

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-8**REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933****GTx, Inc.**

(Exact name of Registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

62-1715807

(I.R.S. Employer Identification Number)

175 Toyota Plaza
7th Floor
Memphis, TN 38103
(901) 523-9700

(Address, including zip code, of Registrant's principal executive offices)

GTx, Inc. 2013 Equity Incentive Plan
GTx, Inc. 2013 Non-Employee Director Equity Incentive Plan
GTx, Inc. Directors' Deferred Compensation Plan
(Full titles of the plans)

Marc S. Hanover
Chief Executive Officer
GTx, Inc.
175 Toyota Plaza
7th Floor
Memphis, TN 38103
(901) 523-9700

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:
Chadwick L. Mills
Cooley LLP
101 California Street, 5th Floor
San Francisco, CA 94111-5800
(415) 693-2000

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

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
(Do not check if a smaller reporting company)		Emerging growth company	<input type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price Per Share (2)	Proposed Maximum Aggregate Offering Price (2)	Amount of Registration Fee
Common Stock, par value \$.001 per share	1,795,591 shares	\$ 9.86-\$20.51	\$ 29,248,669.31	\$ 3,641.46
(1) Pursuant to Rule 416 promulgated under the Securities Act of 1933, as amended (the "Securities Act"), this Registration Statement shall also cover any additional shares of the Registrant's common stock that become issuable under the plans set forth herein by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without receipt of consideration that increases the number of outstanding shares of the Registrant's common stock.				
(2) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(h) and Rule 457(c) promulgated under the Securities Act. The offering price per share and the aggregate offering price are based upon (a) the weighted average exercise price for the shares of the Registrant's common stock subject to outstanding options originally granted under the plans set forth in the table below and (b) the average of the high and low prices of the Registrant's common stock as reported on The Nasdaq Capital Market on March 14, 2018, which date is within five business days prior to filing this Registration Statement. The chart below details the calculations of the registration fee.				
Securities	Number of Shares of Common Stock	Offering Price Per Share	Aggregate Offering Price/Registration Fee	
Common Stock, \$.001 par value per share, issuable upon the exercise of outstanding options granted under the GTx, Inc. 2013 Equity Incentive Plan	711,634	\$ 9.86(2)(a)	\$	7,016,711.24
Common Stock, \$.001 par value per share, reserved for future grant under the GTx, Inc. 2013 Equity Incentive Plan	933,957	\$ 20.51(2)(b)	\$	19,155,458.07
Common Stock, \$.001 par value per share, reserved for future grant under the GTx, Inc. 2013 Non-Employee Director Equity Incentive Plan	100,000	\$ 20.51(2)(b)	\$	2,051,000.00
Common Stock, \$.001 par value per share, reserved for future issuance under the GTx, Inc. Directors' Deferred Compensation Plan	50,000	\$ 20.51(2)(b)	\$	1,025,500.00
Proposed Maximum Aggregate Offering Price			\$	29,248,669.31
Registration Fee			\$	3,641.46

EXPLANATORY NOTE

This Registration Statement on Form S-8 is being filed for the purpose of registering an additional (i) 1,645,591 shares of the Registrant's Common Stock to be issued pursuant to the Registrant's 2013 Equity Incentive Plan (the "2013 EIP"); (ii) 100,000 shares of the Registrant's Common Stock to be

issued pursuant to the Registrant's 2013 Non-Employee Director Equity Incentive Plan (the "2013 NEDEIP"); and (iii) 50,000 shares of the Registrant's Common Stock to be issued pursuant to the Registrant's Directors' Deferred Compensation Plan (the "DDCP"). The Registrant previously registered shares of the Registrant's Common Stock for issuance under the 2013 EIP and the 2013 NEDEIP pursuant to the Registrant's Registration Statements on Form S-8 (File Nos. 333-188377, 333-208744 and 333-210220), filed with the Securities and Exchange Commission on May 6, 2013, December 23, 2015 and March 15, 2016, respectively. The Registrant also previously registered shares of the Registrant's Common Stock for issuance under the DDCP pursuant to the Registrant's Registration Statements on Form S-8 (File Nos. 333-118882, 333-188377 and 333-210220), filed with the Securities and Exchange Commission on September 9, 2004, May 6, 2013 and March 15, 2016, respectively.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The following documents have been filed by the Registrant with the Securities and Exchange Commission (the "Commission") and are incorporated herein by reference:

- the Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2017, filed with the Commission on March 13, 2018;
- the Registrant's Current Reports on Form 8-K, filed with the Commission on February 9, 2018 (other than the information furnished under Item 2.02) and March 5, 2018; and
- the description of the Registrant's common stock set forth in its registration statement on Form 8-A, filed with the Commission on January 13, 2004, including any further amendments thereto or reports filed for the purposes of updating this description.

All documents subsequently filed by the Registrant pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits furnished on such form that relate to such items, prior to the filing of a post-effective amendment to this Registration Statement which indicates that all of the shares of Common Stock offered have been sold or which deregisters all of such shares then remaining unsold, shall be deemed to be incorporated by reference in this Registration Statement and to be a part hereof from the date of the filing of such documents.

For purposes of this Registration Statement, any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded to the extent that a statement contained herein or in any other subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

Item 4. Description of Securities.

Not applicable.

Item 5. Interests of Named Experts and Counsel.

Not applicable.

Item 6. Indemnification of Directors and Officers.

Set forth below is a description of certain provisions of the Registrant's Restated Certificate of Incorporation, as amended (the "Certificate"), the Registrant's Amended and Restated Bylaws (the "Bylaws") and the General Corporation Law of the State of Delaware (the "DGCL"), as such provisions relate to the indemnification of the directors and officers of the Registrant. This description is intended only as a summary and is qualified in its entirety by reference to the Certificate, the Bylaws and the DGCL.

The Registrant's Certificate provides that, to the fullest extent provided by the DGCL, no director of the Registrant may be personally liable to the Registrant or its stockholders for monetary damages for breach of fiduciary duty as a director. Section 102(b)(7) of the DGCL provides that a corporation may eliminate or limit the personal liability of a director to a corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, provided that such provision may not eliminate or limit the liability of a director for:

- any breach of duty of loyalty to the corporation or to its stockholders;
- acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law;

-
- unlawful payment of dividends or unlawful stock repurchases or redemptions under Section 174 of the DGCL; or
 - any transaction from which the director derived an improper personal benefit.

The Registrant's Certificate and Bylaws further provide that the Registrant shall indemnify all officers and directors of the Registrant who are or were parties to, or are threatened to be made parties to, any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that the person is or was a director, officer, employee or agent of the Registrant, from and against all expense, liability and loss incurred by such person in connection with such action, suit or proceeding, to the fullest extent permitted under the DGCL. Except with respect to

proceedings to enforce rights to indemnification, the Registrant is not required to indemnify any such person seeking indemnification in connection with an action, suit or proceeding initiated by such person unless such action, suit or proceeding was authorized by the Registrant's board of directors. The Registrant's Bylaws further provide that the Registrant may, in its discretion and upon such terms and conditions, if any, as the Registrant deems appropriate, advance expenses to its directors and officers incurred in connection with legal proceedings against them for which they may be indemnified.

The rights conferred in the Bylaws and Certificate are not exclusive and the Registrant may expand the extent of such indemnification by individual contracts with the registrant's directors and executive officers. The Registrant has entered into indemnity agreements with each of its current directors and its executive officers to give such directors and officers additional contractual assurances regarding the scope of the indemnification set forth in the Certificate and Bylaws and to provide additional procedural protections. At present, there is no pending litigation or proceeding involving any of the Registrant's directors, officers or employees for which indemnification is sought, nor is the registrant aware of any threatened litigation that may result in claims for indemnification.

The Registrant has a directors' and officers' insurance and Registrant reimbursement policy. The policy insures the Registrant's directors and officers against uninsured losses arising from certain wrongful acts in their capacities as directors and officers and reimburses the Registrant for those losses for which the Registrant has lawfully indemnified the directors and officers.

Item 7. Exemption from Registration Claimed.

Not Applicable.

Item 8. Exhibits.

Exhibit Number	Exhibit Description	Incorporation By Reference			
		Form	SEC File No.	Exhibit	Filing Date
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	Specimen of Common Stock Certificate	S-1	333-109700	4.2	12/22/2003
5.1+	Opinion of Cooley LLP	—	—	—	—
23.1+	Consent of Ernst & Young LLP, Independent Registered Public Accounting Firm	—	—	—	—
23.2+	Consent of Cooley LLP is contained in Exhibit 5.1 to this Registration Statement	—	—	—	—
24.1+	Power of Attorney (contained on the signature pages hereto)	—	—	—	—
99.1	GTx, Inc. 2013 Equity Incentive Plan	10-K	000-50549	10.16	03/24/2017
99.2	GTx, Inc. 2013 Non-Employee Director Equity Incentive Plan	10-K	000-50549	10.21	03/24/2017
99.3+	GTx, Inc. Directors' Deferred Compensation Plan	—	—	—	—

+ Filed herewith.

Item 9. Undertakings.

1. The undersigned Registrant hereby undertakes:

(a) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

(i) To include any prospectus required by section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the Registration Statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective Registration Statement.

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the Registration Statement or any material change to such information in the Registration Statement;

Provided, however, that paragraphs (a)(i) and (a)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the Registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference herein.

(b) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(c) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

2. The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the Registration Statement shall be deemed to be a new registration statement relating to the securities offered herein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.
3. Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act of 1933 and will be governed by the final adjudication of such issue.

5

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Memphis, State of Tennessee, on this 16th day of March, 2018.

GTX, INC.

By: /s/ MARC S. HANOVER
Marc S. Hanover
Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Marc S. Hanover, Henry P. Doggrell and Jason T. Shackelford, and each or any one of them, his or her true and lawful attorney-in-fact and agent, 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 (including post-effective amendments) to this Registration Statement, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission (the "SEC"), and generally to do all such things in their names and behalf in their capacities as officers and directors to enable the registrant to comply with the provisions of the Securities Act of 1933 and all requirements of the SEC, 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, as fully to all intents and purposes as he or she might or could do in person, ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ MARC S. HANOVER</u> Marc S. Hanover	Chief Executive Officer and Director (<i>Principal Executive Officer</i>)	March 16, 2018
<u>/s/ JASON T. SHACKELFORD</u> Jason T. Shackelford	Vice President, Finance and Accounting, and Principal Financial and Accounting Officer (<i>Principal Financial and Accounting Officer</i>)	March 16, 2018
<u>/s/ ROBERT J. WILLS</u> Robert J. Wills, Ph.D.	Executive Chairman of the Board of Directors	March 16, 2018
<u>/s/ MICHAEL G. CARTER</u> Michael G. Carter, M.D.	Director	March 16, 2018
<u>/s/ J.R. HYDE, III</u> J.R. Hyde, III	Director	March 16, 2018
<u>/s/ J. KENNETH GLASS</u> J. Kenneth Glass	Director	March 16, 2018
<u>/s/ GARRY A. NEIL</u> Garry A. Neil, M.D.	Director	March 16, 2018



Chadwick L. Mills
 +1 650 843 5654
 cmills@cooley.com

March 16, 2018

GTx, Inc.
 175 Toyota Plaza, 7th Floor
 Memphis, TN 38103

Re: Registration on Form S-8

Ladies and Gentlemen:

We have acted as counsel to GTx, Inc., a Delaware corporation (the “*Company*”), in connection with the filing of a registration statement on Form S-8 (the “*Registration Statement*”) with the Securities and Exchange Commission covering the offering of up to 1,795,591 shares of the Company’s Common Stock, par value \$0.001 per share, including (a) 1,645,591 shares of Common Stock (the “*2013 EIP Shares*”) pursuant to the Company’s 2013 Equity Incentive Plan (the “*2013 EIP*”), (b) 100,000 shares of Common Stock (the “*2013 NEDEIP Shares*”) pursuant to the Company’s 2013 Non-Employee Director Equity Incentive Plan (the “*2013 NEDEIP*”) and (c) 50,000 shares of Common Stock (the “*DDCP Shares*”) pursuant to the Company’s Directors’ Deferred Compensation Plan (the “*DDCP*”) and together with the 2013 EIP and 2013 NEDEIP, the “*Plans*”).

In connection with this opinion, we have examined and relied upon the Registration Statement and related prospectuses, the Company’s Amended and Restated Certificate of Incorporation and Bylaws, as currently in effect, the Plans and the originals or copies certified to our satisfaction of such other records, documents, certificates, memoranda and other instruments as we deem necessary or appropriate to enable us to render the opinion expressed below. We have assumed the genuineness and authenticity of all documents submitted to us as originals and the conformity to originals of all documents submitted to us as copies thereof. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not sought independently to verify such matters.

Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware. We express no opinion to the extent that any other laws are applicable to the subject matter hereof and express no opinion and provide no assurance as to compliance with any federal or state securities law, rule or regulation.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the 2013 EIP Shares, the 2013 NEDEIP Shares and the DDCP Shares, when sold and issued in accordance with their respective Plans, the Registration Statement and related prospectuses, will be validly issued, fully paid, and nonassessable (except as to shares issued pursuant to certain deferred payment arrangements, which will be fully paid and nonassessable when such deferred payments are made in full).

We consent to the filing of this opinion as an exhibit to the Registration Statement.

Cooley LLP 101 California Street 5th Floor San Francisco, CA 94111-5800
 t: (415) 693-2000 f: (415) 693-2222 cooley.com

Sincerely,

COOLEY LLP

By: /s/ Chadwick L. Mills
 Chadwick L. Mills

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement (Form S-8) 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 of our report dated March 13, 2018, with respect to the financial statements of GTx, Inc., included in its Annual Report (Form 10-K) for the year ended December 31, 2017, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Memphis, Tennessee
March 16, 2018

GTX, INC.

DIRECTORS' DEFERRED COMPENSATION PLAN

(AMENDED AND RESTATED
EFFECTIVE MARCH 15, 2018)

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 March 15, 2018.

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

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 incurrance 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

4

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 seventy five thousand (175,000) (the "**Share Reserve**"). For the sake of clarity, the Share Reserve consists of one hundred twenty five thousand (125,000) 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.

5

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

Appendix A-1

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

Appendix A-2
