based compensation and changes in deferred revenue; (viii) total stockholder return; (ix) return on equity or average stockholder's equity; (x) return on assets, investment, or capital employed; (xi) stock price; (xii) margin (including gross margin); (xiii) income (before or after taxes); (xiv) operating income; (xv) operating income after taxes; (xvi) pretax profit; (xvii) operating cash flow; (xviii) sales or revenue targets; (xix) increases in revenue or product revenue; (xx) expenses and cost reduction goals; (xxi) improvement in or attainment of working capital levels; (xxii) economic value added (or an equivalent metric); (xxiii) market share; (xxiv) cash flow; (xxv) cash flow per share; (xxvi) share price performance; (xxvii) debt reduction; (xxviii) implementation or completion of projects or processes; (xxix) entry into or completion of strategic transactions, including but not limited to acquisitions and licensing agreements;

(xxx) stockholders' equity; (xxxi) capital expenditures; (xxxii) debt levels; (xxxiii) operating profit or net operating profit; (xxxiv) workforce diversity; (xxxv) growth of net income or operating income; (xxxvi) billings; (xxxvii) performance review results; (xxxviii) employee retention; (xxxix) initiation of phases of clinical trials and/or studies by specified dates; (xxxx) patient enrollment rates; (xxxxi) budget management; (xxxxii) regulatory body approval with respect to products, studies and/or trials; (xxxxiii) patient enrollment; and (xxxxiv) other measures of performance selected by the Board.

(hh) "***Performance Goals***" means, for a Performance Period, the one or more goals established by the Board for the Performance Period based upon the Performance Criteria. Performance Goals may be based on a Companywide basis, with respect to one or more business units, divisions, Affiliates, or business segments, and in either absolute terms or relative to the performance of one or more comparable companies or the performance of one or more relevant indices. Unless specified otherwise by the Board (i) in the Award Agreement at the time the Award is granted or (ii) in such other document setting forth the Performance Goals at the time the Performance Goals are established, the Board will appropriately make adjustments in the method of calculating the attainment of Performance Goals for a Performance Period as follows: (1) to exclude restructuring and/or other nonrecurring charges; (2) to exclude exchange rate effects; (3) to exclude the effects of changes to generally accepted accounting principles; (4) to exclude the effects of any statutory adjustments to corporate tax rates; (5) to exclude the effects of any "extraordinary items" as determined under generally accepted accounting principles; (6) to exclude the dilutive effects of acquisitions or joint ventures; (7) to assume that any business divested by the Company achieved performance objectives at targeted levels during the balance of a Performance Period following such divestiture; (8) to exclude the effect of any change in the outstanding shares of common stock of the Company by reason of any stock dividend or split, stock repurchase, reorganization, recapitalization, merger, consolidation, spinoff, combination or exchange of shares or other similar corporate change, or any distributions to common stockholders other than regular cash dividends; (9) to exclude the effects of stock based compensation and the award of bonuses under the Company's bonus plans; (10) to exclude costs incurred in connection with potential acquisitions or divestitures that are required to be expensed under generally accepted accounting principles; (11) to exclude the goodwill and intangible asset impairment charges that are required to be recorded under generally accepted accounting principles; and (12) to exclude the effect of any other unusual, nonrecurring gain or loss or other extraordinary item. In addition, the Board retains the discretion to reduce or eliminate the compensation or economic benefit due upon attainment of Performance Goals and to define the manner of calculating the Performance Criteria it selects to use for such Performance Period. Partial achievement of the specified criteria may result in the payment or vesting corresponding to the degree of achievement as specified in the Stock Award Agreement or the written terms of a Performance Cash Award.

(ii) "***Performance Period***" means the period of time selected by the Board over which the attainment of one or more Performance Goals will be measured for the purpose of determining a Participant's right to and the payment of a Stock Award or a Performance Cash Award. Performance Periods may be of varying and overlapping duration, at the sole discretion of the Board.

(jj) "***Performance Stock Award***" means a Stock Award granted under the terms and conditions of Section 6(c)(i).

(kk) "***Plan***" means this GTx, Inc. 2013 Non-Employee Director Equity Incentive Plan, as it may be amended from time to time.

(ll) "***Prior Plan***" means the GTx, Inc. Amended and Restated 2004 Non-Employee Directors' Stock Option Plan, as amended.

(mm) "***Restricted Stock Award***" means an award of shares of Common Stock which is granted pursuant to the terms and conditions of Section 6(a).

(nn) "***Restricted Stock Award Agreement***" means a written agreement between the Company and a holder of a Restricted Stock Award evidencing the terms and conditions of a Restricted Stock Award grant. Each Restricted Stock Award Agreement will be subject to the terms and conditions of the Plan.

(oo) "***Restricted Stock Unit Award***" means a right to receive shares of Common Stock, cash or other consideration which is granted pursuant to the terms and conditions of Section 6(b).

(pp) "***Restricted Stock Unit Award Agreement***" means a written agreement between the Company and a holder of a Restricted Stock Unit Award evidencing the terms and conditions of a Restricted Stock Unit Award grant. Each Restricted Stock Unit Award Agreement will be subject to the terms and conditions of the Plan.

(qq) "***Rule 16b3***" means Rule 16b3 promulgated under the Exchange Act or any successor to Rule 16b3, as in effect from time to time.

(rr) "***Rule 405***" means Rule 405 promulgated under the Securities Act.

(ss) "***Section 409A***" means Section 409A of the Code and the regulations and other guidance thereunder and any state law of similar effect.

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

(uu) "***Stock Appreciation Right***" or "***SAR***" means a right to receive the appreciation on Common Stock that is granted pursuant to the terms and conditions of Section 5.

(vv) "***Stock Appreciation Right Agreement***" means a written agreement between the Company and a holder of a Stock Appreciation Right evidencing the terms and conditions of a Stock Appreciation Right grant. Each Stock Appreciation Right Agreement will be subject to the terms and conditions of the Plan.

(ww) "***Stock Award***" means any right to receive an award of Common Stock, or any other award that is based on or otherwise relates to Common Stock, that is granted under the Plan, including a Nonstatutory Stock Option, a Restricted Stock Award, a Restricted Stock Unit Award, a Stock Appreciation Right, a Performance Stock Award, or any Other Stock Award.

(xx) "***Stock Award Agreement***" means a written agreement between the Company and a Participant evidencing the terms and conditions of a Stock Award grant. Each Stock Award Agreement will be subject to the terms and conditions of the Plan.

(yy) "***Subsidiary***" means, with respect to the Company, (i) any corporation of which more than fifty percent (50%) of the outstanding capital stock having ordinary voting power to elect a majority of the board of directors of such corporation (irrespective of whether, at the time, stock of any other class or classes of such corporation will have or might have voting power by reason of the happening of any contingency) is at the time, directly or indirectly, Owned by the Company, and (ii) any partnership, limited liability company or other entity in which the Company has a direct or indirect interest (whether in the form of voting or participation in profits or capital contribution) of more than fifty percent (50%).

Exhibit 10.28

EMPLOYMENT AGREEMENT

This Employment Agreement (this "Agreement") is made and entered into as of January 6, 2017 (the "Effective Date") by and between **GTx, Inc.**, located at 175 Toyota Plaza, 7th Floor, Memphis, Tennessee 38103 (the "Employer"), and **JASON SHACKELFORD** (the "Employee"), residing at 2188 Wentworth Lane, Germantown, Tennessee 38139.

WHEREAS, the Employee has been providing services to the Employer as Senior Director, Accounting & Corporate Controller under the terms of an Employment Agreement that was effective as of October 1, 2013 (the "Prior Employment Agreement"), which Prior Employment Agreement is terminated and replaced with this Agreement;

WHEREAS, the Employer and the Employee wish to enter into this Agreement following Employee's election as Vice President, Finance & Accounting of the Employer; and

WHEREAS, the Employer and the Employee acknowledge and agree that this Agreement supersedes the Prior Employment Agreement, and that by entering into this Agreement, the Prior Employment Agreement is hereby fully terminated and shall be of no further force and effect as of the Effective Date;

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

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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 October 1, 2013 (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 July 16, 2007 (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, capital spending budgets and plans, the names and backgrounds of key personnel, personnel training and techniques and materials), however documented; and

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(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

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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 Board of Directors 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 Board of Directors, which notice specifically identifies the manner in which the Board of Directors 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 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") of the Employer.

2.3 Duties

The Employee will continue to have such duties as are assigned or delegated to the Employee by the Chief Executive Officer of 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 Company's management and the Board of Directors 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.

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 $8,884.62, which is the equivalent of $231,000 per calendar year (the "Salary"), subject to review and adjustment from time to time by the CEO, with approval by the Board of Directors.

(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 performance of the Employee's duties under this Agreement. The Employer will pay the Employee's dues in such professional societies and organizations as the CEO deems appropriate, and will pay on behalf of the Employee (or reimburse the Employee for) reasonable expenses

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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. 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.

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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 "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

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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 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

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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 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 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)

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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 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.

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,

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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, 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

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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 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 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 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:
Jason Shackelford
2188 Wentworth Lane
Germantown, Tennessee 38139

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 and the Prior Employment Agreement Amendment, both of 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 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.

JASON SHACKELFORD

/s/ Jason Shackelford

GTx, Inc.

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

GTX, INC.

DIRECTORS' DEFERRED COMPENSATION PLAN

(AMENDED AND RESTATED
EFFECTIVE FEBRUARY 18, 2016)

ARTICLE 1

DEFINITIONS

1.1 "***Board***" shall mean the Board of Directors of GTx, Inc.

1.2 "***Cash Account***" shall mean the account created by the Company pursuant to Article III of this Plan in accordance with an election by a Director to receive deferred cash compensation under Article II hereof.

1.3 "***Capitalization Adjustment***" means any change that is made in, or other events that occur with respect to, the Common Stock subject to the Plan or to the number of shares of Common Stock credited to any Stock Account, without the receipt of consideration by the Company through merger, consolidation, reorganization, recapitalization, reincorporation, stock dividend, dividend in property other than cash, stock split, reverse stock split, combination of shares, exchange of shares, change in corporate structure, or any similar equity restructuring transaction, as that term is used in Statement of Financial Accounting Standards Board Accounting Standards Codification Topic 718 (or any successor thereto). Notwithstanding the foregoing, the conversion of any convertible securities of the Company will not be treated as a Capitalization Adjustment.

1.4 "***Common Stock***" shall mean the Common Stock of the Company.

1.5 "***Company***" means GTx, Inc.

1.6 "***Director***" shall mean a member of the Board of Directors of the Company who is not an employee of the Company or any of its subsidiaries.

1.7 "***Effective Date***" means the date on which the Plan, as amended and restated, is approved by the Board.

1.8 "***Fees***" shall mean amounts earned for serving as a member of the Board, including any committees of the Board.

1.9 "***He***", "***Him***" or "***His***" shall apply equally to male and female members of the Board.

1.10 "***Plan***" shall mean the GTx, Inc. Directors' Deferred Compensation Plan, as it may be amended from time to time.

1.11 "***Stock Account***" shall mean the account created by the Company pursuant to Article III of this Plan in accordance with an election by a Director to receive stock compensation under Article II hereof.

1.12 "***Stock Value***" shall mean, for any given day, the price per share equal to the consolidated closing bid price for the Common Stock on such day, or the immediately preceding Trading Day if such day is not a Trading Day; provided, however, that in the event the Common Stock is not then listed on a national securities exchange or admitted to unlisted trading privileges on any such exchange, the "***Stock Value***" shall be determined in good faith by the Board. The definition of "***Stock Value***" in this Section 1.12 is intended to comply with the definition of "***Market Value***" under the Listing Rules adopted by The NASDAQ Stock Market LLC ("***NASDAQ***") so that this Plan constitutes a plan or arrangement exempt from the requirement of shareholder approval under NASDAQ Listing Rule 5635(c)(2). Any ambiguities shall be construed and administered in a way that is in compliance with such requirements and rules.

1.13 "***Trading Day***" means any day on which the exchange(s) or market(s) on which shares of Common Stock are listed or quoted is open for trading.

1.14 "***Year***" shall mean calendar year.

ARTICLE 2

ELECTION TO DEFER

2.1 A Director may elect, on or before December 31 of any Year, to defer payment of all or a specified part of all Fees earned during the Year following such election. Any person who shall become a Director during any Year, and who was not a Director of the Company on the preceding December 31, may elect, within thirty (30) days after becoming a Director, to defer payment of all or a specified part of such Fees earned during the remainder of such Year.

2.2 The election to participate in the Plan and defer payments under the Plan shall be designated by submitting a letter in the form attached hereto as Appendix A to the Secretary of the Company by the applicable date under Paragraph 2.3.

2.3 The election is irrevocable with respect to the Year to which it relates upon the submission of such election to the Secretary of the Company. The election first submitted by a Director shall remain effective with respect to Fees earned during subsequent Years, unless the Director terminates it by written request delivered to the Secretary of the Company prior to the commencement of the Year for which the termination is first effective.

ARTICLE 3

DEFERRED COMPENSATION ACCOUNTS

3.1 The Company shall maintain separate memorandum accounts for the Fees deferred by each Director. Each Director shall be fully vested at all times in any amounts credited to his Cash Account and Stock Account.

3.2 The Company shall credit, on the date Fees become payable, to the Cash Account of each Director the deferred portion of any Fees due the Director as to which an election to receive cash has been made. Fees deferred in the form of cash (and interest thereon) shall be held in the general funds of the Company.

3.3 On the first day of each quarter, the Company shall credit the Cash Account of each Director with interest calculated on the basis of the balance in such account on the first day of each month of the preceding quarter at the prime rate of interest then in effect at First Horizon National Bank, Memphis, Tennessee, or if no such rate shall be available, then such rate of interest as is then published in the Wall Street Journal as the prevailing prime rate of interest.

3.4 The Company shall credit the Stock Account of each Director who has elected to receive deferred compensation in the form of Common Stock with the number of shares of Common Stock equal in value to (i) the deferred portion of any Fees due the Director as to which an election to receive Common Stock has been made, divided by the Stock Value on the date such Fees otherwise would have been paid, (ii) any cash dividends (or the fair market value of dividends paid in property other than dividends payable in Common Stock) payable on the number of shares of Common Stock represented in each Director's Stock Account, divided by the Stock Value on the date such cash dividends are paid, and (iii) any stock dividends payable on the number of shares of Common Stock represented in each Director's Stock Account, equal in value to the Stock Value of such stock dividends on the date such stock dividends are paid. Credits that are made to each Director's Stock Account pursuant to the preceding sentence shall be made, with respect to any Fees, on the date that such Fees become payable and, with respect to any dividends, on the date that such dividends are paid on Common Stock. If adjustments are made to the outstanding shares of Common Stock as a result of stock-splits, recapitalizations, mergers, consolidations and the like, an appropriate adjustment also will be made in the number of shares of Common Stock credited to the Director's Stock Account.

3.5 Common Stock shall be computed to three decimal places.

3.6 The right to receive Common Stock at a later date shall not entitle any person to rights of a stockholder with respect to such Common Stock unless and until shares of Common Stock have been issued to such person pursuant to Article IV hereof.

3.7 The Company shall set aside a sufficient number of shares of Common Stock to meet the needs of the Plan, provided that the Company shall not be required to issue any fractional shares of Common Stock, and any fractional share amounts shall be paid in cash to the Director, at the time the shares of Common Stock are issued to such Director, based on the Stock Value of such Common Stock on the payment date.

3.8 Nothing contained herein shall be deemed to create a trust of any kind or any fiduciary relationship. To the extent that any person acquires a right to receive payments from the Company under the Plan, such right shall be no greater than the right of any unsecured general creditor of the Company.

ARTICLE 4

PAYMENT OF DEFERRED COMPENSATION

4.1 Amounts credited to a Director's Cash Account and Stock Account shall be distributed in a single lump sum to the Director on the date, if any, selected by the Director pursuant to the Director's election (made pursuant to Paragraph 2.2 of Article II) (or as soon as administratively practicable thereafter); provided, however, that if the Director has not selected a distribution date or the Director's selected distribution date is after his "separation from service" (as defined in Treasury Regulation Section 1.409A-1(h)), then distribution shall be made on the date of the "separation from service" in the form of a single lump sum. Notwithstanding the foregoing, if the Director is a "specified employee" (as such term is defined in Internal Revenue Code Section 409A(a)(2)(B)(i)) of the Company or any successor entity thereto upon his or her "separation from service", then, solely to the extent necessary to avoid the incurrence of the adverse personal tax consequences under Internal Revenue Code Section 409A as a result of the payment of deferred compensation upon his "separation from service", the distribution shall be delayed until the earlier to occur of (i) the date that is six months and one day after the date of the "separation from service" or (ii) the date of the Director's death. It is intended that all of the benefits and payments payable under this Plan satisfy, to the greatest extent possible, an exemption from Internal Revenue Code Section 409A, and this Plan will be construed to the greatest extent possible as consistent with those exemptions, and to the extent not so exempt, this Plan (and any definitions hereunder) will be construed to the greatest extent possible in a manner that complies with Internal Revenue Code Section 409A. Amounts credited to a Director's Cash Account shall be paid in cash. Amounts credited to a Director's Stock Account shall be paid in shares of Common Stock, subject to Paragraph 3.7 hereof.

4.2 Each Director shall have the right to designate a beneficiary who is to succeed to his right to receive payments hereunder in the event of death. Any designated beneficiary shall receive payments in the same manner as the Director if he had lived. In case of a failure of designation or the death of a designated beneficiary without a designated successor, the balance of the amounts contained in the Director's Cash Account and/or Stock Account shall be payable in accordance with Paragraph 4.1 to the Director's or former Directors' estate. No designation of beneficiary or change in beneficiary shall be valid unless in writing signed by the Director and filed with the Secretary of the Company.

ARTICLE 5

ADMINISTRATION

5.1 The Company shall administer the Plan at its expense. The Company has the exclusive discretion and authority to construe and interpret the Plan, and to decide any and all questions of fact, interpretation, definition, computation or administration arising in connection

with the operation of the Plan, including, without limitation, eligibility to participate in the Plan and amount of benefits to be paid under the Plan. The rules, interpretations, computations and other actions of the Company shall be final and binding on all parties.

5.2 Except to the extent required by law, the right of any Director or any beneficiary to any benefit or to any payment hereunder shall not be subject in any manner to attachment or other legal process for the debts of such Director or beneficiary; and any such benefit or payment shall not be subject to alienation, sale, transfer, assignment or encumbrance.

ARTICLE 6

AMENDMENT OF PLAN

6.1 The Plan may be amended, suspended or terminated in whole or in part from time to time by the Board, except that no amendment, suspension, or termination shall apply to the payment to any Director or beneficiary of a deceased Director of any amounts previously credited to a Director's Cash Account or Stock Account without such Director's (or beneficiary's, if applicable) express written consent.

ARTICLE 7

COMMON STOCK SUBJECT TO THE PLAN

7.1 The total number of shares of Common Stock reserved and available for issuance under the Plan is one hundred twenty five thousand (125,000) (the "***Share Reserve***"). For the sake of clarity, the Share Reserve consists of seventy five thousand (75,000) shares of Common Stock that were previously reserved/set aside for purposes of this Plan prior to the Effective Date and fifty thousand (50,000) additional shares of Common Stock that are reserved/set aside and available for issuance as of the Effective Date. Any shares of Common Stock issued hereunder may consist, in whole or in part, of authorized and unissued shares, treasury shares or shares purchased on the open market. In the event of a Capitalization Adjustment, the Board will appropriately and proportionately adjust the Share Reserve and the number of Shares of Common Stock credited to any Stock Account, in each case, as approved by the Board in its sole discretion.

APPENDIX A

DATE: _____

_____
Corporate Secretary
GTx, Inc.

Dear :

Pursuant to the GTx, Inc. Directors' Deferred Compensation Plan, as amended to date (the "***Plan***"), I hereby elect to defer receipt of all or a portion of my Director's fees for the calendar year commencing on January 1, 20 in accordance with the percentages indicated below.

I acknowledge and agree that this election is irrevocable and shall remain effective with respect to my Director's fees earned during subsequent calendar years, unless I terminate it by written request to the Secretary of the Company prior to the commencement of the year for which the termination is to be effective.

I elect to have my Director's fees (and committee fees, if any) credited as follows (fill in appropriate percentages for options a, b and c, below).

(a) % of the aggregate Director's fees shall be credited to my Cash Account (as defined in the Plan);

(b) % of the aggregate Director's fees shall be credited to my Stock Account (as defined in the Plan);

(c) % of the aggregate Director's fees shall not be deferred, but shall be paid to me directly as they accrue.

Optional: I elect to receive a distribution of the amount credited to my Cash Account and Stock Account on the following date (or as soon as administratively practicable thereafter): .

I understand that if I do not select a distribution date for the amount credited to my Cash Account and Stock Account OR the distribution date I select is after my "separation from service" (as defined in Treasury Regulation Section 1.409A-1(h)), then notwithstanding my selected distribution date, the amount credited to my Cash Account and Stock Account will be distributed to me on the date of my "separation from service" in the form of a single lump sum.

Notwithstanding the foregoing, if I am a "specified employee" (as such term is defined in Internal Revenue Code Section 409A(a)(2)(B)(i)) of the Company or any successor entity thereto upon my "separation from service", then, solely to the extent necessary to avoid the incurrence of the adverse

personal tax consequences under Code Section 409A as a result of the payment of deferred compensation upon my "separation from service", the distribution shall be delayed until

the earlier to occur of (i) the date that is six months and one day after the date of my "separation from service" or (ii) the date of my death.

In the event of my death prior to receipt of the amounts credited to my Cash Account and/or Stock Account, I designate as my beneficiary to receive the amounts so credited.

Very truly yours,

_____

Signature

_____

Print Name

Exhibit 23.1

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the following Registration Statements:

(1) Registration Statement (Form S-8 Nos. 333-210220 and 333-188377) pertaining to the GTx, Inc. 2013 Equity Incentive Plan, the GTx, Inc. 2013 Non-Employee Director Equity Incentive Plan and the GTx, Inc. Directors' Deferred Compensation Plan,

(2) Registration Statement (Form S-8 No. 333-208744) pertaining to the GTx, Inc. 2013 Equity Incentive Plan and the GTx, Inc. 2013 Non-Employee Director Equity Incentive Plan,

(3) Registration Statements (Form S-8 Nos. 333-165507 and 333-149661) pertaining to the GTx, Inc. 2004 Equity Incentive Plan and the GTx, Inc. Amended and Restated 2004 Non-Employee Directors' Stock Option Plan,

(4) Registration Statement (Form S-8 No. 333-136527) pertaining to the GTx, Inc. Amended and Restated 2004 Non-Employee Directors' Stock Option Plan,

(5) Registration Statement (Form S-8 No. 333-118882) pertaining to the GTx, Inc. Directors' Deferred Compensation Plan,

(6) Registration Statement (Form S-8 No. 333-112576) pertaining to the GTx, Inc. 2004 Equity Incentive Plan, 2004 Non-Employee Directors' Stock Option Plan, 2002 Stock Option Plan, 2001 Stock Option Plan, 2000 Stock Option Plan, and 1999 Stock Option Plan, and

(7) Registration Statements (Form S-3 Nos. 333-204932, 333-201132, 333-197911 and 333-195892) of GTx, Inc.;

of our reports dated March 24, 2017, with respect to the financial statements of GTx, Inc. and the effectiveness of internal control over financial reporting of GTx, Inc. included in this Annual Report (Form 10-K) of GTx, Inc. for the year ended December 31, 2016.

/s/ Ernst & Young LLP

Memphis, Tennessee
March 24, 2017

EXHIBIT 31.1

CHIEF EXECUTIVE OFFICER CERTIFICATION

I, Marc S. Hanover, certify that:

1. I have reviewed this Annual Report on Form 10-K 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: March 24, 2017

/s/ Marc S. Hanover
Marc S. Hanover
Chief Executive Officer

EXHIBIT 31.2

PRINCIPAL FINANCIAL OFFICER CERTIFICATION

I, Jason T. Shackelford, certify that:

1. I have reviewed this Annual Report on Form 10-K 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: March 24, 2017

/s/ Jason T. Shackelford
Jason T. Shackelford
Vice President, Finance and Accounting
and Principal Financial and Accounting 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 Annual Report of GTx, Inc. (the "Company") on Form 10-K for the year ended December 31, 2016, 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:

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: March 24, 2017

/s/ Marc S. Hanover
Marc S. Hanover
Chief Executive Officer

This certification accompanies the Form 10-K 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-K), 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 Annual Report of GTx, Inc. (the "Company") on Form 10-K for the year ended December 31, 2016, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Jason T. Shackelford, Vice President, Finance and Accounting and Principal Financial and Accounting 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:

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: March 24, 2017

/s/ Jason T. Shackelford
Jason T. Shackelford
Vice President, Finance and Accounting
and Principal Financial and Accounting Officer

This certification accompanies the Form 10-K 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-K), irrespective of any general incorporation language contained in such filing.