

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

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): December 18, 2007

GTx, Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or Other Jurisdiction of
Incorporation)

000-50549
(Commission File Number)

62-1715807
(IRS Employer Identification No.)

**3 N. Dunlap Street
Van Vleet Building
Memphis, Tennessee 38163**
(Address of principal executive offices, including Zip Code)

Registrant's telephone number, including area code: **(901) 523-9700**

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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Item 3.02. Unregistered Sales of Equity Securities.

On December 18, 2007, GTX, Inc. (the “Company”) issued 1,285,347 shares of the Company’s common stock (the “Shares”) to Merck & Co., Inc. (“Merck”) for an aggregate purchase price of \$29,999,998.98 in connection with the closing (the “Closing”) of the transactions contemplated by that certain Stock Purchase Agreement, dated November 5, 2007, by and between the Company and Merck (the “Purchase Agreement”). The Shares were issued to Merck in reliance upon exemptions from registration pursuant to Section 4(2) under the Securities Act of 1933, as amended (the “Securities Act”), and Rule 506 promulgated thereunder, and Merck has represented to the Company that it is an “accredited investor” within the meaning of Rule 501 under the Act. The Purchase Agreement was entered into in connection with that certain Exclusive License and Collaboration Agreement dated November 5, 2007 that the Company entered into with Merck (the “Collaboration Agreement”), which Collaboration Agreement became effective concurrently with the Closing.

In connection with the Closing, the Company entered into a Registration Rights Agreement with Merck (the “Rights Agreement”) pursuant to which the Company agreed to prepare and file, as soon as reasonably practicable following the Closing, a shelf registration statement under the Securities Act (the “Registration Statement”) registering the resale of the Shares by Merck (or any permitted transferees of Merck) from time to time under the Registration Statement. The Company agreed to pay all expenses incident to the registration of Shares pursuant to the Rights Agreement and the performance of its obligations thereunder. Pursuant to the Rights Agreement, the Company agreed to cause the Registration Statement to remain effective until such time as all of the Shares (a) are eligible to be sold pursuant to Rule 144 under the Securities Act during any ninety 90-day period, (b) have been sold pursuant to an effective registration statement or pursuant to Rule 144 under the Securities Act or (c) have been sold, transferred or otherwise disposed of to any person not entitled to the registration rights under the Rights Agreement, but in any event for no longer than the period ending on the later of December 18, 2009 or the end of the first 90-day period following December 18, 2007 during which all of the Shares may be sold pursuant to Rule 144 under the Securities Act. The Company’s obligation to cause the Registration Statement to remain effective may terminate earlier in the event of certain change in control events involving the Company, subject to certain conditions. The Rights Agreement provides for cross-indemnification in connection with registration of the Shares under the Securities Act. The foregoing is only a brief description of the material terms of the Rights Agreement, does not purport to be a complete statement of the rights and obligations of the parties under the Rights Agreement and the transactions contemplated thereby, and is qualified in its entirety by reference to the Rights Agreement that is filed as Exhibit 4.7 hereto and is incorporated herein by reference.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits.

| <u>Exhibit No.</u> | <u>Description</u> |
|--------------------|--|
| 4.7 | Registration Rights Agreement between Registrant and Merck & Co., Inc. dated December 18, 2007 |

SIGNATURES

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

GTx, Inc.

Dated: December 18, 2007

By: /s/ Henry P. Doggrell
Henry P. Doggrell,
Vice President, General Counsel/Secretary

EXHIBIT INDEX

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REGISTRATION RIGHTS AGREEMENT

This **REGISTRATION RIGHTS AGREEMENT** (this “**Agreement**”) is made and entered into as of December 18, 2007, by and among **GTx, INC.**, a Delaware corporation (the “**Company**”), and **MERCK & Co., INC.**, a New Jersey corporation (the “**Investor**”).

WHEREAS:

A. This Agreement is made in connection with the Closing of the issuance and sale of the Shares pursuant to the Stock Purchase Agreement, dated as of November 5, 2007, by and among the Company and the Investor (the “**Purchase Agreement**”);

B. The Company has agreed to provide the registration and other rights set forth in this Agreement for the benefit of the Investor pursuant to the Purchase Agreement; and

C. It is a condition to the obligations of the Investor and the Company under the Purchase Agreement that this Agreement be executed and delivered.

NOW THEREFORE, in consideration of the mutual covenants and agreements set forth herein and for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged by each party hereto, the parties hereby agree as follows:

**ARTICLE I
DEFINITIONS****Section 1.01 Definitions.**

Capitalized terms used herein without definition shall have the meanings given to them in the Purchase Agreement. The terms set forth below are used herein as so defined:

“**Advice**” has the meaning specified therefor in Section 2.04 of this Agreement.

“**Corporate Transaction**” means the occurrence (in a single transaction or in a series of related transactions) of any of the following: (a) the sale or other disposition of all or substantially all of the assets of the Company or (b) the Company consolidates with, or merges with or into, any Person, or any Person consolidates with, or merges with or into the Company, in any such event pursuant to a transaction in which any of the outstanding voting stock of the Company or such other Person is converted into or exchanged for cash, securities or other property, other than any such transaction where the voting stock of the Company outstanding immediately prior to such transaction is converted into or exchanged for voting stock of the surviving or transferee Person constituting a majority of the outstanding shares of such voting stock of such surviving or transferee Person (immediately after giving effect to such issuance).

“**Effectiveness Period**” has the meaning specified therefor in Section 2.01(a) of this Agreement.

“**Holder**” means the record holder of any Registrable Securities.

“**Inspector**” has the meaning specified therefor in Section 2.03(i) of this Agreement.

“**Investor**” has the meaning specified therefor in the introductory paragraph of this Agreement.

“**Losses**” has the meaning specified therefor in Section 2.06(a) of this Agreement.

“**Managing Underwriter**” means, with respect to any Underwritten Offering, the book-running lead manager of such Underwritten Offering.

“**Prospectus**” means the prospectus included in the Shelf Registration Statement (including, without limitation, a prospectus that includes any information previously omitted from a prospectus filed as part of the Shelf Registration Statement in reliance upon Rule 430A promulgated under the Securities Act), as amended or supplemented by any prospectus supplement, with respect to the terms of the offering of any portion of the Registrable Securities covered by the Shelf Registration Statement, and all other amendments and supplements to the Prospectus, including post-effective amendments, and all material incorporated by reference or deemed to be incorporated by reference in such Prospectus.

“**Purchase Agreement**” has the meaning specified therefor in the Recitals of this Agreement.

“**Registrable Securities**” means the Shares; *provided, however*, that notwithstanding anything to the contrary herein, no Shares shall be deemed Registrable Securities for purposes of this Agreement to the extent that such Shares (a) have been sold to the public pursuant to a registration statement that has been declared effective by the Commission or pursuant to Rule 144, (b) have been sold, transferred or otherwise disposed of by a Holder in a transaction in which its rights under this Agreement were not assigned in accordance with the provisions of Section 2.08 of this Agreement or (c) are held by a Holder during any such period that all Registrable Securities held by such Holder may be sold pursuant to Rule 144 during any ninety (90) day period.

“**Registration Expenses**” has the meaning specified therefor in Section 2.05(a) of this Agreement.

“**Rule 144**” means Rule 144 promulgated by the Commission pursuant to the Securities Act, as may be amended from time to time.

“**Rule 145**” means Rule 145 promulgated by the Commission pursuant to the Securities Act, as may be amended from time to time.

“**Selling Expenses**” has the meaning specified therefor in Section 2.05(a) of this Agreement.

“**Selling Holder**” means a Holder who is selling Registrable Securities pursuant to the Shelf Registration Statement.

“**Shares**” means the Common Stock purchased by the Investor pursuant to the Purchase Agreement.

“**Shelf Registration Statement**” has the meaning specified therefor in Section 2.01(a) of this Agreement.

“**Suspension Certificate**” has the meaning specified therefor in Section 2.01(b) of this Agreement.

“**Underwritten Offering**” means an offering (including an offering pursuant to the Shelf Registration Statement) in which Common Stock is sold to an underwriter on a firm commitment basis for reoffering to the public or an offering that is a “bought deal” with one or more investment banks.

ARTICLE II
REGISTRATION RIGHTS

Section 2.01 Shelf Registration

(a) General Procedures. As soon as practicable following the Closing Date, but in any event within 90 days of the Closing Date, the Company shall prepare and file a registration statement under the Securities Act for an offering to be made on a delayed or continuous basis pursuant to Rule 415 of the Securities Act (or any similar provision then in force under the Securities Act) registering the resale from time to time by Holders thereof of all of the Registrable Securities (the “**Shelf Registration Statement**”). The Company shall use its commercially reasonable efforts to cause the Shelf Registration Statement to become effective as soon as practicable. The Shelf Registration Statement filed pursuant to this Section 2.01(a) shall be on Form S-3 (except if the Company is then ineligible to register for resale the Registrable Securities on Form S-3, in which case such registration shall be on Form S-1). The Company will cause the Shelf Registration Statement filed pursuant to this Section 2.01(a) to be continuously effective under the Securities Act until there are no longer any Registrable Securities outstanding, but in any event for no longer than the period ending on the later of (i) two years following the Closing and (ii) the end of the first 90 day period following the Closing during which all Registrable Securities then outstanding may be sold pursuant to Rule 144 (such period, the “**Effectiveness Period**”). The Shelf Registration Statement when declared effective (including the documents incorporated therein by reference) will comply as to form with all applicable requirements of the Securities Act and the Exchange Act and will not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading.

(b) Suspension of Trading. At any time after the Registrable Securities are covered by the Shelf Registration Statement, the Company may deliver to the Selling Holders a certificate (the “**Suspension Certificate**”) signed by an officer of the Company stating that the effectiveness of and sales of Registrable Securities under the Shelf Registration Statement would (i) materially interfere with any transaction that would require the Company to prepare financial statements under the Securities Act that the Company would otherwise not be required to prepare in order to comply with its obligations under the Exchange Act or (ii) require public disclosure of a material transaction or event prior to the time such disclosure might otherwise be required. Upon receipt of a Suspension Certificate by the Selling Holders, such Selling Holders shall refrain from selling or otherwise transferring or disposing of any Registrable Securities then held by such Selling Holders for a specified period of time that is customary under the circumstances. Notwithstanding the foregoing sentence, in no event shall any Selling Holder be required to refrain from selling or otherwise transferring or disposing of any Registrable Securities under this Section 2.01(b) for a period exceeding an aggregate of 90 days (exclusive of any days covered by any lock-up agreement executed by such Selling Holder in connection with any Underwritten Offering by the Company or any Selling Holders) in any 365-day period. The Company may impose stop transfer instructions to enforce any required agreement of the Holders under this Section 2.01(b).

Section 2.02 Underwritten Offering.

(a) Shelf Registration. If a Selling Holder elects to dispose of Registrable Securities under the Shelf Registration Statement pursuant to an Underwritten Offering and reasonably anticipates gross proceeds of greater than \$20.0 million from such Underwritten Offering, the Company shall, at the request of such Selling Holder, enter into an underwriting agreement in customary form with the Managing Underwriter, which shall include, among other provisions, indemnities to the effect and to the extent provided in Section 2.06, and shall take all such other reasonable actions as are requested by the Managing Underwriter to expedite or facilitate the disposition of the Registrable Securities. In

furtherance of the foregoing, if a supplement to the Prospectus will be used in connection with the marketing of an Underwritten Offering from the Shelf Registration Statement and the Managing Underwriter shall notify the Company in writing that, in the sole judgment of such Managing Underwriter, inclusion of detailed information to be used in such supplement is of material importance to the success of the Underwritten Offering of such Registrable Securities, the Company shall use its commercially reasonable efforts to include such information in such supplement.

(b) General Procedures. In connection with any Underwritten Offering pursuant to this Agreement, the Company shall, at its sole discretion, be entitled to select the Managing Underwriter and other underwriters. In connection with an Underwritten Offering pursuant to this Agreement, each Selling Holder and the Company shall be obligated to enter into an underwriting agreement that contains such representations, covenants, indemnities and other rights and obligations as are customary in underwriting agreements for firm commitment underwritten public offerings of securities. No Selling Holder may participate in such Underwritten Offering unless such Selling Holder agrees to sell its Registrable Securities on the basis provided in such underwriting agreement and completes and executes all questionnaires, powers of attorney, indemnities and other documents reasonably required under the terms of such underwriting agreement. No Selling Holder shall be required to make any representations or warranties to or agreements with the Company or the underwriters other than representations, warranties or agreements regarding such Selling Holder and its ownership of the securities being registered on its behalf and its intended method of distribution and any other representations required by law. If any Selling Holder disapproves of the terms of an underwriting, such Selling Holder may elect to withdraw therefrom by notice to the Company and the Managing Underwriter; *provided that* such withdrawal must be made prior to the time of pricing of such Underwritten Offering to be effective; and *provided further*, that such withdrawing Selling Holder shall be obligated to pay its pro rata share (based on its pro rata share of the aggregate Registrable Securities requested to be included in such Underwritten Offering by all Selling Holders) of the Registration Expenses incurred in connection with such underwriting as of the date of such withdrawal.

Section 2.03 Sale Procedures. In connection with its obligations contained in Section 2.01 and Section 2.02, the Company will:

(a) Prepare and file with the Commission such amendments and supplements to the Shelf Registration Statement and the Prospectus used in connection therewith as may be necessary to keep the Shelf Registration Statement effective and as may be necessary to comply with the provisions of the Securities Act with respect to the disposition of all securities covered by the Shelf Registration Statement.

(b) Permit a single firm of legal counsel, designated by the Selling Holders who hold a majority-in-interest of the Registrable Securities being sold pursuant to the Shelf Registration Statement ("**Holders' Counsel**"), to review the Shelf Registration Statement and all amendments and supplements thereto (except for Annual Reports on Form 10-K, and Quarterly Reports on Form 10-Q and Current Reports on Form 8-K and any similar or successor reports) within a reasonable amount of time (not to exceed three (3) business days) prior to their filing with the Commission, and will not file any document in a form to which such Holders' Counsel reasonably objects, unless otherwise required by law in the opinion of the Company's General Counsel. The sections of the Shelf Registration Statement including information with respect to the Selling Holders, the Selling Holders' beneficial ownership of securities of the Company or the Selling Holders' intended method of disposition of Registrable Securities must conform to the information provided to the Company by each of the Selling Holders or Holders' Counsel.

(c) Furnish to each Selling Holder such number of copies of the Shelf Registration Statement and the Prospectus included therein and any supplements and amendments thereto as such

Selling Holder may reasonably request in order to facilitate the public sale or other disposition of the Registrable Securities covered by such Shelf Registration Statement.

(d) If applicable, use its commercially reasonable efforts to register or qualify the Registrable Securities covered by the Shelf Registration Statement under the securities or blue sky laws of such jurisdictions as the Selling Holders or, in the case of an Underwritten Offering, the Managing Underwriter, shall reasonably request, *provided, however*, that the Company will not be required to qualify generally to transact business in any jurisdiction where it is not then required to so qualify or to take any action which would subject it to general service of process in any such jurisdiction where it is not then so subject.

(e) Promptly notify each Selling Holder, at any time when a Prospectus relating thereto is required to be delivered under the Securities Act, of (i) the filing of the Shelf Registration Statement or any Prospectus to be used in connection therewith, or any amendment or supplement thereto (except for Annual Reports on Form 10-K, and Quarterly Reports on Form 10-Q and Current Reports on Form 8-K and any similar or successor reports), and, with respect to such Shelf Registration Statement or any post-effective amendment thereto, when the same has become effective (except with respect to Annual Reports on Form 10-K), and (ii) the receipt of any written comments from the Commission with respect to any filing referred to in clause (i) and any written request by the Commission for amendments or supplements to the Shelf Registration Statement or any Prospectus or supplement thereto.

(f) Immediately notify each Selling Holder, at any time when a Prospectus relating thereto is required to be delivered under the Securities Act, of (i) the occurrence of any event or passage of time that makes the financial statements included in the Shelf Registration Statement ineligible for inclusion therein or any statement made in the Shelf Registration Statement or the Prospectus, or any document incorporated or deemed to be incorporated therein by reference, untrue in any material respect or that requires any revisions to the Shelf Registration Statement, Prospectus or other documents so that, in the case of the Registration Statement or the Prospectus, as the case may be, it will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein (in the case of any Prospectus, form of prospectus or supplement thereto, in light of the circumstances under which they were made) not misleading, (ii) the occurrence or existence of any pending development with respect to the Company that the Company believes may be material and that, in the determination of the Company, makes it not in the best interest of the Company to allow continued availability of the Shelf Registration Statement or the Prospectus, *provided* that any and all of such information shall remain confidential to each Selling Holder until such information otherwise becomes public, unless disclosure by a Selling Holder is required by law; *provided, further*, that notwithstanding each Selling Holder's agreement to keep such information confidential, the Selling Holders make no acknowledgement that any such information is material, non-public information, (iii) the issuance or threat of issuance by the Commission of any stop order suspending the effectiveness of the Shelf Registration Statement, or the initiation of any proceedings for that purpose, or (iv) the receipt by the Company of any notification with respect to the suspension of the qualification of any Registrable Securities for sale under the applicable securities or blue sky laws of any jurisdiction. Following the provision of such notice, the Company agrees to as promptly as practicable amend or supplement the Shelf Registration Statement or Prospectus or take other appropriate action so that neither the Shelf Registration Statement nor the Prospectus contains an untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary to make the statements therein (in the case of any Prospectus, form of prospectus or supplement thereto, in light of the circumstances under which they were made) not misleading, and to take such other action as is necessary to remove a stop order, suspension, threat thereof or proceedings related thereto.

(g) Upon request and subject to appropriate confidentiality obligations, furnish to Holders' Counsel copies of any and all transmittal letters or other correspondence with the Commission or any other governmental agency or self-regulatory body or other body having jurisdiction (including any domestic or foreign securities exchange) relating to such offering of Registrable Securities.

(h) In the case of an Underwritten Offering, furnish upon request, (i) an opinion of counsel for the Company, dated the date of the closing under the underwriting agreement, and (ii) a "comfort letter," dated the date of the underwriting agreement and a letter of like kind dated the date of the closing under the underwriting agreement, in each case, signed by the independent public accountants who have certified the Company's financial statements included or incorporated by reference into the Shelf Registration Statement, and each of the opinion of counsel for the Company and the "comfort letters" shall be in customary form and covering substantially the same matters with respect to such Shelf Registration Statement (and the Prospectus included therein) as are customarily covered in opinions of issuer's counsel and in accountants' letters delivered to the underwriters in Underwritten Offerings of securities, and such other matters as such underwriters may reasonably request.

(i) Make available to the appropriate representatives of the Managing Underwriter and Selling Holders (each, an "*Inspector*") such information and Company personnel during normal business hours and on reasonable notice as is reasonable and customary to enable such parties to establish a due diligence defense under the Securities Act; *provided, however*, that the Company need not disclose any information to any such Inspector unless and until such Inspector has entered into a confidentiality agreement with the Company in form and substance satisfactory to the Company.

(j) Cause all such Registrable Securities registered pursuant to this Agreement to be listed on the Trading Market.

(k) Use its commercially reasonable efforts to cause the Registrable Securities to be registered with or approved by such other governmental agencies or authorities as may be necessary by virtue of the business and operations of the Company to enable the Selling Holders to consummate the disposition of such Registrable Securities.

(l) Provide a transfer agent and registrar for all Registrable Securities covered by the Shelf Registration Statement not later than the effective date of the Shelf Registration Statement.

Section 2.04 Discontinued Disposition. Each Selling Holder agrees by its acquisition of Registrable Securities that, upon receipt of a notice from the Company of the occurrence of any event of the kind described in Section 2.03(f), such Selling Holder will forthwith discontinue disposition of such Registrable Securities under the Shelf Registration Statement until it is advised in writing (the "*Advice*") by the Company that the use of the applicable Prospectus (as it may have been supplemented or amended) may be resumed, and, if so directed by the Company, such Selling Holder will, or will request the Managing Underwriter, if any, to deliver to the Company (at the Company's expense) all copies in their possession or control, other than permanent file copies then in such Selling Holder's possession, of the Prospectus covering such Registrable Securities current at the time of receipt of such notice. The Company may provide appropriate stop orders to enforce the provisions of this Section 2.04.

Section 2.05 Expenses.

(a) **Certain Definitions.** "*Registration Expenses*" means all expenses incident to the Company's performance under or compliance with this Agreement to effect the registration of Registrable Securities under the Shelf Registration Statement pursuant to Section 2.01, an Underwritten Offering pursuant to Section 2.02 and the disposition of such securities, including, without limitation, all

registration, filing, securities exchange listing and NASDAQ Global Market fees, all registration, filing, qualification and other fees and expenses of complying with securities or blue sky laws, fees of the Financial Industry Regulatory Authority, Inc., transfer taxes and fees of transfer agents and registrars, all word processing, duplicating and printing expenses, the fees and disbursements of counsel and independent public accountants for the Company, including the expenses of any special audits or “comfort letters” required by or incident to such performance and compliance. Except as otherwise provided in Section 2.06 hereof, the Company shall not be responsible for legal fees incurred by Holders in connection with the exercise of such Holders’ rights hereunder. In addition, the Company shall not be responsible for any “**Selling Expenses**,” which means all underwriting fees, discounts and selling commissions allocable to the sale of the Registrable Securities under the Shelf Registration Statement.

(b) Expenses. Except for any Registration Expenses payable by a withdrawing Selling Holder pursuant to Section 2.02(b), the Company will pay all reasonable Registration Expenses as determined in good faith, including, in the case of an Underwritten Offering, whether or not any sale is made pursuant to such Underwritten Offering. Each Selling Holder shall pay all Selling Expenses in connection with any sale of its Registrable Securities hereunder.

Section 2.06 Indemnification.

(a) By the Company. In the event of a registration of any Registrable Securities under the Securities Act pursuant to this Agreement, the Company will indemnify and hold harmless each Selling Holder, its directors and officers, and each underwriter, pursuant to the applicable underwriting agreement with such underwriter, of Registrable Securities thereunder and each Person, if any, who controls such Selling Holder or underwriter within the meaning of the Securities Act or the Exchange Act, against any losses, claims, damages, expenses or liabilities (including reasonable attorneys’ fees and expenses) (collectively, “**Losses**”), joint or several, to which such Selling Holder or underwriter or controlling Person may become subject under the Securities Act, the Exchange Act or otherwise, insofar as such Losses (or actions or proceedings, whether commenced or threatened, in respect thereof) arise out of or are based upon any untrue statement or alleged untrue statement of a material fact contained in the Shelf Registration Statement, any Prospectus or any form of prospectus, or in any amendment or supplement thereto, or arise out of or are based upon the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein (in the case of any Prospectus or form of prospectus or supplement thereto, in light of the circumstances under which they were made) not misleading, and will reimburse each such Selling Holder, its directors and officers, each such underwriter and each such controlling Person for any legal or other expenses reasonably incurred by them in connection with investigating or defending any such Loss or actions or proceedings; *provided, however*, that the Company will not be liable in any such case if and to the extent that (i) any such Loss arises out of or is based upon an untrue statement or alleged untrue statement or omission or alleged omission so made in conformity with information furnished by such Selling Holder, such underwriter or such controlling Person in writing specifically for use therein, (ii) in the case of an occurrence of an event of the type specified in Section 2.03(f) related to the use by a Selling Holder of an outdated or defective Prospectus after the Company has notified such Holder in writing that the Prospectus is outdated or defective and prior to the receipt by such Holder of the Advice contemplated in Section 2.04, but only if and to the extent that following the receipt of the Advice the misstatement or omission giving rise to such Loss would have been corrected or (iii) any such Loss arises out of the Selling Holder’s (or any other indemnified party’s) failure to send or give a copy of the Prospectus or supplement (as then amended or supplemented) to the Persons asserting an untrue statement or alleged untrue statement or omission or alleged omission at or prior to the written confirmation of the sale of Registrable Securities to such Person if such statement or omission was corrected in such Prospectus or supplement. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of such Selling Holder

or any such director, officer or controlling Person, and shall survive the transfer of such securities by such Selling Holder.

(b) By Each Selling Holder. Each Selling Holder agrees severally and not jointly to indemnify and hold harmless the Company, its directors and officers, and each underwriter, pursuant to the applicable underwriting agreement with such underwriter, of Registrable Securities thereunder and each Person, if any, who controls the Company or underwriter within the meaning of the Securities Act or of the Exchange Act to the same extent as the foregoing indemnity from the Company to the Selling Holders (i) if and to the extent that such untrue statement or alleged untrue statement or omission or alleged omission is based solely upon information regarding such Selling Holder furnished in writing by or on behalf of such Selling Holder expressly for inclusion in the Shelf Registration Statement or Prospectus relating to the Registrable Securities, or any amendment or supplement thereto or (ii) in the case of an occurrence of an event of the type specified in Section 2.03(f), to the extent related to the use by such Selling Holder of an outdated or defective Prospectus after the Company has notified such Selling Holder in writing that the Prospectus is outdated or defective and prior to the receipt by such Selling Holder of the Advice contemplated in Section 2.04; *provided, however*, that the liability of each Selling Holder shall not be greater in amount than the dollar amount of the proceeds (net of any Selling Expenses) received by such Selling Holder from the sale of the Registrable Securities giving rise to such indemnification (except in the case of fraud or willful misconduct by such Selling Holder).

(c) Notice. Promptly after receipt by an indemnified party hereunder of notice of the commencement of any action, such indemnified party shall, if a claim in respect thereof is to be made against the indemnifying party hereunder, notify the indemnifying party in writing thereof, but the omission so to notify the indemnifying party shall not relieve it from any liability which it may have to any indemnified party other than under this Section 2.06, except to the extent such failure is materially prejudicial. In any action brought against any indemnified party, it shall notify the indemnifying party of the commencement thereof. The indemnifying party shall be entitled to participate in and, to the extent it shall wish, to assume and undertake the defense thereof with counsel reasonably satisfactory to such indemnified party and, after notice from the indemnifying party to such indemnified party of its election so to assume and undertake the defense thereof, the indemnifying party shall not be liable to such indemnified party under this Section 2.06 for any legal expenses subsequently incurred by such indemnified party in connection with the defense thereof other than reasonable costs of investigation and of liaison with counsel so selected; *provided, however*, that, (i) if the indemnifying party has failed to assume the defense and employ counsel or (ii) if the defendants in any such action include both the indemnified party and the indemnifying party and counsel to the indemnified party shall have concluded that there may be reasonable defenses available to the indemnified party that are different from or additional to those available to the indemnifying party, or if the interests of the indemnified party reasonably may be deemed to conflict with the interests of the indemnifying party, then the indemnified party shall have the right to select a separate counsel and to assume such legal defense and otherwise to participate in the defense of such action, with the reasonable expenses and fees of such separate counsel and other reasonable expenses related to such participation to be reimbursed by the indemnifying party as incurred. Notwithstanding any other provision of this Agreement, no indemnified party shall settle any action brought against it with respect to which it is entitled to indemnification hereunder without the consent of the indemnifying party, unless the settlement thereof imposes no liability or obligation on, and includes a complete and unconditional release from all liability of, the indemnifying party.

(d) Contribution. If the indemnification provided for in this Section 2.06 is held by a court or government agency of competent jurisdiction to be unavailable to any indemnified party or is insufficient to hold them harmless in respect of any Losses, then each such indemnifying party, in lieu of indemnifying such indemnified party, shall contribute to the amount paid or payable by such indemnified party as a result of such Loss in such proportion as is appropriate to reflect the relative fault of the

indemnifying party on the one hand and of such indemnified party on the other in connection with the statements or omissions which resulted in such Losses, as well as any other relevant equitable considerations; *provided, however*, that in no event shall such Selling Holder be required to contribute an aggregate amount in excess of the dollar amount of proceeds (net of Selling Expenses) received by such Selling Holder from the sale of Registrable Securities giving rise to such indemnification. The relative fault of the indemnifying party on the one hand and the indemnified party on the other shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact has been made by, or relates to, information supplied by such party, and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The parties hereto agree that it would not be just and equitable if contributions pursuant to this paragraph were to be determined by pro rata allocation or by any other method of allocation which does not take account of the equitable considerations referred to herein. The amount paid by an indemnified party as a result of the Losses referred to in the first sentence of this paragraph shall be deemed to include any legal and other expenses reasonably incurred by such indemnified party in connection with investigating or defending any Loss which is the subject of this paragraph. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any Person who is not guilty of such fraudulent misrepresentation.

(e) Other Indemnification. The provisions of this Section 2.06 shall be in addition to any other rights to indemnification or contribution which an indemnified party may have pursuant to law, equity, contract or otherwise.

Section 2.07 Rule 144 Reporting. With a view to making available the benefits of certain rules and regulations of the Commission that may permit the sale of the Registrable Securities to the public without registration, the Company agrees to use its commercially reasonable efforts to:

(a) Make and keep public information regarding the Company available, as those terms are understood and defined in Rule 144, at all times from and after the date hereof;

(b) File with the Commission in a timely manner all reports and other documents required of the Company under the Securities Act and the Exchange Act at all times from and after the date hereof; and

(c) So long as a Holder owns of record any Registrable Securities, furnish to such Holder forthwith upon request a copy of the most recent annual or quarterly report of the Company, and such other reports and documents so filed as such Holder may reasonably request in availing itself of any rule or regulation of the Commission allowing such Holder to sell any such securities without registration; *provided* that the Company's obligations pursuant to this Section 2.07(c) shall be deemed satisfied with respect to any document that is publicly available, free of charge, on the Commission's EDGAR website.

Section 2.08 Transfer or Assignment of Registration Rights. The rights to cause the Company to register Registrable Securities granted to the Investor by the Company under this Article II may be transferred or assigned by the Investor only to an Affiliate of the Investor. The Company shall be given written notice prior to any said transfer or assignment, stating the name and address of each such transferee and identifying the Registrable Securities with respect to which such registration rights are being transferred or assigned. Each such transferee shall assume in writing responsibility for its portion of the obligations of the Investor under this Agreement.

ARTICLE III
MISCELLANEOUS

Section 3.01 Effectiveness. This Agreement shall be effective automatically and without further action on the part of any party hereto on the Closing Date.

Section 3.02 Termination. This Agreement and the obligations of the parties hereunder shall terminate on the earlier to occur of (i) the end of the Effectiveness Period or (ii) a Corporate Transaction; *provided, however*, that in the case of clause (ii), only as long as all Registrable Securities (or any securities for which such Registrable Securities are exchanged in such transaction) may be sold by the Holder or Holders thereof without restriction pursuant to Rule 144 or Rule 145 immediately following the closing of such Corporate Transaction. Notwithstanding the foregoing sentence, the termination of this Agreement shall not affect any liabilities or obligations of the parties hereto under Section 2.06 hereof, which such Section 2.06 shall remain in effect in accordance with its terms.

Section 3.03 Communications. All notices and other communications provided for or permitted hereunder shall be made in writing by facsimile, courier service or personal delivery:

- (a) if to the Investor, to the address set forth under the Investor's signature block in accordance with the provisions of this Section 3.03,
- (b) if to a transferee of the Investor, to such Holder at the address provided pursuant to Section 2.08 above, and
- (c) if to the Company, to the address set forth under the Company's signature block in accordance with the provisions of this Section 3.03.

All such notices and communications shall be deemed given and effective on the earliest of (i) the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number specified in this Section prior to 6:30 p.m. (New York City time) on a Trading Day, (ii) the next Trading Day after the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number specified in this Section 3.03 on a day that is not a Trading Day or later than 6:30 p.m. (New York City time) on any Trading Day, (iii) the Trading Day following the date of deposit with a nationally recognized overnight courier service, or (iv) upon actual receipt by the party to whom such notice is required to be given.

Section 3.04 Successor and Assigns. This Agreement shall inure to the benefit of and be binding upon the successors and assigns of each of the parties, including subsequent Holders of Registrable Securities to the extent permitted herein.

Section 3.05 Assignment of Rights. All or any portion of the rights and obligations of the Investor under this Agreement may be transferred or assigned by the Investor to its Affiliates in accordance with Section 2.08 hereof.

Section 3.06 Aggregation of Purchased Common Stock. All Purchased Common Stock held or acquired by Persons who are Affiliates of one another shall be aggregated together for the purpose of determining the availability of any rights under this Agreement.

Section 3.07 Recapitalization, Exchanges, etc. Affecting the Common Stock. The provisions of this Agreement shall apply to the full extent set forth herein with respect to any and all

securities of the Company or any successor, assign or acquirer of the Company (whether by merger, consolidation, sale of assets or otherwise) which may be issued in respect of, in exchange for or in substitution of, the Registrable Securities, and shall be appropriately adjusted for combinations, recapitalizations and the like occurring after the date of this Agreement.

Section 3.08 Specific Performance. Damages in the event of breach of this Agreement by a party hereto may be difficult, if not impossible, to ascertain, and it is therefore agreed that each such Person, in addition to and without limiting any other remedy or right it may have, will have the right to an injunction or other equitable relief in any court of competent jurisdiction, enjoining any such breach, and enforcing specifically the terms and provisions hereof, and each of the parties hereto hereby waives any and all defenses it may have on the ground of lack of jurisdiction or competence of the court to grant such an injunction or other equitable relief. The existence of this right will not preclude any such Person from pursuing any other rights and remedies at law or in equity which such Person may have.

Section 3.09 Execution. This Agreement may be executed in two or more counterparts, all of which when taken together shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to the other party, it being understood that both parties need not sign the same counterpart. In the event that any signature is delivered by facsimile transmission, such signature shall create a valid and binding obligation of the party executing (or on whose behalf such signature is executed) with the same force and effect as if such facsimile signature page were an original thereof.

Section 3.10 Construction. The headings herein are for convenience only, do not constitute a part of this Agreement and shall not be deemed to limit or affect any of the provisions hereof. The language used in this Agreement will be deemed to be the language chosen by the parties to express their mutual intent, and no rules of strict construction will be applied against any party.

Section 3.11 Governing Law. This Agreement shall be governed in all respects by the internal laws of the State of Delaware as applied to agreements entered into among Delaware residents to be performed entirely within Delaware, without regard to principles of conflicts of law.

Section 3.12 Severability. If any provision of this Agreement is held to be invalid or unenforceable in any respect, the validity and enforceability of the remaining terms and provisions of this Agreement shall not in any way be affected or impaired thereby and the parties will attempt to agree upon a valid and enforceable provision that is a reasonable substitute therefor, and upon so agreeing, shall incorporate such substitute provision in this Agreement.

Section 3.13 Entire Agreement. The Transaction Documents, together with the exhibits and schedules thereto, contain the entire understanding of the parties with respect to the subject matter hereof and supersede all prior agreements and understandings, oral or written, with respect to such matters, which the parties acknowledge have been merged into such documents, exhibits and schedules.

Section 3.14 Amendment; Waiver. With the written consent of (i) the Company and (ii) the Holders of a majority-in-interest of the then-outstanding Registrable Securities, the obligations of the Company and the rights of the Holders under this Agreement may be waived or amended (either generally or in a particular instance, either retroactively or prospectively and either for a specified period of time or indefinitely).

Section 3.15 No Third-Party Beneficiaries. This Agreement is intended for the benefit of the parties hereto and their respective successors and permitted assigns and is not for the benefit of, nor may any provision hereof be enforced by, any other Person.

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

GTx, Inc.

By: /s/ Mitchell S. Steiner, M.D.

Name: Mitchell S. Steiner, M.D.

Title: Chief Executive Officer

Address for Notice:

GTx, Inc.
3 North Dunlap St.
Memphis, Tennessee 38163
Attention: Chief Executive Officer or President
Facsimile No.: (901) 523-9772

with a copy to:

GTx, Inc.
3 North Dunlap St.
Memphis, Tennessee 38163
Attention: Vice President, General Counsel
Facsimile No.: (901) 844-8075

MERCK & CO. INC.

By: /s/ Peter Kellogg

Name: Peter Kellogg

Title: Executive Vice President, CFO

Address for Notice:

Merck & Co., Inc.
One Merck Drive
P.O. Box 100, WS3A-65
Whitehouse Station, NJ 08889-0100
Attention: Office of Secretary
Facsimile No.: (908)735-1246

with a copy to:

Merck & Co., Inc.
One Merck Drive
P.O. Box 100, WS2A-30
Whitehouse Station, NJ 08889-0100
Attention: Vice President Business Development
Facsimile: (908)735-1214