GTX INC /DE/ Form PRE 14A March 13, 2014

Use these links to rapidly review the document TABLE OF CONTENTS

Table of Contents

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

SCHEDULE 14A INFORMATION REQUIRED IN PROXY STATEMENT

Proxy Statement Pursuant to Section 14(a) of the Securities Exchange Act of 1934 (Amendment No.

Filed by the Registrant ý

Filed by a Party other than the Registrant o

Check the appropriate box:

- ý Preliminary Proxy Statement
- o Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))
- o Definitive Proxy Statement
- o Definitive Additional Materials
- o Soliciting Material Pursuant to Section §240.14a-12

GTx. Inc.

(Name of Registrant as Specified in its Charter)

 $(Name\ of\ Person(s)\ Filing\ Proxy\ Statement,\ if\ Other\ Than\ the\ Registrant)$

Payment of Filing Fee (Check the appropriate box):

- ý No fee required.
- o Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.
 - (1) Title of each class of securities to which transaction applies:
 - (2) Aggregate number of securities to which transaction applies:
 - (3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):

Proposed maximum aggregate value of transaction:

(4)

	(5)	Total fee paid:					
)	Fee p	the paid previously with preliminary materials.					
)		Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing.					
	(1)	Amount Previously Paid:					
	(2)	Form, Schedule or Registration Statement No.:					
	(3)	Filing Party:					
	(4)	Date Filed:					

Table of Contents

PRELIMINARY COPIES SUBJECT TO COMPLETION

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

March , 2014

Dear Stockholder:

I would like to extend a personal invitation for you to join us at our Annual Meeting of Stockholders to be held on Tuesday, May 6, 2014, at 4:00 p.m. Central Daylight Time at the Toyota Center, 175 Toyota Plaza, Memphis, Tennessee 38103.

At this year's meeting, you will be asked to approve the election of the two nominees for director named in the accompanying proxy statement, to approve an amendment to GTx's charter to increase the number of authorized shares of GTx's common stock, and to ratify the appointment of Ernst & Young LLP as GTx's independent registered public accounting firm for 2014. You will also be asked to approve, on an advisory basis, the compensation of GTx's named executive officers as disclosed in the accompanying proxy statement.

I urge you to vote, as the Board of Directors has recommended, for both of our director nominees, for the amendment to GTx's charter to increase the number of authorized shares of GTx's common stock and for the ratification of the appointment of Ernst & Young LLP as GTx's independent registered public accounting firm for 2014. I also urge you to cast your advisory vote, as the Board of Directors has recommended, for the approval of the compensation of GTx's named executive officers as disclosed in the accompanying proxy statement.

Attached you will find a notice of meeting (which includes a notice of Internet availability of our proxy materials) and proxy statement that contains further information about these items as well as specific details of the meeting.

Your vote is important. Whether or not you expect to attend the meeting, I encourage you to vote. Please sign and return your proxy card, or use the telephone or Internet voting prior to the meeting. This will assure that your shares will be represented and voted at the meeting, even if you cannot attend.

Mitchell S. Steiner

Chief Executive Officer and
Vice-Chairman of the Board of Directors

Table of Contents

PRELIMINARY COPIES SUBJECT TO COMPLETION

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

NOTICE OF ANNUAL MEETING OF STOCKHOLDERS

You are invited to attend the 2014 GTx, Inc. Annual Meeting of Stockholders:

WHEN WHERE 4:00 p.m. (Central Daylight Time) on Tuesday, May 6, 2014. The Toyota Center, 175 Toyota Plaza, Memphis, Tennessee 38103.

ITEMS OF BUSINESS

To elect the two nominees for Class I director named in the accompanying proxy statement to serve until the 2017 Annual Meeting of Stockholders and until their successors have been duly elected and qualified (Proposal No. 1);

To approve an amendment to GTx's Restated Certificate of Incorporation to increase the number of authorized shares of GTx's common stock from 120,000,000 shares to 200,000,000 shares (Proposal No. 2);

To ratify the appointment of Ernst & Young LLP as GTx's independent registered public accounting firm for the fiscal year ending December 31, 2014 (Proposal No. 3);

To approve, on an advisory basis, the compensation of GTx's named executive officers as disclosed in the accompanying proxy statement (Proposal No. 4); and

To conduct such other business as may properly come before the meeting or any adjournment or postponement thereof.

RECORD DATE VOTING BY PROXY

You are entitled to vote if you are a stockholder of record at the close of business on March 10, 2014. The Board of Directors is soliciting your proxy to assure that a quorum is present and that your shares are represented and voted at the meeting. Please see the attached proxy statement and enclosed proxy card for information on submitting your proxy over the Internet, by telephone, or by mailing back the traditional proxy card (no extra postage is needed for the enclosed envelope if mailed in the U.S.). If you later decide to vote at the meeting, information on revoking your proxy prior to the meeting is also provided. You may receive more than one set of proxy materials and proxy cards. Please promptly complete, sign and return each proxy card you receive in order to ensure that all of your shares are represented and voted. Please note that if your shares are held of record by a broker, bank or other nominee and you wish to vote at the meeting, you must obtain a proxy issued in your name from that record holder.

ATTENDANCE AT MEETING RECOMMENDATIONS

If you plan to attend, please be sure to mark the box provided on the proxy card or indicate your attendance when prompted during your Internet or telephone submission.

The Board of Directors recommends that you vote "FOR" both of our nominees for Class I director, "FOR" the approval of Proposal Nos. 2 and 3, and "FOR" the advisory approval of Proposal No. 4.

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting of Stockholders to be Held on May 6, 2014, at the Toyota Center, 175 Toyota Plaza, Memphis, Tennessee 38103

The proxy statement and annual report to stockholders are available at www.edocumentview.com/GTXI

Your vote is important. Whether or not you expect to attend the meeting, please submit your proxy promptly in order to assure that a quorum is present. Thank you for your attention to this important matter.

Henry P. Doggrell

Vice President, Chief Legal Officer and Secretary

Memphis, Tennessee

March , 2014

Table of Contents

TABLE OF CONTENTS

Information About the Meeting Information About Voting	Page <u>1</u>	
Additional Meeting-Related Information	2	
Proposal No. 1 Election of Directors	<u>6</u> <u>8</u>	
Additional Information About the Board of Directors and Certain Corporate Governance Matters Audit Committee Report	9	
Proposal No. 2 Approval of Increase in Number of Authorized Shares of Common Stock	<u>20</u> 22	
Proposal No. 3 Ratification of Appointment of Independent Registered Public Accounting Firm Proposal No. 4 Advisory Vote on Executive Compensation	<u></u>	
Equity Compensation Plan Information	<u>28</u>	
Security Ownership of Certain Beneficial Owners and Management	29 31	
Section 16(a) Beneficial Ownership Reporting Compliance Compensation Discussion and Analysis	<u>34</u>	
Compensation Committee Report	<u>35</u> <u>49</u>	
Executive Compensation Director Compensation	<u>50</u>	
Compensation Committee Interlocks and Insider Participation	<u>70</u>	
Certain Relationships and Related Party Transactions	<u>74</u> <u>74</u>	
Other Matters	<u>76</u>	

PRELIMINARY COPIES SUBJECT TO COMPLETION

GTx, Inc.

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

PROXY STATEMENT FOR THE 2014 ANNUAL MEETING OF STOCKHOLDERS

The enclosed proxy is solicited by the Board of Directors of GTx, Inc. for use at the 2014 Annual Meeting of Stockholders. **Your vote is very important**. For this reason, the Board of Directors is requesting that you allow your shares to be represented at the 2014 Annual Meeting of Stockholders by the proxies named on the enclosed proxy card. In connection with the solicitation of proxies by the Board of Directors, we are mailing this proxy statement, the enclosed proxy card, and our 2013 Annual Report to all stockholders entitled to vote at the Annual Meeting beginning on or about April , 2014.

In this proxy statement, terms such as "we," "us" and "our" refer to GTx, Inc., which may also be referred to from time to time as "GTx."

INFORMATION ABOUT THE MEETING

When is the Annual Meeting?

The Annual Meeting will be held at 4:00 p.m., Central Daylight Time, on Tuesday, May 6, 2014.

Where will the Annual Meeting be held?

The Annual Meeting will be held at the Toyota Center, 175 Toyota Plaza, Memphis, Tennessee 38103. For directions to attend the Annual Meeting, please contact Investor Relations. The contact information for Investor Relations is described under "Who should I contact if I have any questions?" below. Information on how to vote in person at the Annual Meeting is discussed below.

What items will be voted on at the Annual Meeting?

There are four matters scheduled for a vote:

To elect the two nominees for Class I director named herein to serve until the 2017 Annual Meeting of Stockholders and until their successors have been duly elected and qualified;

To approve an amendment to GTx's Restated Certificate of Incorporation to increase the number of authorized shares of GTx's common stock from 120,000,000 shares to 200,000,000 shares;

To ratify the appointment of Ernst & Young LLP as GTx's independent registered public accounting firm for the fiscal year ending December 31, 2014; and

To approve, on an advisory basis, the compensation of GTx's named executive officers as disclosed in this proxy statement.

Table of Contents

As of the date of this proxy statement, we are not aware of any other matters that will be presented for consideration at the Annual Meeting.

What are the Board of Directors' recommendations?

Our Board of Directors recommends that you vote:

"FOR" the election of both of the nominees named herein to serve on the Board of Directors;

"FOR" the approval of an amendment to GTx's Restated Certificate of Incorporation to increase the number of authorized shares of GTx's common stock from 120.000,000 shares to 200,000,000 shares;

"FOR" the ratification of the appointment of Ernst & Young LLP as GTx's independent registered public accounting firm for the fiscal year ending December 31, 2014; and

"FOR" the approval, on an advisory basis, of the compensation of GTx's named executive officers as disclosed in this proxy statement.

Will GTx's directors be in attendance at the Annual Meeting?

GTx encourages, but does not require, its directors to attend annual meetings of stockholders. However, GTx currently anticipates that all of its directors will attend the Annual Meeting. All of GTx's then-current directors attended the 2013 Annual Meeting of Stockholders.

INFORMATION ABOUT VOTING

Who is entitled to vote at the Annual Meeting?

Only stockholders of record at the close of business on the record date, March 10, 2014, are entitled to receive notice of the Annual Meeting and to vote the shares for which they are stockholders of record on that date at the Annual Meeting, or any postponement or adjournment of the Annual Meeting. As of the close of business on March 10, 2014, GTx had 75,161,437 shares of common stock outstanding.

Stockholders of Record: Shares Registered in Your Name. If on March 10, 2014, your shares were registered directly in your name with GTx's transfer agent, Computershare Investor Services, then you are a stockholder of record. As a stockholder of record, you may vote in person at the Annual Meeting or vote by proxy. Whether or not you plan to attend the Annual Meeting, we urge you to fill out and return the enclosed proxy card, or vote by proxy over the telephone or on the Internet as instructed below, to ensure your vote is counted.

Beneficial Owner: Shares Registered in the Name of a Broker or Bank. If on March 10, 2014, your shares were held in an account at a brokerage firm, bank, dealer or other similar organization, then you are the beneficial owner of shares held in "street name" and these proxy materials are being forwarded to you by that organization. The organization holding your account is considered to be the stockholder of record for purposes of voting at the Annual Meeting. As a beneficial owner, you have the right to direct your broker or other agent on how to vote the shares in your account. You are also invited to attend the Annual Meeting. However, since you are not the stockholder of record, you may not vote your shares in person at the Annual Meeting unless you request and obtain a valid proxy from your broker or other agent.

Table of Contents

How do I vote?

You may either vote "FOR" each nominee to the Board of Directors or you may withhold your vote for any nominee that you specify. With respect to Proposal Nos. 2, 3 and 4, you may vote "FOR" or "AGAINST", or abstain from voting. The procedures for voting are fairly simple:

Stockholder of Record: Shares Registered in Your Name. If you are a stockholder of record, you may vote in person at the Annual Meeting, vote by proxy using the enclosed proxy card, vote by proxy over the telephone, or vote by proxy on the Internet. Whether or not you plan to attend the Annual Meeting, we urge you to vote by proxy to ensure your vote is counted. You may still attend the Annual Meeting and vote in person even if you have already previously voted by proxy, in which event your proxy vote will be disregarded.

To vote in person, come to the Annual Meeting and we will give you a ballot when you arrive.

To vote using the enclosed proxy card, simply complete, sign and date the enclosed proxy card and return it promptly in the postage paid envelope provided. If you return your signed proxy card to us before the Annual Meeting, we will vote your shares as you direct.

To vote over the telephone, dial toll-free 1-800-652-VOTE (8683) within the United States, U.S. territories and Canada using a touch-tone phone and follow the instructions provided by the recorded message. Your vote must be received by 1:00 a.m. Central Daylight Time on May 6, 2014 to be counted.

To vote on the Internet, go to www.envisionreports.com/GTXI to complete an electronic proxy card and follow the steps outlined on the secured website. Your vote must be received by 1:00 a.m. Central Daylight Time on May 6, 2014 to be counted.

Beneficial Owner: Shares Registered in the Name of a Broker or Bank. If you are a beneficial owner of shares registered in the name of your broker, bank or other nominee, you should have received a proxy card and voting instructions with these proxy materials from that organization rather than from GTx. Simply complete and mail the proxy card to ensure that your vote is counted. Alternatively, you may vote by telephone or over the Internet as instructed by your broker or bank. To vote in person at the Annual Meeting, you must obtain a valid proxy from your broker, bank or other nominee. Follow the instructions from your broker or bank included with these proxy materials, or contact your broker or bank to request a proxy form.

We provide Internet proxy voting to allow you to vote your shares on-line, with procedures designed to ensure the authenticity and correctness of your proxy vote instructions. However, please be aware that you must bear any costs associated with your Internet access, such as usage charges from Internet access providers and telephone companies.

How many votes do I have?

On each matter to be voted upon, you have one vote for each share of common stock you own as of March 10, 2014.

What if I return a proxy card but do not make specific choices?

Stockholder of Record: Shares Registered in Your Name. If you are a stockholder of record and you do not specify your vote on each proposal individually when voting via the internet or by

Table of Contents

telephone, or if you sign and return a proxy card without giving specific voting instructions, then your shares will be voted as follows:

"FOR" the election of both of the nominees named herein to serve on the Board of Directors;

"FOR" the approval of an amendment to GTx's Restated Certificate of Incorporation to increase the number of authorized shares of GTx's common stock from 120.000.000 shares to 200.000.000 shares:

"FOR" the ratification of the appointment of Ernst & Young LLP as GTx's independent registered public accounting firm for the fiscal year ending December 31, 2014; and

"FOR" the approval, on an advisory basis, of the compensation of GTx's named executive officers as disclosed in this proxy statement.

If any other matter is properly presented at the Annual Meeting, your proxy (one of the individuals named on your proxy card) will vote your shares as recommended by the Board of Directors or, if no recommendation is given, will vote your shares using his or her best judgment.

Beneficial Owner: Shares Registered in the Name of a Broker or Bank. If you are a beneficial owner of shares registered in the name of your broker, bank or other nominee, and you do not provide the broker or other nominee that holds your shares with voting instructions, the broker or other nominee will determine if it has the discretionary authority to vote on the particular matter.

Can I change my vote after submitting my proxy card?

Yes. You can revoke your proxy at any time before the final vote at the Annual Meeting. If you are the record holder of your shares, you may revoke your proxy in any one of three ways:

You may submit another properly completed proxy bearing a later date;

You may send a written notice that you are revoking your proxy to GTx, Inc. at 175 Toyota Plaza, 7th Floor, Memphis, Tennessee 38103, Attention: Henry P. Doggrell, Corporate Secretary; or

You may attend the Annual Meeting and notify the election officials at the Annual Meeting that you wish to revoke your proxy and vote in person. Simply attending the Annual Meeting will not, by itself, revoke your proxy.

If your shares are held by your broker or bank as a nominee or agent, you should follow the instructions provided by your broker or bank.

How are votes counted?

Votes will be counted by the inspector of election appointed for the Annual Meeting, who will separately count "FOR," "WITHHOLD" and broker non-votes with respect to the election of directors, and, with respect to Proposal Nos. 2, 3 and 4, "FOR" and "AGAINST" votes, abstentions and broker non-votes. A broker non-vote occurs when a nominee, such as a broker or bank, holding shares for a beneficial owner does not vote on a particular proposal because the nominee does not have discretionary authority to vote with respect to that proposal and has not received instructions with respect to that proposal from the beneficial owner. In the event that a broker, bank, custodian, nominee or other record holder of our common stock indicates on a proxy that it does not have

Table of Contents

discretionary authority to vote certain shares on a particular proposal, then those shares will be treated as broker non-votes with respect to that proposal. In this regard, the election of directors (Proposal No. 1) and the advisory approval of the compensation of GTx's named executive officers (Proposal No. 4) are matters considered non-routine under applicable rules. A broker or other nominee cannot vote without instructions on non-routine matters, and therefore GTx expects broker non-votes on Proposals Nos. 1 and 4. In addition, it is possible that brokers will not have discretionary voting authority with respect to the amendment to GTx's Restated Certificate of Incorporation to increase the number of authorized shares of GTx's common stock (Proposal No. 2) in which case, if you do not instruct your broker how to vote with respect to Proposal No. 2, your broker may not vote with respect to that proposal. Accordingly, if you own shares through a nominee, such as a broker or bank, please be sure to instruct your nominee how to vote to ensure that your vote is counted on all of the proposals.

Abstentions and broker non-votes will be treated as shares present for the purpose of determining the presence of a quorum for the transaction of business at the Annual Meeting. Abstentions will be counted towards the tabulation of shares present in person or represented by proxy and entitled to vote and will have the same effect as "AGAINST" votes on Proposal Nos. 2, 3 and 4. Although broker non-votes will be treated as shares present for the purpose of determining the presence of a quorum, broker non-votes will not be counted for purposes of determining the number of shares present in person or represented by proxy and entitled to vote with respect to a particular proposal. Thus, a broker non-vote will not affect the outcome of the vote on Proposal Nos. 1, 3 or 4. Broker non-votes will, however, have the same effect as an "AGAINST" vote on Proposal No. 2.

What is the vote required for each proposal?

For the election of the Class I directors, the two nominees receiving the most "FOR" votes (among votes properly cast in person or by proxy) will be elected.

To be approved, Proposal No. 2, the approval of an amendment to GTx's Restated Certificate of Incorporation to increase the number of authorized shares of GTx's common stock from 120,000,000 shares to 200,000,000 shares, must receive a "FOR" vote from at least a majority of the outstanding shares of our common stock.

To be approved, Proposal No. 3, the ratification of the appointment of Ernst & Young LLP as GTx's independent registered public accounting firm for the fiscal year ending December 31, 2014, must receive a "FOR" vote from at least a majority of the shares present in person or represented by proxy at the Annual Meeting and entitled to vote.

To be approved, Proposal No. 4, the approval, on an advisory basis, of the compensation of GTx's named executive officers, must receive a "FOR" vote from at least a majority of the shares present in person or represented by proxy at the Annual Meeting and entitled to vote.

How many shares must be present to constitute a quorum for the Annual Meeting?

A quorum of stockholders is necessary to hold a valid meeting. A quorum will be present if at least a majority of the outstanding shares entitled to vote are represented by stockholders present at the Annual Meeting or by proxy. On March 10, 2014, the record date, there were 75,161,437 shares outstanding and entitled to vote. Thus, at least 37,580,719 shares must be represented by stockholders present at the Annual Meeting or by proxy to have a quorum.

Your shares will be counted towards the quorum only if you submit a valid proxy (or one is submitted on your behalf by your broker, bank or other nominee) or if you vote in person at the

Table of Contents

Annual Meeting. Abstentions and broker non-votes will be treated as shares present for the purpose of determining the presence of a quorum. If there is no quorum, either the Chairman of the meeting or a majority of the votes present in person or represented by proxy at the Annual Meeting may adjourn the Annual Meeting to another date.

How can I find out the results of the voting at the Annual Meeting?

Preliminary voting results will be announced at the Annual Meeting. Final results are expected to be published in a current report on Form 8-K filed by GTx with the Securities and Exchange Commission on or before the fourth business day following the Annual Meeting. If final voting results are not available to us in time to file a Form 8-K within four business days following the Annual Meeting, we intend to file a Form 8 K to publish preliminary results and, within four business days after the final results are known to us, file an additional Form 8-K to publish the final results.

ADDITIONAL MEETING-RELATED INFORMATION

How and when may I submit a stockholder proposal for GTx's 2015 Annual Meeting?

Our annual meeting of stockholders generally is held in April or May of each year. We will consider for inclusion in our proxy materials for the 2015 Annual Meeting of Stockholders, stockholder proposals that are received at our executive offices no later than December , 2014 and that comply with all applicable requirements of Rule 14a-8 promulgated under the Securities Exchange Act of 1934, as amended. However, if our 2015 Annual Meeting of Stockholders is not held between April 6, 2015 and June 5, 2015, then the deadline will be a reasonable time prior to the time we begin to print and send our proxy materials. Proposals must be sent to our Corporate Secretary at GTx, Inc., 175 Toyota Plaza, 7th Floor, Memphis, Tennessee 38103.

Pursuant to GTx's bylaws, stockholders wishing to submit proposals or director nominations that are not to be included in our proxy materials must have given timely notice thereof in writing to our Corporate Secretary. To be timely for the 2015 Annual Meeting of Stockholders, you must notify our Corporate Secretary, in writing, not later than the close of business on December , 2014, nor earlier than the close of business on November , 2014. We also advise you to review GTx's bylaws, which contain additional requirements about advance notice of stockholder proposals and director nominations, including the different notice submission date requirements in the event that we do not hold our 2015 Annual Meeting of Stockholders between April 6, 2015 and June 5, 2015. A stockholder's notice to our Corporate Secretary must set forth the information required by GTx's bylaws with respect to each matter the stockholder proposes to bring before the annual meeting. The Chairman of the 2015 Annual Meeting of Stockholders may determine, if the facts warrant, that a matter has not been properly brought before the meeting and, therefore, may not be considered at the meeting. In addition, the proxy solicited by the Board of Directors for the 2015 Annual Meeting of Stockholders will confer discretionary voting authority with respect to (i) any proposal presented by a stockholder at that meeting for which GTx has not been provided with timely notice and (ii) any proposal made in accordance with GTx's bylaws, if the proxy statement for the 2015 Annual Meeting of Stockholders briefly describes the matter and how management proxy holders intend to vote on it, if the stockholder does not comply with the requirements of Rule 14a-4(c)(2) promulgated under the Securities Exchange Act of 1934, as amended.

How can I obtain a copy of GTx's Form 10-K?

We will mail to you without charge, upon written request, a copy of our Form 10-K filed with the Securities and Exchange Commission for the fiscal year ended December 31, 2013, as well as a copy of any exhibit specifically requested. Requests should be sent to: Corporate Secretary, GTx, Inc.,

Table of Contents

175 Toyota Plaza, 7th Floor, Memphis, Tennessee 38103. A copy of our Annual Report on Form 10-K has also been filed with the SEC and may be accessed from the SEC's homepage (www.sec.gov).

In addition, a copy of our 2013 Annual Report to Stockholders is being mailed along with this proxy statement and is also available at www.edocumentview.com/GTXI. Our 2013 Annual Report to Stockholders is not incorporated into this proxy statement and shall not be considered proxy solicitation material.

What proxy materials are available on the Internet?

This proxy statement and our 2013 Annual Report to Stockholders are available at www.edocumentview.com/GTXI.

Who is paying for this proxy solicitation?

We will pay for the entire cost of soliciting proxies. In addition to these mailed proxy materials, our directors and employees may also solicit proxies in person, by telephone or by other means of communication. Directors and employees will not be paid any additional compensation for soliciting proxies. We may also reimburse brokerage firms, banks and other agents for the cost of forwarding proxy materials to beneficial owners.

How many copies should I receive if I share an address with another stockholder?

The SEC has adopted rules that permit companies and intermediaries, such as brokers, to satisfy the delivery requirements for proxy statements and annual reports with respect to two or more stockholders sharing the same address by delivering a single proxy statement and annual report addressed to those stockholders. This process, which is commonly referred to as "householding," potentially provides extra convenience for stockholders and cost savings for companies.

This year, a number of brokers with account holders who are GTx stockholders will be householding our proxy materials by delivering a single proxy statement and annual report to multiple stockholders sharing an address unless contrary instructions have been received from the affected stockholders. Once you have received notice from your broker that it will be householding materials to your address, householding will continue until you are notified otherwise or until you revoke your consent. If, at any time, you no longer wish to participate in householding and would prefer to receive a separate proxy statement and annual report in the future you may notify your broker or GTx. You can notify us by sending a written request to GTx, Inc., c/o Henry P. Doggrell, Corporate Secretary, 175 Toyota Plaza, 7th Floor, Memphis, Tennessee 38103, or by calling (901) 523-9700. Stockholders who currently receive multiple copies of the proxy statement and annual report at their address and would like to request "householding" of their communications should contact their broker. In addition, GTx will promptly deliver, upon written or oral request to the address or telephone number above, a separate copy of the annual report and proxy statement to a stockholder at a shared address to which a single copy of the documents was delivered.

Who should I contact if I have any questions?

If you have any questions about the Annual Meeting, our proxy materials or your ownership of our common stock, please contact Henry P. Doggrell, Corporate Secretary, 175 Toyota Plaza, 7th Floor, Memphis, Tennessee 38103, Telephone 901-523-9700, by Fax: 901-844-8075 or by e-mail at investor.relations@gtxinc.com.

Table of Contents

PROPOSAL NO. 1 ELECTION OF DIRECTORS

GTx's Board of Directors is divided into three classes. GTx's charter documents provide that each class must consist, as nearly as possible, of one-third of the total number of directors, and each class has a three-year term. Vacancies on the Board of Directors may be filled only by the affirmative vote of a majority of the directors then in office, even though less than a quorum of the Board. A director elected by the Board to fill a vacancy in a class shall serve for the remainder of the full term of that class and until the director's successor is elected and qualified. This includes vacancies created by an increase in the authorized number of directors.

The Board of Directors presently has six members. There are currently two directors in Class I, the class whose term of office expires at the Annual Meeting. Barrington J. A. Furr, Ph.D. and Kenneth S. Robinson, M.D., M.Div., each of whom is a current Class I director, was recommended for re-election to our Board of Directors by our Nominating and Corporate Governance Committee and was nominated for re-election by the Board of Directors. If elected at the Annual Meeting, each of Dr. Furr and Dr. Robinson will serve until the 2017 Annual Meeting of Stockholders and until his successors is elected and qualified, or until his earlier death, resignation or removal.

Directors are elected by a plurality of the votes present in person or represented by proxy and entitled to vote at the Annual Meeting. Shares represented by executed proxies will be voted, if authority to do so is not withheld, for the election of each of Dr. Furr and Dr. Robinson. In the event that either nominee should be unavailable for election as a result of an unexpected occurrence, shares that would have been voted for that nominee will instead will be voted for the election of such substitute nominee as the Nominating and Corporate Governance Committee may propose. Dr. Furr and Dr. Robinson have both agreed to serve if elected.

The following includes a brief biography of both of the nominees standing for election to the Board of Directors at the Annual Meeting, with each biography including information regarding the experiences, qualifications, attributes or skills that caused the Nominating and Corporate Governance Committee and the Board of Directors to determine that the applicable nominee should serve as a member of our Board of Directors.

Class I Director Nominees for Election for a Three-Year Term Expiring at the 2017 Annual Meeting

Barrington J. A. Furr, Ph.D.

Dr. Furr, age 70, has served as a director since January 2011 and currently serves as Chair of the Scientific Advisory Committee and as a member of the Nominating and Corporate Governance Committee and the Audit Committee. Dr. Furr holds a Ph.D. in Reproductive Endocrinology from the University of Reading (United Kingdom). From 1972 to 2005, he worked for AstraZeneca and its predecessor companies. Following the 1999 merger of Zeneca with Astra, Dr. Furr was appointed Chief Scientist and Head of Project Evaluation at AstraZeneca. Dr. Furr serves as a non-executive director of the Medicines and Healthcare products Regulatory Agency (MHRA) of the Department of Health of the United Kingdom. He also serves as a non-executive director of the leading international animal genetics company, Genus plc (LSE:GNS), and he was recently appointed as the non-executive chairman of Llangarth Limited, a drug consultancy company. Dr. Furr has been recognized extensively for his work on Zoladex®, the LHRH agonist for the first line treatment of advanced prostate cancer, and Casodex®, the largest selling anti-androgen in the United States, Europe and Japan. He was awarded the Society for Drug Research Drug Discovery Award and the Jubilee Medal of the Society of Endocrinology. For his services to cancer drug discovery, he was made an Officer of the Order of the British Empire in January 2000. Dr. Furr was added to the Board to bolster the Board's expertise in

Table of Contents

drug development, particularly with respect to therapies for treating prostate cancer, which is a significant focus for GTx. Additionally, Dr. Furr's work with MHRA is expected to provide GTx with better insight and understanding of European regulatory requirements for drug development as we plan for and potentially initiate clinical studies outside of the United States.

Kenneth S. Robinson, M.D., M.Div.

Dr. Robinson, age 59, has served as a director since May 2008 and currently serves as Chair of the Nominating and Corporate Governance Committee and as a member of the Audit Committee. Since 2007, Dr. Robinson has been a public health consultant to governmental and private sector entities. From 2003 through 2007, Dr. Robinson served in the Cabinet of Tennessee Governor Phil Bredesen as Commissioner of Health. Overseeing 3,500 employees and a \$548 million budget, Dr. Robinson was responsible for his department's licensure and regulation of health care professionals and health care institutions in the State of Tennessee, inspections and certification of food and water safety, vital health statistics and health outcome data, health policy planning and development, bioterrorism preparedness, and a wide array of prevention, maternal and child health, community health, and safety net primary care services delivered all across the State of Tennessee. In April 2009, Dr. Robinson accepted an appointment to provide executive-level public health leadership and consultation as the Health Officer of Shelby County, Tennessee, the county in which GTx is located. In February 2011, Dr. Robinson was appointed as Public Health Policy Advisor for Shelby County, Tennessee. From 1982 through 1991, Dr. Robinson taught and practiced internal medicine at Vanderbilt University School of Medicine, and from 1991 through 2003, he was an Assistant Dean at the University of Tennessee College of Medicine. Since 1991, he has served as Pastor and Chief Executive of St. Andrew AME Church. Dr. Robinson holds a B.A., cum laude, from Harvard University, an M.D. from Harvard Medical School, and a Master of Divinity from Vanderbilt Divinity School. He has received numerous national honors. As a Harvard-trained physician who has experience in overseeing the complexities of federal and state agencies' provision of healthcare to elderly and indigent patients, Dr. Robinson brings to the Board expertise in governance, governmental reimbursement related issues, population health data and priorities, and the role of government in the development and delivery of healthcare services. Dr. Robinson, an African-American, adds an element of racial balance to the Board and also provides a voice for GTx with state and local officials.

The Board of Directors unanimously recommends a vote in favor of both of our nominees for Class I Director.

ADDITIONAL INFORMATION ABOUT THE BOARD OF DIRECTORS AND CERTAIN CORPORATE GOVERNANCE MATTERS

Continuing Directors

In addition to the two Class I director nominees, GTx has four other directors who will continue in office after the Annual Meeting with terms expiring in 2015 and 2016. The following includes a brief biography of each director composing the remainder of the Board with terms expiring as shown, with each biography including information regarding the experiences, qualifications, attributes or skills that caused the Nominating and Corporate Governance Committee and the Board to determine that the applicable director should serve as a member of our Board of Directors.

Class II Directors Continuing in Office Until the 2015 Annual Meeting

J. Kenneth Glass

Mr. Glass, age 67, has served as a director since March 2004, and currently serves as the Chair of the Audit Committee and also currently serves on the Compensation Committee. Mr. Glass retired

Table of Contents

as Chairman of the Board, President and Chief Executive Officer of First Horizon National Corporation (NYSE: FHN), or First Horizon, as of January 29, 2007. Mr. Glass was named President and Chief Executive Officer of First Horizon in July 2002, and he also became First Horizon's Chairman of the Board in January 2004. From 2003 through 2007, Mr. Glass served as a director of FedEx Corporation (NYSE: FDX). From July 2001 through July 2002, Mr. Glass was President and Chief Operating Officer of First Horizon. From 1993 to 2001, Mr. Glass was Business Unit President of First Tennessee Bank. Mr. Glass received his B.A. in Accounting from Harding University and graduated from Harvard Business School's Advanced Management Program. As Chairman and Chief Executive Officer of one of the largest banks in Tennessee, Mr. Glass was recruited to the GTx Board to provide financial and business leadership expertise to the Board. With his background in accounting and as a Chief Executive Officer, Mr. Glass serves in the role of a financial expert for our Audit Committee, and his years of experience leading a publicly-owned bank holding company has provided him with the organizational skills, risk management expertise and leadership he currently brings to the Board and the Audit Committee.

Mitchell S. Steiner, M.D., F.A.C.S.

Dr. Steiner, age 53, a co-founder of GTx, has served as our Chief Executive Officer and Vice-Chairman of our Board of Directors since our inception in September 1997 and currently serves on the Scientific Advisory Committee. From 1995 to 2003, Dr. Steiner held numerous academic appointments, including Chairman and Professor of Urology, Director of Urologic Oncology and Research and the Chair of Excellence in Urologic Oncology at the University of Tennessee. Dr. Steiner holds a B.A. in Molecular Biology from Vanderbilt University and an M.D. from the University of Tennessee, and performed his surgery and urologic training at The Johns Hopkins Hospital. Dr. Steiner serves as Chief Executive Officer to GTx, and is responsible for formulating the overall product development and commercial strategies for GTx. Dr. Steiner's knowledge of all aspects of our business and its history, combined with his drive for innovation and excellence, position him well to serve as our Chief Executive Officer and Vice-Chairman of the Board.

Class III Directors Continuing in Office Until the 2016 Annual Meeting

Michael G. Carter, M.D., Ch.B., F.R.C.P.

Dr. Carter, age 75, was appointed as a director in May 2006 and currently serves as Chair of the Compensation Committee and as a member of the Scientific Advisory Committee. Dr. Carter has been a non-executive director of Santarus, Inc. (NASDAQ: SNTS) since 2004, served as a non-executive director of Micromet AG from 2001 to 2005 and of Micromet, Inc. (NASDAQ: MITI) from 2006 to March 2012, and served as a non-executive director of Fulcrum Pharma, PLC (AIM: FUL) from 2005 to 2010. Dr. Carter was a member of the Advisory Board of Paul Capital Royalty Fund from 2005 to 2008, and has been a venture partner with SV Life Sciences Advisers, LLP since 1998 and a member of the strategic advisory board of HealthCare Royalty Partners since September 2009. Dr. Carter was the non-executive chairman of Metris Therapeutics, Ltd., a biotechnology firm specializing in women's healthcare from 1999 to 2008. Dr. Carter served on the Pharmaceutical Board of Zeneca Pharmaceuticals, a predecessor company of AstraZeneca, and held various positions with Zeneca from 1984 to 1998, including International Medical Director and International Marketing Director. From 1985 to 1995, Dr. Carter served as a member of the U.K. Government's Medicines Commission. Dr. Carter is an Elected Fellow of the Royal Pharmaceutical Society, Faculty of Pharmaceutical Medicine, and of the Royal College of Physicians of Edinburgh. Dr. Carter holds a bachelor's degree in pharmacy from London University (U.K.) and a medical degree from Sheffield University Medical School (U.K.). Dr. Carter brings to the GTx Board specific expertise in the development and commercialization of pharmaceutical products by both large pharmaceutical companies and small

Table of Contents

specialty biotech companies. His advice regarding product launch preparations has been especially valuable to both the Board and management.

J. R. Hyde, III

Mr. Hyde, age 71, has served as the Chairman of our Board of Directors since November 2000, and currently serves as a member of the Compensation Committee and the Nominating and Corporate Governance Committee. Since 1989, Mr. Hyde has been the sole stockholder and President of Pittco Holdings, Inc., a private institutional investment company. Since 1996, when Mr. Hyde made a substantial contribution to support Dr. Steiner's research, Mr. Hyde has been instrumental in forming and financing GTx and is our largest stockholder. Mr. Hyde was the Chairman of the Board of Directors of AutoZone, Inc. (NYSE: AZO) from 1986 to 1997 and the Chief Executive Officer of AutoZone from 1986 to 1996. From March 2005 to June 2007, Mr. Hyde served as the non-executive chairman of the Board of Directors of AutoZone, Inc., and continues to serve as a member of the Board. He was also Chairman and Chief Executive Officer of Malone & Hyde, Inc., AutoZone's former parent company, from 1972 until 1988. Mr. Hyde also served as a director of FedEx Corporation (NYSE: FDX) from 1977 to 2011. As our largest stockholder and with a long history of serving as both Chairman and Chief Executive Officer of a large publicly-traded company and a member of the board of directors of other public companies, Mr. Hyde has continued to serve as a principal architect of our public company governance structure, and is the primary advisor to senior management on all matters of strategic importance. The Board believes that Mr. Hyde's leadership role and public company experience continues to qualify him as the best candidate to Chair GTx's Board of Directors.

Director Independence

As required under the NASDAQ listing standards, a majority of the members of a listed company's Board of Directors must qualify as "independent," as affirmatively determined by the Board of Directors. Consistent with the requirements of the SEC and NASDAQ, our Board of Directors reviews all relevant transactions or relationships between each director, and GTx, its senior management and its independent registered public accounting firm. During this review, the Board considers whether there are any transactions or relationships between directors or any member of their immediate family (or any entity of which a director or an immediate family member is an executive officer, general partner or significant equity holder) and members of GTx's senior management or their affiliates. The Board consults with GTx's corporate counsel to ensure that the Board's determinations are consistent with all relevant securities and other laws and regulations regarding the definition of "independent," including those set forth in pertinent NASDAQ listing standards, as in effect from time to time.

As a result of this review, the Board affirmatively determined that the following five of our six directors are independent members of the Board of Directors within the meaning of the applicable NASDAQ listing standards: Dr. Furr (Nominee), Dr. Robinson (Nominee), Mr. Hyde (Chairman), Dr. Carter and Mr. Glass. As a result of Mr. Hyde's significant stock ownership in GTx, Mr. Hyde is not considered "independent" under applicable NASDAQ and SEC standards pertaining to membership of the Audit Committee (Mr. Hyde is not a member of the Audit Committee). Dr. Steiner, our Chief Executive Officer is not "independent" within the meaning of the NASDAQ listing standards. In determining that Dr. Robinson and Mr. Hyde are independent within the meaning of the applicable NASDAQ listing standards, the Nominating and Corporate Governance Committee and the Board considered Dr. Robinson's service as a director of a charitable organization of which Mr. Hyde is chair, as well as Dr. Robinson's position as Chief Executive Officer of a charitable organization that is a grantee of the J.R. Hyde Jr. Foundation and the J.R. Hyde III Family

Table of Contents

Foundation, and determined that such relationships would not interfere with either Dr. Robinson's or Mr. Hyde's exercise of independent judgment in carrying out the responsibilities of a director.

The Compensation Committee and the Nominating and Corporate Governance Committee of the Board are comprised entirely of directors who are independent within the meaning of the NASDAQ listing standards, and the members of the Audit Committee are independent under applicable NASDAQ listing standards and SEC rules. In addition, the Board of Directors has determined that Mr. Glass, the Chair of the Audit Committee, qualifies as an "audit committee financial expert" within the meaning of the SEC rules. In determining whether Dr. Carter, Mr. Hyde and Mr. Glass are independent within the meaning of the NASDAQ listing standards pertaining to membership of the Compensation Committee that will be in effect for GTx as of the Annual Meeting, the Board determined that, based on its consideration of factors specifically relevant to determining whether any such director has a relationship to GTx that is material to that director's ability to be independent from management in connection with the duties of a compensation committee member, no member of the Compensation Committee has a relationship that would impair that member's ability to make independent judgments about GTx's executive compensation. In particular, the Board considered, among other things, the source of each member's compensation, including compensation paid to such member by GTx, and also considered Mr. Hyde's significant stock ownership in and status as an affiliate of GTx and determined that such compensation and affiliation, as applicable, would not impair the applicable member's ability to make independent judgments about GTx's executive compensation. In the case of Mr. Hyde, the Board determined that, as a significant stockholder, his interests are aligned with other stockholders in seeking an appropriate executive compensation program for GTx.

Board Leadership Structure and Risk Oversight

Since we became a public company in February 2004, we have operated with a non-executive Chairman of the Board who leads the Board, and a Chief Executive Officer with responsibility for running GTx who is also a member of the Board and serves as the Vice-Chairman of the Board. The Chairman of our Board, Mr. Hyde, is responsible for:

providing leadership to the Board and facilitating communication among directors;

setting the Board meeting agendas in consultation with the Chief Executive Officer and Chief Operating Officer;

presiding at Board meetings, executive sessions and stockholder meetings; and

facilitating the flow of information between management and the directors on a regular basis.

We believe that our Chief Executive Officer and our Chairman have an excellent working relationship that has allowed Dr. Steiner to focus on the challenges that GTx faces in the current business environment. While our Guidelines on Governance Issues (a copy of which can be found on our corporate website at www.gtxinc.com under "About GTx" at "Governance") does not require that we separate the duties of Chairman of the Board from those of the Chief Executive Officer, we have found combining Mr. Hyde's strategic focus with the day-to-day operational skills provided by our Chief Executive Officer ensures a mature, thoughtful and complete review of matters of importance to GTx. Also, having the opportunity for the independent directors to meet in executive session, which they do following the conclusion of each regularly scheduled Board meeting, gives our Board ample opportunity to openly question and discuss matters pertaining to senior management, including the appropriateness of their direction and actions. Pursuant to our bylaws and our Guidelines on Governance Issues, our Board determines the best Board leadership structure for our company from time to time. As part of

Table of Contents

our annual Board self-evaluation process, the Board evaluates our leadership structure in an effort to ensure that it provides the optimal structure for our company and for our stockholders.

Our Board currently has five independent members within the meaning of the applicable NASDAQ listing standards and one non-independent member, Dr. Steiner, our Chief Executive Officer. A number of our independent Board members have served as members of senior management of other public companies and are serving or have served as directors of other public companies. We have three standing Board committees comprised solely of independent directors within the meaning of the applicable NASDAQ listing standards, each with a different independent director serving as the Chair of the committee, and a fourth Board committee, the Scientific Advisory Committee, established in 2012, which is comprised of two independent directors and Dr. Steiner, with one of the independent directors serving as the Chair of that committee. We believe that the number of independent, experienced directors who make up our Board, along with the independent oversight of the Board by our non-executive Chairman, benefits GTx and our stockholders.

Our Nominating and Corporate Governance Committee is primarily responsible for overseeing GTx's risk management process on behalf of the full Board. The Audit Committee, Scientific Advisory Committee and Nominating and Corporate Governance Committees share responsibilities for receiving reports from management periodically regarding GTx's assessment of risks. In turn, these committees report regularly to the full Board, which also considers GTx's risk profile. The committees and the full Board focus on the most significant risks facing GTx and GTx's general risk management strategy, and also ensure that risks undertaken by GTx are consistent with the Board's appetite for risk. The Audit Committee is primarily responsible for overseeing the financial, legal, information technology and corporate communications operations within our enterprise risk assessment and receives periodic reports from management about the most significant risk facing these areas and the efforts underway to mitigate those risks. The Scientific Advisory Committee is responsible for understanding the operational risks associated with the departments of pre-clinical research and development, clinical development, regulatory affairs, quality assurance and medical affairs, and management's efforts to mitigate those risks. The Nominating and Corporate Governance Committee periodically assesses whether our overall enterprise risk assessment process is functioning appropriately and makes recommendations to the full Board about how risk assessments may be improved. Following our substantial workforce reduction in October 2013, and to focus our efforts on completing our then ongoing Phase 2 clinical trials and understanding how best to move forward with our enobosarm development program, the committees and the full Board decided to temporarily suspend the committees' more compartmentalized review of our operational risks and have management periodically review its operations before the full Board, given management's more focused efforts.

Board and Committee Meetings; Attendance

GTx encourages, but does not require its directors to attend annual meetings of stockholders. All of our then-current directors, attended the 2013 Annual Meeting of Stockholders. For 2013, each director attended at least 75% of the aggregate of (a) all meetings of the Board and (b) any committees on which he served. In 2013, the Board of Directors held six meetings, and the number of meetings held by the Board committees, other than the Scientific Advisory Committee, is set forth in the table below. In addition, our non-management directors hold executive sessions after the conclusion of each regularly scheduled Board meeting. Mr. Hyde presides as Chairman over each executive session of the Board.

Board Committees

GTx's Board of Directors currently has four standing committees: the Audit Committee, the Compensation Committee, the Nominating and Corporate Governance Committee and the Scientific

Table of Contents

Committee/Current Members

Compensation Committee

Advisory Committee. The charters for the Audit Committee, the Compensation Committee, the Nominating and Corporate Governance Committee and the Scientific Advisory Committee are available on GTx's website (www.gtxinc.com) under "About GTx" at "Governance." The current membership of and information about our Audit Committee, Compensation Committee and Nominating and Corporate Governance Committee are shown below. With respect to the Scientific Advisory Committee, the purpose of the Scientific Advisory Committee is to assist the Board by reviewing and evaluating GTx's research strategy, as well as its research, development and clinical programs.

Committee/Current Members Audit Committee	Committee Functions			
Current Members Mr. Glass (Chair) Dr. Furr Dr. Robinson	Oversees financial and operational matters involving accounting, corporate finance, internal and independent auditing, internal control over financial reporting, compliance, and business ethics.			
Number of Meetings held in 2013: 6	Oversees other financial audit and compliance functions as assigned by the Board.			
	Primarily responsible for overseeing GTx's risk management process.			
	Has the sole authority to select, evaluate, replace and oversee GTx's independent registered public accounting firm.			
	Has the sole authority to approve non-audit and audit services to be performed by the independent registered public accounting firm.			
	Monitors the independence and performance of the independent registered public accounting firm.			
	Provides an avenue of communications among the independent registered public accounting firm, management and the Board of Directors.			
	Reviews, approves and provides oversight of "related party transactions."			
	Has the specific responsibilities and authority necessary to comply with the NASDAQ listing standards applicable to audit committees.			

Committee Functions

Reviews the performance of GTx officers and establishes overall executive compensation policies and Current Members: Dr. Carter (Chair) programs. Mr. Glass Mr. Hyde Number of Meetings held in Reviews and approves compensation elements such as base salary, bonus awards, stock option grants 2013: 5 and other forms of long-term incentives for GTx officers. Has the authority, in its sole discretion, to retain (or obtain the advice of) any compensation consultant, legal counsel or other adviser to assist it in the performance of its duties. Evaluates the independence of GTx's compensation advisers. Has the direct responsibility for the appointment, compensation and oversight of the work of any advisers retained or engaged by the Compensation Committee. Reviews Board compensation. Reviews and discusses with management the information contained in the Compensation Discussion and Analysis section of our annual proxy statements. Has the specific responsibilities and authority necessary to comply with the NASDAQ listing standards applicable to compensation committees. 14

Table of Contents

Committee/Current Members Nominating and Corporate Governance Committee

Committee Functions

Current Members:
Dr. Robinson (Chair)

Dr. Robinson (Cha Dr. Furr Mr. Hyde Evaluates governance standards for GTx to ensure that appropriate governance policies and procedures have been established and are being followed.

Number of Meetings held in 2013: 3

Develops criteria to determine the qualifications and appropriate tenure of directors.

Reviews such qualifications and makes recommendations to the Board regarding the nomination of current directors for re-election to the Board as well as new nominees to fill vacancies on the Board.

Considers stockholder recommendations for Board nominees, as described below.

Recommends to the Board the chairmanship and membership of each Board committee.

Considers applicable social and ethical issues and other matters of significance in areas related to corporate public affairs.

Reviews succession plans for GTx officers.

Nominating and Corporate Governance Committee Matters

The Nominating and Corporate Governance Committee expects, as minimum qualifications, that nominees to the Board (including incumbent directors) will enhance the Board's management, finance, commercial and/or scientific expertise, will not have a conflict of interest and will have a high ethical standard and, with respect to new members of the Board, a willingness to serve at least an initial three year term for the Nominating and Corporate Governance Committee to recommend them to the Board of Directors. A director nominee's knowledge and/or experience in areas such as, but not limited to, the medical, pharmaceutical, biotechnology, biopharmaceutical or life sciences industry, equity and debt capital markets and financial accounting are likely to be considered both in relation to the individual's qualification to serve on our Board of Directors and the needs of the Board as a whole. While we do not have a formal policy on Board diversity, the Nominating and Corporate Governance Committee takes into account a broad range of diversity considerations when assessing director candidates, including individual backgrounds and skill sets, professional experiences and other factors that contribute to our Board having an appropriate range of expertise, talents, experiences and viewpoints, and considers those diversity considerations, in view of the needs of the Board as a whole, when making decisions on director nominations. Other characteristics, including but not limited to, the director nominee's material relationships with GTx, time availability, service on other boards of directors and their committees, or any other characteristics which may prove relevant at any given time as determined by the Nominating and Corporate Governance Committee are reviewed for purposes of determining a director nominee's qualification.

Candidates for director nominees are evaluated by the Nominating and Corporate Governance Committee in the context of the current composition of the Board, the operating requirements of GTx and the long-term interests of GTx's stockholders. In the case of new director candidates, the Nominating and Corporate Governance Committee also determines whether the nominee must be independent for NASDAQ purposes, which determination is based upon applicable NASDAQ listing standards, applicable SEC rules and regulations and the advice of counsel, if necessary. The Nominating and Corporate Governance Committee then uses its network of contacts to compile a list of potential candidates, but may also engage, if it deems appropriate, a professional search firm. The Nominating and Corporate Governance Committee

conducts any appropriate and necessary inquiries into the backgrounds and qualifications of possible candidates after considering the function and needs of the Board. In the case of incumbent directors whose terms of office are set to expire, the Nominating and Corporate Governance Committee reviews such directors' overall service to GTx

Table of Contents

during their term, including the number of meetings attended, level of participation, quality of performance, and any other relationships and transactions that might impair such directors' independence. The Nominating and Corporate Governance Committee meets to discuss and consider such candidates' qualifications and then selects a nominee for recommendation to the Board by majority vote. The Nominating and Corporate Governance Committee does not intend to alter the manner in which it evaluates candidates, including the minimum criteria set forth above, based on whether the candidate was recommended by a stockholder or not. To date, the Nominating and Corporate Governance Committee has not paid a fee to any third party to assist in the process of identifying or evaluating director candidates.

The Nominating and Corporate Governance Committee has evaluated, and recommended the nomination of, both of the directors currently standing for re-election at the Annual Meeting.

The Board of Directors does not impose term limits or a mandatory retirement age for directors, except that GTx's Chief Executive Officer (and the Chief Operating Officer, if he or she is a member of the Board) is required to leave the Board if he or she ceases to serve as GTx's Chief Executive Officer (or Chief Operating Officer, as the case may be). While it is believed that a director's knowledge and/or experience can continue to provide benefit to the Board of Directors following a director's retirement from his or her primary work affiliation, it is recognized that a director's knowledge of and involvement in ever changing business environments can weaken, and therefore his or her ability to continue to be an active contributor to the Board of Directors will be reviewed. Upon a director's change in his or her employment status, if any, he or she is required to notify the Chairman of the Board of Directors and the Chair of the Nominating and Corporate Governance Committee of such change and to offer his or her resignation for review.

Compensation Committee Matters

Scope of Authority. The Compensation Committee acts on behalf of the Board of Directors to establish the compensation of executive officers of GTx and provides oversight of GTx's compensation philosophy. The Compensation Committee also acts as the oversight committee with respect to GTx's benefit plans, stock plans and bonus plans covering executive officers and other senior management. In overseeing those plans, the Compensation Committee has the sole authority for the day-to-day administration and interpretation of the plans. The Compensation Committee retains the authority for establishing all matters with respect to the compensation of our executive officers, although our Compensation Committee may recommend to the full Board of Directors that it take action with respect to such compensation matters. Under its charter, the Compensation Committee has the authority, in its sole discretion, to retain (or obtain the advice of) any compensation consultant, legal counsel or other adviser to assist it in the performance of its duties. The Compensation Committee also has the direct responsibility for the appointment, compensation and oversight of the work of any advisers retained or engaged by the Compensation Committee. Finally, the Compensation Committee has the sole authority to approve the reasonable fees and the other terms and conditions of the engagement of any such advisor, including authority to terminate the engagement. GTx must provide for appropriate funding, as determined by the Compensation Committee.

Dr. Carter, as Chair of the Compensation Committee, is responsible for setting the agenda for meetings. Our Compensation Committee annually evaluates the performance, and determines the compensation, of the Chief Executive Officer and the other officers of GTx. More information regarding the Compensation Committee's process and procedures for determining and evaluating our executive officers' compensation packages can be found under the caption "Compensation Discussion and Analysis" below.

Table of Contents

Role of Compensation Consultants in 2013 Compensation Determinations. In early 2012, the Compensation Committee retained the services of Radford (an AonHewitt Company), a third party compensation consultant recommended by one of the Compensation Committee members, to assist the Compensation Committee in evaluating the industry peer group previously utilized by the Compensation Committee to assess comparable Board and executive officer compensation and to make such recommendations regarding our peer group to the Compensation Committee as Radford thought appropriate. Based on recommendations from Radford, the Compensation Committee substantially revised its list of industry peers, and the Compensation Committee utilized this revised group of industry peers to determine if Board and executive officer compensation payments and equity awards were comparable with our peers, including for purposes of 2013 executive officer compensation determinations. At the direction of the Compensation Committee, our finance department obtained compensation data for executive officers from the revised group of industry peers from Equilar, Inc., or Equilar, a web-based independent executive compensation firm, which the Compensation Committee reviewed in the course of making its decisions about executive base salary and stock option grants for 2013. Equilar did not provide any consulting services to GTx or the Compensation Committee in 2013, and to date, Radford's role with respect to executive officer compensation decisions has been limited to advising the Compensation Committee on our peer group. During 2012, the Compensation Committee also retained Radford to assess both the equity and cash compensation payment practices utilized by the Board to pay its members for their participation as Board and Board committee members, and based on the recommendation of Radford, moved to a "roles-based" compensation practice designed to recognize and reasonably pay members for their roles as members of the Board and members or chairpersons of various committees of the Board, as described below.

Roles of Executives in Establishing Executive Compensation. Our human resources, finance and legal departments work with our Chief Operating Officer, Marc Hanover to design and develop compensation programs for our executive officers for recommendation to the Compensation Committee. In addition, these management groups work together to recommend changes to existing compensation programs, to recommend financial and other performance targets to be achieved under those programs, to prepare analyses of financial data, and to prepare peer data comparisons and other briefing materials for the Compensation Committee. Our Chief Operating Officer then reviews the results of these efforts with our Chief Executive Officer, Dr. Steiner, Following any additional review or revision of management's proposals, our Chief Operating Officer and our Chief Executive Officer will then present those proposals, along with any background information, to the Compensation Committee. The Committee may approve, modify, or reject those proposals, or may request additional information from management (or its own consultant, if it wished to retain one) on those matters. Dr. Steiner and Mr. Hanover also have historically made recommendations to the Compensation Committee with respect to the specific performance goals to be achieved under GTx's Executive Bonus Compensation Plan each year. Dr. Steiner also provides an annual review of the performance of each of our executive officers (other than himself) to assist the Compensation Committee in its annual determination of each element of compensation for such officers. Dr. Steiner and Mr. Hanover generally recommend to the Compensation Committee the number of stock options to be granted to our other executive officers; the Compensation Committee may approve, modify or reject any such recommendations for grants of options to our executive officers. For more information on the role of our executive officers in establishing executive compensation please see "Compensation Discussion and Analysis" below.

Director Compensation. The Board of Directors sets non-management directors' compensation at the recommendations of the Nominating and Corporate Governance Committee and the Compensation Committee. The Compensation Committee and Board of Directors believe that: director compensation should fairly compensate directors for work required in a company of GTx's size and scope; the compensation should align directors' interests with the long-term interest of stockholders; and the structure of the compensation should be simple, transparent and easy for stockholders to

Table of Contents

understand. In 2012, based on the recommendation of Radford, the Board approved modifications to the compensation paid to non-employee directors by GTx to begin to bring our non-employee director compensation more in line with the median compensation then being received by the non-employee directors of the company's industry peers, and to modify the cash compensation component such that it varies based on the roles of our non-employee directors as members of the Board and members or chairpersons of the various committees of the Board. Radford recommended increases to the cash compensation payable to our non-employee directors, with such increases be made over a two-year period, to bring our cash payments closer to those payments received by the 50th percentile of the company's peers. The first of these recommended increases was approved by the Board and implemented effective January 1, 2013. Similarly, Radford recommended that increases in the equity awards received both by new non-employee members of the Board and by each non-employee director annually be implemented incrementally over a two-year period to bring such awards closer to the median level of equity awards then being received by non-employee directors of the company's industry peers. Based on these recommendations, in February 2013, the Board approved increases in the number of shares subject to the initial and annual stock option grants we provide to our non-employee directors from 15,000 shares to 22,500 shares in the case of initial grants, and from 15,000 to 20,000 shares in the case of annual grants. The Board deferred determining whether to accept Radford's recommendation that another increase to Board cash compensation and the initial and annual grants of options be implemented to bring the compensation received by GTx's non-employee directors more in line with the median level of cash compensation and equity grants received by non-employee directors of the company's industry peers. The Board later determined in 2013 that it would not consider further increases in Board compensation until such time as our financial condition improves. For more information on the compensation arrangements for our non-employee directors, please see the section entitled "Director Compensation" below.

Compensation Committee Charter. Our Compensation Committee reviews its charter on an annual basis and, if necessary, recommends changes to the Board of Directors for its approval. A copy of the Compensation Committee's charter can be found on our corporate website at www.gtxinc.com under "About GTx" at "Governance."

Stockholder Nomination Policy

It is the Nominating and Corporate Governance Committee's policy to review and consider all candidates for nomination and election as directors who may be suggested by any director or executive officer of GTx. The Nominating and Corporate Governance Committee will also consider any director candidate recommended by any stockholder if the recommendation is made in accordance with GTx's charter, bylaws and applicable law although no director candidate has been recommended to date by any stockholder, other than members of the Board of Directors and management who are also stockholders of GTx. To be considered, a recommendation for director nomination should be submitted in writing to: GTx, Inc., Nominating and Corporate Governance Committee, Attention: Corporate Secretary, 175 Toyota Plaza, 7th Floor, Memphis, Tennessee 38103. When submitting candidates for nomination to be elected at GTx's annual meetings of stockholders, stockholders must follow the notice procedures and provide the information required by GTx's bylaws. In particular, for the Nominating and Corporate Governance Committee to consider a candidate recommended by a stockholder for nomination at the 2015 Annual Meeting of Stockholders, the recommendation must be delivered to GTx's Corporate Secretary, in writing, not later than the close of business on December , 2014, nor earlier than the close of business on November , 2014, subject to the different notice submission date requirements provided for in GTx's bylaws in the event that GTx does not hold its 2015 Annual Meeting of Stockholders between April 6, 2015 and June 5, 2015. The recommendation must include

Table of Contents

the same information as is specified in GTx's bylaws for stockholder nominees to be considered at an annual meeting, including the following:

the stockholder's name and address and the beneficial owner, if any, on whose behalf the nomination is proposed;

the class and number of shares of GTx that are owned beneficially and of record by such stockholder and such beneficial owner:

a description of all arrangements or understandings between the stockholder and the proposed nominee and any other person or persons regarding the nomination;

the nominee's written consent to being named in GTx's proxy statement as a nominee and to serving as a director if elected; and

all information regarding the nominee that would be required to be included in GTx's proxy statement by the rules of the SEC, including the nominee's age, business experience for the past five years and any directorships held by the nominee during the past five years.

Code of Business Conduct and Ethics and Guidelines on Governance Issues

Our Board of Directors 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 GTx's website (www.gtxinc.com) under "About GTx" at "Governance." GTx will provide a copy of these documents to any stockholder, without charge, upon request, by writing to: GTx, Inc., Corporate Secretary, 175 Toyota Plaza, 7th Floor, 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 website at the address and the locations specified above.

Communications with the Board

Stockholders and other interested parties may communicate in writing with our Board of Directors, any of its committees, or with any of its non-management directors by sending written communications addressed to: GTx, Inc., Attention: Corporate Secretary, 175 Toyota Plaza, 7th Floor, Memphis, Tennessee 38103. Our Corporate Secretary will review each communication and will forward such communication to the Board or to any individual director to whom the communication is addressed unless the communication is unduly hostile, threatening or similarly inappropriate, in which case, our Corporate Secretary will discard the communication.

Policies on Reporting Certain Concerns Regarding Accounting and Other Matters

We have adopted policies on the reporting of concerns to our Compliance Officer and Audit Committee regarding any suspected misconduct, illegal activities or fraud, including any questionable accounting, internal accounting controls or auditing matters, or misconduct. Any person who has a concern regarding any misconduct by any GTx employee, including any GTx officer, or any agent of GTx, may submit that concern to: GTx, Inc., Attention: Compliance Officer, 175 Toyota Plaza, 7th Floor, Memphis, Tennessee 38103. Employees may communicate all concerns regarding any misconduct to our Compliance Officer and/or the Audit Committee on a confidential and anonymous basis through GTx's "whistleblower" hotline, the compliance communication phone number established by GTx: 1-877-778-5463, or by filing an anonymous, confidential report through Report-it.com, a web-based online service for "whistleblower" communications accessed at www.reportit.net. Any communications received through the toll free number or the online service is promptly reported to GTx's Compliance Officer, as well as other appropriate persons within GTx.

Table of Contents

AUDIT COMMITTEE REPORT(1)

The Audit Committee of the Board of Directors operates under a written charter approved by the Board of Directors, which is available on GTx's website (www.gtxinc.com) under "About GTx" at "Governance." The Audit Committee's charter specifies that the purpose of the Audit Committee is to assist the Board in its oversight of:

the engagement and performance of the independent registered public accounting firm; the quality and integrity of GTx's financial statements; GTx's system of internal controls; compliance with legal and regulatory requirements; and GTx's risk management process. In carrying out these responsibilities, the Audit Committee, among other things: monitors the preparation of quarterly and annual financial reports by GTx's management; supervises the relationship between GTx and its independent registered public accounting firm, including: having direct responsibility for its appointment, compensation and retention; reviewing the scope of its audit services; approving audit and non-audit services; and confirming the independence of the independent registered public accounting firm; and

oversees management's implementation and maintenance of effective systems of internal and disclosure controls, including review of GTx's policies relating to legal and regulatory compliance, ethics and conflicts of interests.

Management is responsible for: the preparation, presentation and integrity of GTx's financial statements; accounting and financial reporting principles; establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rule 13a-15(e)); establishing and maintaining internal control over financial reporting (as defined in Exchange Act Rule 13a-15(f)); evaluating the effectiveness of disclosure controls and procedures; evaluating the effectiveness of internal control over financial reporting; and evaluating any change in internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, GTx's internal control over financial reporting. The independent registered public accounting firm is responsible for performing an independent audit of GTx's financial statements in accordance with the standards of the Public Company Accounting Oversight Board (United States) and to issue a report thereon, as well as expressing an opinion on the effectiveness of GTx's internal control over financial reporting. The Audit Committee's responsibility is to monitor and oversee these processes.

In connection with these responsibilities, the Audit Committee met with management and the independent registered public accounting firm to review and discuss the audited financial statements, including a discussion of the quality and acceptability of GTx's financial reporting and controls. The Audit Committee also discussed with the independent registered public accounting firm the matters required to be discussed by the Auditing Standard No. 16, *Communications with Audit Committees*, as

Table of Contents

adopted by the Public Company Accounting Oversight Board. The Audit Committee has also received the written disclosures and the letter from the independent registered public accounting firm required by applicable requirements of the Public Company Accounting Oversight Board regarding the independent registered public accounting firm's communications with the Audit Committee concerning independence, and the Audit Committee has discussed with the independent registered public accounting firm that firm's independence. The Audit Committee has also received both management's and the independent registered public accountant's reports on internal control over financial reporting.

Based upon the Audit Committee's discussions with management and the independent registered public accounting firm, and the Audit Committee's review of the representations of management and the independent registered public accounting firm, subject to the limitations on the role and responsibilities of the Audit Committee referred to above and in the Audit Committee Charter, the Audit Committee recommended that the Board of Directors include the audited financial statements in GTx's Annual Report on Form 10-K for the year ended December 31, 2013, filed with the Securities and Exchange Commission.

THE AUDIT COMMITTEE

J. Kenneth Glass, Chair Barrington J. A. Furr Kenneth S. Robinson

(1)

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 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 any such filing.

21

Table of Contents

PROPOSAL NO. 2 APPROVAL OF INCREASE IN NUMBER OF AUTHORIZED SHARES OF COMMON STOCK

Our Board of Directors is requesting stockholder approval of an amendment to our Restated Certificate of Incorporation to increase the number of authorized shares of our common stock from 120,000,000 shares to 200,000,000 shares. On February 27, 2014, our Board of Directors adopted resolutions approving and authorizing the foregoing amendment and directing that the amendment be submitted to a vote of the stockholders at the Annual Meeting.

The text of the form of proposed Certificate of Amendment to Restated Certificate of Incorporation increasing the number of authorized shares of our common stock from 120,000,000 shares to 200,000,000 shares is attached to this proxy statement as Annex A. If our stockholders approve this Proposal No. 2, we expect to file the Certificate of Amendment with the Secretary of State of the State of Delaware to increase the number of authorized shares of our common stock as soon as practicable following stockholder approval. Upon filing of the Certificate of Amendment with the Secretary of State of the State of Delaware to increase the number of authorized shares of our common stock from 120,000,000 shares to 200,000,000 shares, Section A of ARTICLE IV of our Restated Certificate of Incorporation will read as follows:

"A. <u>Authorized Stock</u>. The total number of shares which the Corporation shall have authority to issue is two hundred five million (205,000,000), consisting of two hundred million (200,000,000) shares of Common Stock, par value \$0.001 per share (the "Common Stock"), and five million (5,000,000) shares of Preferred Stock, par value \$0.001 per share (the "Preferred Stock")."

Our Restated Certificate of Incorporation currently authorizes the issuance of up to 125,000,000 shares of capital stock, consisting of 120,000,000 shares of common stock, par value \$0.001 per share, and 5,000,000 shares of preferred stock, par value \$0.001 per share. An increase in the number of authorized shares of our common stock to 200,000,000 shares will increase our total authorized capitalization to 205,000,000 shares of capital stock, which includes our previously authorized 5,000,000 shares of preferred stock.

Of the 120,000,000 shares of our common stock currently authorized, as of the close of business on March 10, 2014, there were 75,161,437 shares of common stock outstanding. In addition to the 75,161,437 shares of common stock outstanding on March 10, 2014, as of March 10, 2014:

an aggregate of 10,179,642 shares of our common stock were issuable upon the exercise of outstanding warrants;

an aggregate of 7,440,809 shares of our common stock were issuable upon the exercise of outstanding options or the vesting of outstanding restricted stock units;

an aggregate of 187,948 shares of our common stock were credited to individual non-employee director stock accounts under our Directors' Deferred Compensation Plan; and

an aggregate of 6,959,396 shares of our common stock were reserved and remained available for future grant or issuance under our equity compensation plans and our Directors' Deferred Compensation Plan.

We have funded our operations and internal growth primarily through public offerings and private placements of our common stock, collaboration and license agreements, and prior to September 2012, product revenue from sales of FARESTON, which was sold to a third party in 2012. We currently have no ongoing collaborations for the development and commercialization of our product candidates and no source of revenue, nor do we expect to generate revenue for the foreseeable future. Until we

Table of Contents

can generate a sufficient amount of product revenue, which we may never do, we expect to finance future cash needs through public or private equity offerings (such as our private placement of common stock and warrants announced in March 2014), debt financings, or collaboration and licensing arrangements (which often involve the possibility of an equity investment), or a combination of the above, as well as through interest income earned on the investment of our cash balances and short-term investments.

At present, the Board of Directors has no immediate plans, arrangements or understandings to issue the additional shares of common stock, other than in connection with the future automatic increases to the shares reserved for issuance under our 2013 Equity Incentive Plan and our 2013 Non-Employee Director Equity Incentive Plan, or the 2013 Plans. However, the Board of Directors desires to have the shares available to provide additional flexibility to use GTx common stock for business and financial purposes in the future as well to have sufficient shares available to provide appropriate equity incentives for our employees, including to give effect to future automatic increases to the shares reserved for issuance under the 2013 Plans. The additional shares may be used for various purposes without further stockholder approval. These purposes may include raising capital; providing equity incentives to employees, officers, directors, consultants and/or advisors; establishing strategic relationships with other companies; expanding our business through the acquisition of other businesses, products or technologies; and other purposes. For example, we will need to raise substantial additional capital to, among other things, fund our operations, conduct and/or complete clinical trials, continue our research and development activities, seek regulatory approval for our product candidates and commercialize our product candidates, if any such product candidates receive regulatory approval for commercial sale, and the additional shares may be used for a financing if we have an appropriate opportunity. If this Proposal No. 2 is not approved by our stockholders, it is possible that financing alternatives for GTx may be limited by the lack of unissued and unreserved authorized shares of common stock, and stockholder value may be harmed, perhaps severely, by this limitation. As an example, on March 6, 2014, we completed a private placement of units consisting of 11,976,048 shares of our common stock and warrants to purchase up to 10,179,642 additional shares of our common stock for gross proceeds of approximately \$21.3 million. If, at the time of that financing, there had been an insufficient amount of unissued and unreserved authorized shares of common stock available to complete the financing, we would have been unable to complete the financing on the terms we completed it and could have been required to, among other things, make further reductions in our workforce, discontinue the development of enobosarm and/or GTx-758, liquidate all or a portion of our assets, and/or seek protection under the provisions of the U.S. Bankruptcy Code, all of which could have severely harmed our business and our prospects. In the future, we may be faced with funding needs similar to our funding needs at the beginning of 2014 and we will otherwise still need to obtain substantial additional capital in the future, and if this Proposal No. 2 is not approved, there would not be sufficient authorized shares of common stock available in order to pursue additional equity financings, which limitation could severely harm our prospects and stockholder value. For instance, because we do not currently have any ongoing collaborations for the development and commercialization of our product candidates and no source of revenue, nor do we expect to generate revenue for the foreseeable future, our ability to drive the development of our product candidates through the development and regulatory process will depend, in part, on our ability to obtain additional funding in the future. In addition, our success depends in part on our continued ability to attract, retain and motivate highly qualified management and clinical and scientific personnel, and if this Proposal No. 2 is not approved by our stockholders. the lack of unissued and unreserved authorized shares of common stock to provide future equity incentive opportunities the Compensation Committee deems appropriate could adversely impact our ability to achieve these goals. In short, if our stockholders do not approve this Proposal No. 2, we may not be able to access the capital markets, complete corporate collaborations or partnerships, attract, retain and motivate employees, and pursue other business

Table of Contents

opportunities integral to our growth and success, all of which could severely harm our business and our prospects.

GTx's Board of Directors believes that the proposed increase in our authorized common stock will make sufficient shares available to provide the additional flexibility necessary to pursue our strategic objectives. Over the past several years, flexibility has allowed us to pursue a number of strategic and financing transactions. As noted above, in March 2014, we completed a private placement of common stock and warrants for gross proceeds of approximately \$21.3 million. Although we implemented a plan to reduce our operating expenses (including a significant reduction in our workforce in October 2013) prior to the March 2014 financing, as of immediately prior to the completion of the March 2014 financing, our then available cash resources were not sufficient to fund our current level of operations and to meet our outstanding liablities beyond May 2014. We have also completed equity financings in less dire circumstances, including in connection with opportunistic equity financings undertaken to fund our clinical trials and research and development activities. For example, in 2011 and in 2010, we issued an aggregate of 26,308,715 shares of our common stock in two separate underwritten public offerings for aggregate gross proceeds of approximately \$95.2 million to fund clinical development and other research and development activities and for working capital and general corporate purposes. In addition, in 2007, we sold 1,285,347 shares of our common stock for an aggregate purchase price of approximately \$30.0 million to Merck & Co., Inc. in connection with our prior collaboration with Merck. Unless our stockholders approve this Proposal No. 2, we will not have sufficient unissued and unreserved authorized shares of common stock to engage in similar transactions in the future and to respond to compensatory needs by implementing new or revised equity compensation plans or arrangements.

The additional common stock to be authorized by stockholder approval of this Proposal No. 2 would have rights identical to the currently outstanding shares of our common stock. Approval of this Proposal No. 2 and issuance of the additional authorized shares of common stock would not affect the rights of the holders of currently outstanding shares of our common stock, except for effects incidental to increasing the number of shares of our common stock outstanding, such as dilution of any earnings per share and voting rights of current holders of common stock. The additional shares of common stock authorized by the approval of this Proposal No. 2 could be issued by our Board of Directors without further vote of our stockholders except as may be required in particular cases by our Restated Certificate of Incorporation, applicable law, regulatory agencies or the rules of the NASDAQ Stock Market. Under our Restated Certificate of Incorporation, stockholders do not have preemptive rights to subscribe to additional securities that may be issued by GTx, which means that current stockholders do not have a prior right thereunder to purchase any new issue of common stock in order to maintain their proportionate ownership interests in GTx.

The proposed amendment to our Restated Certificate of Incorporation to increase the number of authorized shares of our common stock could, under certain circumstances, have an anti-takeover effect. The additional shares of common stock that would become available for issuance if this Proposal No. 2 is approved could also be used by us to oppose a hostile takeover attempt or to delay or prevent changes in control or our management. For example, without further stockholder approval, the Board could adopt a "poison pill" which would, under certain circumstances related to an acquisition of GTx securities not approved by the Board, give certain holders the right to acquire additional shares of common stock at a low price, or the Board could strategically sell shares of common stock in a private transaction to purchasers who would oppose a takeover or favor the current Board. Although this proposal to increase the authorized common stock has been prompted by business and financial considerations and not by the threat of any hostile takeover attempt (nor is the Board currently aware of any such attempts directed at us), nevertheless, stockholders should be aware that approval of this Proposal No. 2 could facilitate future efforts by us to deter or prevent changes in control, including

Table of Contents

transactions in which the stockholders might otherwise receive a premium for their shares over then current market prices.

Stockholder approval of this Proposal No. 2 requires a "FOR" vote from at least a majority of the outstanding shares of our common stock.

The Board of Directors unanimously recommends a vote "FOR" Proposal No. 2.

25

Table of Contents

PROPOSAL NO. 3 RATIFICATION OF APPOINTMENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Audit Committee has selected Ernst & Young LLP as GTx's independent registered public accounting firm for the fiscal year ending December 31, 2013, and the Board of Directors has further directed that management submit the appointment of the independent registered public accounting firm for ratification by the stockholders at the Annual Meeting. Ernst & Young LLP has audited GTx's financial statements since its inception in 1997. A representative of Ernst & Young LLP is expected to be present at the Annual Meeting to make a statement if he or she so desires and to answer any appropriate questions.

Stockholder ratification of the appointment of Ernst & Young LLP as GTx's independent registered public accounting firm is not required by GTx's bylaws or other governing documents. However, the Board is submitting the appointment of Ernst & Young LLP to the stockholders for ratification as a matter of good corporate governance. The Audit Committee is not bound by a vote either for or against the proposal. The Audit Committee will consider a vote against Ernst & Young LLP by the stockholders in selecting our independent registered public accounting firm in the future. Even if the stockholders do ratify the appointment, the Audit Committee in its discretion may direct the appointment of a different independent registered public accounting firm at any time during the year if it believes that such a change would be in the best interests of GTx and our stockholders.

Stockholder approval of this Proposal No. 3 requires a "FOR" vote from at least a majority of the shares present in person or represented by proxy at the Annual Meeting and entitled to vote.

On behalf of the Audit Committee, the Board of Directors unanimously recommends a vote "FOR" Proposal No. 3.

Independent Registered Public Accounting Firm's Fees

The following table shows the fees paid or accrued by GTx for audit and other services provided by Ernst & Young LLP, GTx's independent registered public accounting firm, for the years ended December 31, 2012 and 2013.

		Audit-Related		All Other	
Year	Audit Fees(1)	Fees(2)	Tax Fees(3)	Fees	Total Fees
2012	\$ 353,529		\$ 44,301		\$ 397,830
2013	\$ 339,945		\$ 59,938		\$ 399,883

- "Audit Fees" consisted of fees for professional services provided in connection with the audit of our financial statements and review of our quarterly financial statements. Also includes fees for services provided in connection with other statutory or regulatory filings or engagements, such as comfort letters, attest service, consents and review of documents filed with the SEC.
- "Audit-Related Fees" consisted of fees billed for assurance and related services that are reasonably related to the performance of the audit or review of our financial statements and are not reported under "Audit Fees." There were no audit-related fees billed for fiscal 2012 or fiscal 2013.
- "Tax Fees" consisted of fees associated with tax compliance, including tax return preparation, and tax advice and tax planning services. Tax compliance services accounted for \$44,301 and \$25,538 of the total tax fees billed in 2012 and 2013, respectively. Tax advice and tax planning services of \$34,400 in 2013 related to consultations on our net operating loss carryforwards.

26

Table of Contents

Pre-Approval Policies and Procedures

Applicable SEC rules require the Audit Committee to pre-approve audit and non-audit services provided by our independent registered public accounting firm. On March 18, 2004, our Audit Committee began pre-approving all services by Ernst & Young LLP and has pre-approved all new services since that time.

The Audit Committee pre-approves all audit and non-audit services to be performed for GTx by its independent registered public accounting firm. The Audit Committee does not delegate the Audit Committee's responsibilities under the Securities Exchange Act of 1934 to GTx's management. The Audit Committee has delegated to the Chair of the Audit Committee the authority to grant pre-approvals of audit services of up to \$25,000; provided that any such pre-approvals are required to be presented to the full Audit Committee at its next scheduled meeting. The Audit Committee has determined that the rendering of the services other than audit services by Ernst & Young LLP is compatible with maintaining Ernst & Young's independence.

Table of Contents

PROPOSAL NO. 4 ADVISORY VOTE ON EXECUTIVE COMPENSATION

In accordance with SEC rules, GTx stockholders are being asked to approve, on an advisory basis, the compensation of our named executive officers as disclosed in this proxy statement.

We held our first stockholder advisory vote on executive compensation, commonly referred to as a "say-on-pay vote," in 2011. Over 99% of the shares that were voted on that proposal, and over 83% of all shares present and entitled to vote, cast votes in favor of our say-on-pay proposal. At that time, our stockholders also indicated their preference that we solicit a say-on-pay vote once every three years. Our Board of Directors has adopted a policy that is consistent with that preference and accordingly, we are holding a say-on-pay vote at this year's Annual Meeting.

This vote is not intended to address any specific item of compensation, but rather the overall compensation of our named executive officers and the philosophy, policies and practices described in this proxy statement. The compensation of our named executive officers subject to the say-on-pay vote is disclosed in the Compensation Discussion and Analysis, the compensation tables, and the related narrative disclosure contained in this proxy statement.

Our Compensation Committee is responsible for designing and administering our executive compensation program. Our Compensation Committee firmly believes that GTx's executive compensation program should reward our named executive officers for performance, but that when key performance objectives are not achieved, the compensation of our named executive officers should reflect as much. This pay-for-performance philosophy is demonstrated in the actions taken by our Compensation Committee in 2013, including the reduction in certain executive base salaries and the suspension of our annual cash bonus program. However, we believe that overall, the compensation program for our named executive officers has been instrumental in helping GTx to continue to retain and motivate the key personnel necessary to enable our company to be in a position to move forward with its business strategy.

Our Board of Directors is asking our stockholders to indicate their support for the compensation of our named executive officers as described in this proxy statement by casting a non-binding advisory vote "FOR" the following resolution:

"RESOLVED, that the compensation paid to GTx's named executive officers, as disclosed pursuant to Item 402 of Regulation S-K, including the Compensation Discussion and Analysis, compensation tables and narrative discussion, is hereby APPROVED."

Because the vote is advisory, it will not be binding on our Board of Directors. Nevertheless, the views expressed by our stockholders, whether through this vote or otherwise, are important to us and, accordingly, the Board of Directors and the Compensation Committee intend to consider the results of this vote in making determinations in the future regarding executive compensation arrangements.

Unless our Board of Directors modifies its policy on the frequency of future advisory votes on the compensation of our named executive officers, the next advisory vote on the compensation of our named executive officers will be held at the 2017 annual meeting of stockholders.

Stockholder approval of this Proposal No. 4 requires a "FOR" vote from at least a majority of the shares present in person or represented by proxy at the Annual Meeting and entitled to vote.

The Board of Directors unanimously recommends a vote "FOR" Proposal No. 4.

(3)

EQUITY COMPENSATION PLAN INFORMATION

The following table provides certain information with respect to all of GTx's equity compensation plans in effect as of December 31, 2013:

Name	Number of Securities to be Issued upon Exercise of Outstanding Options, Warrants and Rights (a)	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights (b)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) (c)
Plan Category			
Equity compensation plans approved by security holders	7,670,342(1	5.53	3,239,443 ₍₃₎
Equity compensation plans not approved by security			
holders	169,384(4	4)	481,568(5)
Total	7,839,726	\$ 5.53	3,721,011

- Represents shares of GTx common stock underlying stock options and restricted stock units granted under, as applicable: (i) the Genotherapeutics, Inc. Stock Option Plan, the GTx, Inc. 2000 Stock Option Plan, the GTx, Inc. 2001 Stock Option Plan, the GTx, Inc. 2002 Stock Option Plan and the GTx, Inc. 2004 Equity Incentive Plan, which are collectively referred to as the Prior Employee Plans; (ii) the GTx, Inc. Amended and Restated 2004 Non-Employee Directors' Stock Option Plan, or the Prior Directors' Plan; (iii) the GTx, Inc. 2013 Equity Incentive Plan, or the 2013 Plan; and (iv) the GTx, Inc. 2013 Non-Employee Director Equity Incentive Plan, or the 2013 Directors' Plan. From and after the May 2, 2013 effective date of 2013 Plan and the 2013 Directors' Plan, no further awards may be made under the Prior Employee Plans and the Prior Directors' Plan. Stock options previously granted under the Prior Employee Plans and the Prior Directors' Plan continue to be governed by the terms of the applicable plan.
- The weighted-average exercise price takes into account 1,225,000 shares of GTx common stock issuable upon the vesting of outstanding restricted stock units, or RSUs, that were granted under the 2013 Plan, which have no exercise price. The weighted-average exercise price, excluding such outstanding RSUs, is \$6.58.
 - Represents shares of GTx common stock remaining available for future issuance under the 2013 Plan and the 2013 Directors' Plan. The total number of shares of GTx common stock available for future issuance under the 2013 Plan, upon its May 2, 2013 effective date, was initially 4,208,157 shares plus up to an additional 6,093,559 Returning Employee Shares (as defined below) as such shares become available from time to time as set forth in the 2013 Plan. "Returning Employee Shares" means the shares subject to outstanding awards granted under the Prior Employee Plans that, from and after the May 2, 2013 effective date of the 2013 Plan, expire or terminate for any reason prior to exercise or settlement, are forfeited because of the failure to vest in those shares or are otherwise returned to the 2013 Plan share reserve pursuant to the terms of the 2013 Plan. As of December 31, 2013, an aggregate of 2,862,109 shares of GTx common stock remained available for future issuance under the 2013 Plan, plus up to an additional 4,751,509 Returning Employee Shares as such shares become available from time to time thereafter as set forth in the 2013 Plan. In addition, the number of shares remaining available for future issuance under the 2013 Plan automatically increases on January 1st of each year, for ten years, commencing on January 1, 2014, in an amount equal to 4% of the total number of shares of GTx common stock outstanding on December 31 of the preceding calendar year, or such lesser (or no) amount as may be approved by our Board of Directors. On January 1, 2014, the number of shares available for issuance under the 2013 Plan automatically increased by 2,527,416 shares. The total number of shares of GTx common stock available for future issuance under the 2013 Directors' Plan, upon its May 2, 2013 effective date, was initially 404,000 shares plus up to an additional 449,667 Returning Director Shares (as defined below) as such shares become available from time to time as set forth in the 2013 Directors' Plan. "Returning Director Shares" means the shares subject to outstanding awards granted under the Prior Directors' Plan that, from and after the May 2, 2013 effective date of the 2013 Directors' Plan, expire or terminate for any reason prior to exercise or settlement, are forfeited because of the failure to vest in those shares or are otherwise returned to the 2013 Directors' Plan share reserve pursuant to the terms of the 2013 Directors' Plan. As of December 31, 2013, an aggregate of 377,334 shares of GTx common stock remained available for future issuance under the 2013 Directors' Plan, plus up to an additional 386,333 Returning Director Shares as such shares become available from time to time thereafter as set forth in the 2013 Directors' Plan. In addition, the number of shares remaining available for future issuance under the 2013 Directors' Plan automatically increases on January 1st of each year, for ten years, commencing on January 1, 2014, in an amount equal to the lesser of 1% of the total number of shares of GTx common stock outstanding on December 31 of the preceding calendar year and 500,000 shares, or such lesser (or no) amount as may be approved by Board of Directors. On January 1, 2014, the number of shares available for issuance under the 2013 Directors' Plan automatically increased by 500,000 shares.

Table of Contents

- (4)

 Represents shares credited to individual director stock accounts as of December 31, 2013 under our Directors' Deferred Compensation Plan. There is no exercise price for these shares.
- As of December 31, 2013, we had reserved an aggregate of 750,000 shares of GTx common stock for issuance pursuant to our Directors' Deferred Compensation Plan. However, the number of shares that may become issuable under our Directors' Deferred Compensation Plan depends solely on future elections made by plan participants. As of December 31, 2013, 99,048 shares of common stock had been distributed to participants in our Directors' Deferred Compensation Plan, and 169,384 shares were then credited to individual director stock accounts under our Directors' Deferred Compensation Plan.

30

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth information as of March 10, 2014 (except as noted) regarding the beneficial ownership of our common stock by:

each person, or group of affiliated persons, who is known by us to own beneficially five percent or more of our common stock;

each of our directors and nominees for director;

each of our named executive officers; and

all of our directors and executive officers as a group.

The number of shares owned and percentage ownership in the following table is based on 75,161,437 shares of common stock outstanding on March 10, 2014. Except as otherwise indicated below, the address of each officer, director and five percent stockholder listed below is c/o GTx, Inc., 175 Toyota Plaza, 7th Floor, Memphis, Tennessee 38103.

We have determined beneficial ownership in accordance with the rules of the SEC. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities. In addition, these rules require that we include shares of common stock issuable pursuant to the exercise of stock options and warrants that are either immediately exercisable or exercisable within 60 days of March 10, 2014. We have also included shares credited to individual non-employee director stock accounts under our Directors' Deferred Compensation Plan as of March 10, 2014. Amounts credited to individual non-employee director stock accounts under our Directors' Deferred Compensation Plan are payable solely in shares of GTx common stock, but such shares do not have current voting or investment power. We have not, however, included shares underlying restricted stock units granted to certain of the named executive officers since those restricted stock units would not vest within 60 days of March 10, 2014 unless the applicable named executive officer was terminated without cause or we experienced a change of control within that time period. Shares issuable pursuant to our Directors' Deferred Compensation Plan and shares issuable pursuant to the exercise of stock options and warrants that are either immediately exercisable or exercisable within 60 days of March 10, 2014 are deemed to be outstanding and beneficially owned by the person to whom such shares are issuable for the purpose of computing the percentage ownership of that person, but they are not treated as outstanding for the purpose of computing the percentage ownership of any other person. Unless otherwise indicated, we believe that the persons or

Table of Contents

entities identified in this table have sole voting and investment power with respect to all shares shown as beneficially owned by them.

	Beneficial Ow	nership
Name and Address of Beneficial Owner	Number of Shares	Percent of Total
5% Stockholders:		
Jack W. Schuler	13,624,666(1)	18.1%
28161 North Keith Drive		
Lake Forest, Illinois 60045		
The Pyramid Peak Foundation	11,077,845(2)	13.8%
6410 Poplar Ave. Ste 900		
Memphis, Tennessee 38119		
Directors:		
J. R. Hyde, III	29,663,340(3)	36.9%
Mitchell S. Steiner, M.D., F.A.C.S.	$4,964,367^{(4)}$	6.6%
Michael G. Carter, M.D., Ch.B., F.R.C.P.	113,653 ⁽⁵⁾	*
Barrington J.A. Furr, Ph.D.	58,976(6)	*
J. Kenneth Glass	174,770 ⁽⁷⁾	*
Kenneth S. Robinson, M.D., M.Div.	117,047 ⁽⁸⁾	*
Named Executive Officers:		
Marc S. Hanover	1,440,211 ⁽⁹⁾	1.9%
Mark E. Mosteller, CPA	277,282(10)	
James T. Dalton, Ph.D.	216,000(11	
Henry P. Doggrell	338,346(12	
All Directors and Executive Officers as a group	36,436,176(13	44.6%

Represents less than 1% of the outstanding shares of our common stock.

The indicated beneficial ownership is based solely on a Schedule 13D/A filed with the SEC by the reporting person on August 26, 2013, reporting beneficial ownership as of August 19, 2013. According to the Schedule 13D/A, Jack W. Schuler has sole voting and dispositive power over 7,357,512 of such shares. Mr. Schuler also reported shared voting and dispositive power over 6,266,954 of such shares in the Schedule 13D/A filed August 26, 2013, which shares are owned by the Schuler Family Foundation, of which Mr. Schuler serves as a director along with his wife and daughter. Mr. Schuler's wife also reported shared voting and dispositive power over the shares owned by the Schuler Family Foundation. Mr. Schuler and Mrs. Schuler each disclaims any beneficial interest in the shares that the Schuler Family Foundation owns. The indicated ownership does not include 1,939,742 shares of GTx common stock owned by three irrevocable trusts (the "Trusts") established for the benefit of Mr. Schuler's adult children, as reported in the Schedule 13D/A. Mr. Schuler reports that he is not a trustee of any of the Trusts. Mr. Schuler and Mrs. Schuler each disclaims any beneficial interest in the shares that the Trusts own. The Schedule 13D/A filed by the reporting person provides information as of August 19, 2013 and, consequently, the beneficial ownership of the reporting person may have changed between August 19, 2013 and March 10, 2014.

Based on information provided to GTx as of March 10, 2014. Includes 5,089,821 shares issuable upon the exercise of a warrant held by The Pyramid Peak Foundation.

Mr. Hyde has the sole power to vote or to direct the vote and the sole power to dispose or to direct the disposition of 27,347,894 shares, which include 145,352 shares held by Pittco Associates II, L.P. and 3,915,716 shares held by Pittco Investments, L.P., entities controlled by Mr. Hyde, 5,089,821 shares issuable upon the exercise of a warrant held by Mr. Hyde and 67,387 shares issuable to Mr. Hyde pursuant to our Directors' Deferred Compensation Plan. Mr. Hyde also has shared voting and dispositive power over 216,462 shares held by Mr. Hyde's spouse, 1,844,851 shares held by trusts for the benefit of Mr. Hyde's children (the "Family Trusts") and 254,133 shares held in grantor retained annuity trusts on behalf of Mr. Hyde (the "GRATs"). As trustee of the Family Trusts and the GRATs, John H. Pontius shares voting and dispositive power over the shares held by the Family Trusts and the GRATs. Mr. Pontius' business address is 17 West Pontotoc Ave., Suite 200, Memphis, Tennessee 38103. Mr. Hyde has pledged 752,100 of the shares of common stock owned by him to SunTrust Bank to secure personal loans.

Table of Contents

- Includes 536,184 shares held by trusts with respect to which Dr. Steiner may be deemed to have shared voting or dispositive power or otherwise have beneficial ownership, 1,867,951 shares held by Dr. Steiner's wife, of which Dr. Steiner disclaims beneficial ownership, 5,100 shares held in a joint account and 291,000 shares of common stock issuable upon the exercise of options held by Dr. Steiner.
- (5)

 Consists of 77,334 shares of common stock issuable upon the exercise of options held by Dr. Carter, and 36,319 shares issuable to Dr. Carter pursuant to our Directors' Deferred Compensation Plan.
- (6)

 Consists of 36,667 shares of common stock issuable upon the exercise of options held by Dr. Furr, and 22,309 shares issuable to Dr. Furr pursuant to our Directors' Deferred Compensation Plan.
- (7)
 Includes 77,667 shares of common stock issuable upon the exercise of options held by Mr. Glass, and 6,553 shares issuable to Mr. Glass pursuant to our Directors' Deferred Compensation Plan. Mr. Glass has pledged 50,000 of the shares of common stock owned by him to Deutsche Bank to secure personal loans.
- (8)

 Consists of 61,667 shares of common stock issuable upon the exercise of options held by Dr. Robinson, and 55,380 shares issuable to Dr. Robinson pursuant to our Directors' Deferred Compensation Plan.
- (9)
 Includes 352,875 shares held by Equity Partners XII, LLC, an entity controlled by Mr. Hanover, 660,198 shares held by trusts of which Mr. Hanover is the trustee, and 319,000 shares of common stock issuable upon the exercise of options held by Mr. Hanover.
- (10)

 Consists of 270,000 shares of common stock issuable upon the exercise of options held by Mr. Mosteller, and 7,282 shares held by Mr. Mosteller's wife.
- (11)
 Consists of 216,000 shares of common stock issuable upon the exercise of options held by Dr. Dalton.
- Includes 4,354 shares held by trusts with respect to which Mr. Doggrell may be deemed to have beneficial ownership, 114,350 shares held by a trust of which Mr. Doggrell is the co-trustee, 184,001 shares of common stock issuable upon the exercise of options held by Mr. Doggrell, and 4,000 shares of common stock held by Mr. Doggrell through an individual retirement account. Also includes 6,641 shares held by Mr. Doggrell's wife and 5,000 shares held in a joint account with Mr. Doggrell's adult child, of which Mr. Doggrell disclaims beneficial ownership.
- For purposes of determining the number of shares beneficially owned by directors and executive officers as a group, any shares beneficially owned by more than one director or executive officer are counted only once. In addition, because Mr. Mosteller is no longer an executive officer of GTx, the number of shares indicated in the table above with respect to the beneficial ownership of all directors and executive officers as a group do not include any shares beneficially owned by Mr. Mosteller.

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Exchange Act requires our executive officers and directors and the beneficial owners of greater than 10% of our common stock to file initial reports of ownership and reports of changes in ownership with the SEC. Executive officers and directors are required by SEC regulations to furnish us with copies of these reports. Based solely on a review of the copies of these reports furnished to us and any written representations from such executive officers, directors and stockholders with respect to the period from January 1, 2013 through December 31, 2013, we are not aware of any required Section 16(a) reports that were not filed on a timely basis.

Copies of the insider trading reports can be found at our corporate website at www.gtxinc.com, on our Investor Relations page, under the category "SEC Filings."

COMPENSATION DISCUSSION AND ANALYSIS

Our compensation discussion and analysis discusses the total compensation for our Chief Executive Officer, our President, Chief Operating Officer and acting principal financial officer, our former Chief Financial Officer who resigned effective December 31, 2013, and each of the other individuals who were serving as our executive officers at December 31, 2013:

Mitchell S. Steiner, M.D., F.A.C.S., Chief Executive Officer;

Marc S. Hanover, President, Chief Operating Officer and acting principal financial officer;

Mark E. Mosteller, CPA, former Vice President, Chief Financial Officer and Treasurer;

James T. Dalton, Ph.D., Vice President, Chief Scientific Officer; and

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

The individuals listed above are referred to in this compensation discussion and analysis as our "named executive officers."

This compensation discussion and analysis describes the material elements of our compensation program for our named executive officers during 2013. It also provides an overview of our executive compensation philosophy, policies and practices.

Executive Summary

2013 was a challenging year for us, but the executive compensation programs and policies that have been put in place by our Compensation Committee over the years proved useful and constructive during this period. In addition, we believe that the swift and decisive actions taken by our Compensation Committee shortly after we reported the disappointing news in August 2013 that our two Phase 3 clinical trials evaluating our lead product candidate, enobosarm 3 mg, failed to meet their co-primary endpoints as agreed upon with the U.S. Food & Drug Administration, or the FDA, have stabilized the company and the key management team and appropriately reduced our expenses, so that our company is in a position to move forward with its business strategy.

The highlights of our Compensation Committee actions for fiscal year 2013 include:

The suspension of our Executive Bonus Compensation Plan, or the Bonus Plan, and the reduction in the base salaries of Dr. Steiner, Mr. Hanover and Dr. Dalton following the news that our two Phase 3 clinical trials evaluating enobosarm 3 mg for the prevention and treatment of muscle wasting in patients with advanced non-small cell lung cancer, or the POWER trials, failed to meet their co-primary endpoints as agreed upon with FDA.

The approval of retention packages for all retained employees, with the exception of Mr. Mosteller, following the significant workforce reduction we implemented in the fall of 2013 on the heels of our announcement of the disappointing results from the POWER trials. Our Compensation Committee was very concerned about our ability to retain and motivate our remaining workforce during a critical time period for the company, and felt that offering retention packages that provided additional benefits for staying with the company in the short term while we evaluated regulatory pathways for enobosarm 3 mg, continued to conduct two Phase 2 clinical trials of our enobosarm 9 mg and GTx-758 product candidates, and pursued discussions with potential partners, was critical to our ability to potentially execute on these initiatives.

Table of Contents

In addition, the Compensation Committee's historical and continuing emphasis on providing incentive opportunities in the form of equity awards rather than cash compensation was a significant benefit to the cash and overall financial position of our company over the past year. Moreover, the Compensation Committee's long-standing policy of providing a very limited number of benefits and perquisites to our executives proved to be especially beneficial at this time, by preventing the company from sustaining an additional drain on cash resources.

We held our first advisory stockholder vote on executive compensation in 2011. Over 99% of the shares that were voted on that proposal, and over 83% of all shares present and entitled to vote, cast votes in favor of our say-on-pay proposal. The Compensation Committee considered the result of the stockholder advisory vote an endorsement of its compensation policies, practices and philosophy for our named executive officers, and determined not to make any significant changes to our executive compensation policies or practices, including for 2013 and 2012, as a result of the vote. The Compensation Committee will continue to consider the outcome of our say-on-pay votes and our stockholder views when making future compensation decisions for our named executive officers.

Compensation Philosophy

Our Compensation Committee believes that the compensation program for our executive officers should enable us to attract and retain highly qualified executives within a framework that rewards performance and aligns the interests of our executives with those of our stockholders. Our Compensation Committee also believes that our executive compensation program should reward our named executive officers for performance, but that when key performance objectives are not achieved, the compensation of our named executive officers should reflect as much. This pay-for-performance philosophy underlies all components of our executive compensation program.

Role of Our Compensation Committee, External Compensation Consultants and Management

Oversight and Authority of our Compensation Committee

Our Compensation Committee is responsible for designing and administering our executive compensation program. This includes reviewing and approving the compensation that may become payable to our executive officers. The Compensation Committee also provides strategic direction to management with respect to implementing the Compensation Committee's decisions. The Compensation Committee meets regularly in executive session, without management present.

The Compensation Committee made all relevant decisions for 2013 compensation for our named executive officers, including, following our announcement of the disappointing results from the POWER trials, reducing the base pay for Dr. Steiner, Mr. Hanover and Dr. Dalton, and suspending the Bonus Plan indefinitely. In addition, the Compensation Committee approved the retention packages for remaining employees after our announcement that we eliminated approximately 60% of our workforce effective October 1, 2013.

Role of the Compensation Committee's Compensation Consultant

Under its charter, our Compensation Committee has the authority to retain its own compensation consultant at company expense. Prior to 2012, the Compensation Committee had not generally engaged a compensation consultant, primarily as a cost-saving measure, but also due to the general consistency of our compensation programs over the last few years. In early 2012, however, the Compensation Committee retained the services of Radford, an AonHewitt Company, for the limited purpose of reviewing the appropriate peer group to be used for compensation comparison purposes, for both Board and executive compensation. Based on recommendations from Radford, the Compensation

Table of Contents

Committee substantially revised the list of industry peers that it used for purposes of evaluating whether the levels of both our Board and executive officer compensation were appropriate.

In February 2013 and February 2014, and as required by SEC rules, the Compensation Committee reviewed whether the work of Radford as a compensation consultant has raised any conflict of interest, taking into consideration the following factors: (i) the provision of other services to our company by Radford; (ii) the amount of fees we paid to Radford as a percentage of the firm's total revenue; (iii) Radford's policies and procedures designed to prevent conflicts of interest; (iv) any business or personal relationship of Radford or any individual compensation advisors employed by the firm with an executive officer of our company; (v) any business or personal relationship of the individual compensation advisors with any member of the Compensation Committee; and (vi) any stock of our company owned by the individual compensation advisors employed by the firm. Based on its analysis of the above factors, the Compensation Committee determined that no conflict of interest was present as to the work of Radford or any of the individual compensation advisors employed by Radford. Consistent with applicable NASDAQ listing standards, the Compensation Committee will continue to assess the independence of any of our compensation advisors by reference to the foregoing factors.

Role of Management and the CEO in Setting Executive Compensation

Our human resources, finance and legal departments work with our Chief Operating Officer to design and develop compensation programs for our named executive officers for recommendation to the Compensation Committee. In addition, these management groups work together to recommend changes to existing compensation programs, to recommend financial and other performance targets to be achieved under those programs, to prepare analyses of financial data, and to prepare peer data comparisons and other briefing materials for the Compensation Committee. Our Chief Operating Officer then reviews the results of these efforts with our Chief Executive Officer. Following any additional review or revision of management's proposals, our Chief Operating Officer and our Chief Executive Officer will then present those proposals, along with any background information, to the Compensation Committee. The Compensation Committee may approve, modify, or reject those proposals, or may request additional information from management (or its own consultant, if it wished to retain one) on those matters.

Dr. Steiner and Mr. Hanover also have historically made recommendations to the Compensation Committee with respect to the specific performance goals to be achieved under our Bonus Plan each year. After receiving the recommendations of Dr. Steiner and Mr. Hanover, the Compensation Committee typically meets in executive session to discuss and determine appropriate base salaries, bonus compensation target awards and goals, and stock option grants for each executive officer of GTx.

Dr. Steiner provides an annual review of the performance of each of our executive officers (other than himself) to assist the Compensation Committee in its annual determination of each element of compensation for such officers. Dr. Steiner and Mr. Hanover generally recommend to the Compensation Committee the number of stock options to be granted to our other executive officers; the Compensation Committee may approve, modify or reject any such recommendations for grants of options to our executive officers.

No named executive officer was present or directly participated in the final deliberations of the Compensation with respect to any component of his own fiscal year 2013 compensation, or his bonus award for 2012 under the Bonus Plan.

Table of Contents

Factors in Setting Compensation

Our Compensation Committee considers a broad range of factors in setting executive compensation levels, including past practice, company results, internal equity, experience and individual performance. The weight given each factor may differ from year to year, and may differ among the named executive officers in any one year.

Peer Group

Each year, the Compensation Committee reviews and updates, if necessary, the peer group to be used for executive compensation comparison purposes. For decisions made in respect of fiscal year 2013 compensation, the Compensation Committee continued to use the peer group recommended by Radford and approved by the Compensation Committee in February 2012.

Factors considered in selection of the peer group included comparability in size, stage of clinical development of its lead product, and organizational complexity. Specifically, the peer group recommended by Radford included publicly-traded biopharmaceutical and specialty pharmaceutical companies with characteristics similar to those of GTx with regard to: products in late stage development and/or recently commercialized (reflecting the need to attract talent to build GTx going forward); a market capitalization equal to 0.5 to 2.0 times that of GTx (in order to reflect potential future stock volatility); and an employee size of 50 to 300 employees to reflect the scale-up of employees needed for development programs and the commercialization of product candidates. The peer group was also revised to include potential business competitors, regardless of the size.

Using these factors, the peer group approved by the Compensation Committee for 2013 consisted of the following 19 companies:

NPS Pharmaceuticals, Inc. Affymax, Inc. Immunomedics, Inc. Alnylam Pharmaceuticals, Inc. InterMune, Inc. Optimer Pharmaceuticals, Inc. Amicus Therapeutics, Inc. Isis Pharmaceuticals, Inc. Osiris Therapeutics, Inc. ArQule, Inc. Lexicon Pharmaceuticals, Inc. Progenics Pharmaceuticals, Inc. Astex Pharmaceuticals, Inc. Ligand Pharmaceuticals, Inc. Rigel Pharmaceuticals, Inc. AVEO Pharmaceuticals, inc. Momenta Pharmaceuticals, Inc. Sucampo Pharmaceuticals, Inc. Targacept, Inc.

Peer Data

For purposes of determining 2013 compensation, at the direction of the Compensation Committee, our finance department gathered compensation data for the named executive officers at our peer companies from Equilar, Inc., an independent executive compensation survey database. This Equilar survey data shows the 25th percentile, the median and the 75th percentile for salary, cash incentive compensation and equity compensation. For its discussions in setting 2013 compensation, the Compensation Committee reviewed this peer group data as a touchstone or external validation of the Compensation Committee's previous decisions, although no specific comparison or benchmarking was undertaken for any specific executive or position.

In December 2012, following the Compensation Committee's review of information supplied by management, including relevant industry peer group information obtained from Equilar for our named executive officers, the Compensation Committee approved base salaries, target annual bonus opportunities and annual stock option grants for 2013, as well as bonus award payments for 2012 performance under our Bonus Plan.

Table of Contents

Elements of Compensation

Our executive compensation program for 2013 was similar to what we have provided our executives in the past, at least at the outset of 2013. It included base salary, an annual cash incentive opportunity under the Bonus Plan, stock option awards and employee benefits, as well as potential benefits in connection with a change of control. Our Compensation Committee has not adopted any specific formulas for allocating total compensation between equity compensation and cash compensation, or between short-term and long-term compensation. Instead, the Compensation Committee uses its judgment to establish for each named executive officer a mix of current, short-term and long-term incentive compensation, and cash and non-cash compensation, that it believes appropriate to achieve our compensation objectives described above.

To emphasize our pay-for-performance philosophy, as well as to preserve our cash resources, a significant portion of our named executive officers' total compensation is comprised of performance-based bonus opportunities and long-term equity awards which align the executive officers' incentives with the interests of our stockholders. Moreover, we believe that a focus and emphasis on long-term goals reduces incentives to engage in excessive risk taking, and makes for a prudent and responsible executive compensation program.

Base Salary

Our Compensation Committee recognizes the importance of base salaries as an element of compensation that helps to attract and retain our executive officers. We provide base salary as a fixed source of income for our executives for the services they provide to us during the year, and allows us to maintain a stable executive team.

For fiscal year 2013, the Compensation Committee reviewed the base salaries of our named executive officers in light of the Equilar data on comparable base salaries at peer companies. Based in part on this review, the Compensation Committee decided to increase base salaries for our named executive officers by approximately 3.5% from their 2012 levels. By so doing, the Compensation Committee sought to move executive base salaries generally in the direction of the median of those provided by our peer companies to executives in comparable positions. In selecting this specific level of increase, the Compensation Committee considered the need to maintain a relatively conservative compensation cost structure in light of our stage of development and our available budget. In addition, the Compensation Committee approved the same percentage increase for all executive officers in order to maintain internal pay equity.

Following our announcement of disappointing results from the POWER trials, the Compensation Committee met in September 2013 and decided to reduce the base salaries for Dr. Steiner, Mr. Hanover and Dr. Dalton, effective October 1, 2013. This action was taken in order to preserve cash, as well as to signal to our employees and stockholders that the compensation of those persons primarily responsible for the design and execution of our clinical programs was being adversely impacted.

In selecting the levels of salary reduction that would apply, the Compensation Committee subjectively determined that a 20% reduction should apply to Dr. Steiner and Mr. Hanover because it was sufficiently material to convey the sense of the Compensation Committee as to accountability. The percentage of salary reduction applied to Dr. Dalton (13%) was selected so that his base salary would remain below that of Mr. Hanover (after the 20% reduction in his salary), but above that of Mr. Doggrell.

Table of Contents

The following table shows the base salaries for each of Dr. Steiner, Mr. Hanover and Dr. Dalton, before and after the reduction applied October 1, 2013:

Named Executive Officer	Pre-Reduction Annual Base Salary (\$)	Annual Base Salary Effective October 1, 2013 (\$)	Percent Decrease (%)
Mitchell S. Steiner	565,110	452,088	(20%)
Marc S. Hanover	491,646	393,317	(20%)
James T. Dalton	430,560	375,000	(13%)

The salaries of other GTx employees, including Mr. Doggrell and Mr. Mosteller, were not reduced, in recognition of the fact that they were not directly responsible for the design and execution of our clinical programs. Additionally, the Compensation Committee has determined not to make any adjustments in executive officer base salaries for 2014, absent a particular circumstance of significantly changed duties and/or responsibilities.

Annual Bonus Plan

General. Our Compensation Committee first established our Bonus Plan in 2007 as a means of rewarding executive officers for their role in achieving specified annual or short-term performance goals. The potential for payments under the Bonus Plan for any fiscal year is generally based on the attainment of pre-established, objective performance goals approved by the Compensation Committee at the beginning of the year. Each year, the Compensation Committee approves the objective performance goals and specific criteria, including the weight attributable to each objective, and, if applicable, any weighting for specific categories of performance objectives, for each executive officer. In making these determinations, the Compensation Committee solicits and considers the recommendations of Dr. Steiner and Mr. Hanover.

The objective criteria can vary each year and may include the achievement of the operating budget for GTx as a whole or of a business unit of GTx, satisfactory audit results and timely filings of annual and quarterly reports with the SEC, personnel-related objectives, continued innovation in development and progress towards commercialization of our product candidates, timely development of new product candidates or processes, development and implementation of successful marketing and commercialization strategies for our product candidates, implementation of financing strategies and the establishment of strategic alliances, partnerships or collaborations with third parties, as well as meeting preclinical, clinical, regulatory or product sales objectives.

Although the Compensation Committee typically approves the objective performance goals and specific criteria prior to the start of or early in the applicable calendar year, it retains the discretion to modify or otherwise change the objectives during the applicable calendar year. In addition, under the Bonus Plan, the Compensation Committee has the discretion to make additional bonus awards, apart from those related to the achievement of specified performance objectives.

An executive is not entitled to receive an award under the Bonus Plan if he or she receives a substandard annual performance evaluation from his or her manager (or, for Dr. Steiner, from the Compensation Committee), regardless of whether the objective performance criteria under the Bonus Plan are met.

Bonus Plan for 2013. In December 2012, our Compensation Committee approved the performance objectives under the Bonus Plan for 2013, with payouts under the Bonus Plan dependent upon fulfilling all or a portion of the approved objective performance criteria during the calendar year. Similar to 2012, the target bonus payments under the Bonus Plan for 2013 were: 65% of base salary for

Table of Contents

Dr. Steiner, 55% of base salary for Mr. Hanover and 30% of base salary for the other named executive officers. The bonus metrics approved by the Compensation Committee for 2013, which applied equally to each executive officer, related to the company's performance on the results of the POWER trials, because these results were critical to our near-term financial prospects. Specifically, 100% of the bonus opportunity would be earned if the company received statistically significant and clinically meaningful results from the POWER trials sufficient to allow it to request a pre-NDA meeting with the FDA (which we refer to as "Positive Clinical Data"). If Positive Clinical Data were not obtained, no bonus would have been paid.

Additional bonus opportunities were provided by the Compensation Committee for 2013 under the Bonus Plan in light of the Equilar data, which showed that the total cash compensation (defined as base salaries plus bonus and other cash compensation payments paid to executives during the year) received by executives in comparable positions among our peers continued to be substantially higher than total cash compensation paid to our executive officers. Eligibility for these additional awards required obtaining Positive Clinical Data from the POWER trials and the achievement of certain "stretch" goals, which the Compensation Committee believed would positively impact shareholder value. These additional bonus opportunities consisted of:

an additional bonus payment equal to 20% of each executive officer's bonus opportunity would have been payable if we had received data in 2013 from our ongoing Phase 2 clinical trial of GTx-758 confirming that GTx-758 is sufficiently safe and efficacious to warrant additional clinical testing; and

an additional bonus payment of 10% of each executive's bonus opportunity would have been payable if the then planned Phase 2 clinical trial of enobosarm 9 mg to treat women with advanced breast cancer was fully enrolled, and there was data reported from the enobosarm 9 mg breast cancer study in 2013 sufficient to warrant additional clinical testing.

Since we did not receive Positive Clinical Data, no bonus payment would have been earned by executives under the Bonus Plan for 2013. However, due to the impact on our company and our stock price as a result of the failure to receive Positive Clinical Data, the Compensation Committee determined it appropriate to also suspend the Bonus Plan indefinitely, until such time as the financial performance and prospects of the company warranted its reinstatement.

As a result, no bonus payments were approved by the Compensation Committee for any named executive officer on account of 2013 performance, and no bonuses will be earned under the Bonus Plan on account of 2014 performance unless and until the Compensation Committee determines to reinstate the Bonus Plan. This outcome demonstrates directly the way in which our executive compensation program is one of "pay-for-performance."

Annual Long-Term Incentive Awards

We use equity compensation, primarily in the form of awards of stock options, to motivate and reward corporate performance and to attract and retain qualified executives. We believe that equity awards serve to align the interests of our named executive officers with those of our stockholders by rewarding them for stock price growth. Our annual stock options generally have a five-year time-based vesting requirement, which we believe encourages our executive officers to focus on driving stockholder value and stock-price appreciation over the long term. We believe the five-year vesting schedule also serves as an effective retention tool.

In determining the size of equity grants, the Compensation Committee may consider, in any given year, each officer's responsibilities, the strategic importance of his role within our company,

Table of Contents

budget constraints and internal equity. Our Compensation Committee may also consider the current value of shares owned, the current value of exercisable and unvested stock options, as well as the potential for dilution to stockholders. Finally, the Compensation Committee may consider the size and value of equity awards granted by our peer companies to officers in comparable positions, although the Compensation Committee does not aim to have equity award values fall within any specific range of the peer company data. In this regard, the Compensation Committee reviewed data from Equilar pertaining to equity awards received by executives of our peers, but the Compensation Committee did not make its decision regarding option awards based primarily on that information.

In determining the value of annual stock options to award to our named executive officer for fiscal 2013, the Compensation Committee received and considered the recommendation of our Chief Executive Officer and our Chief Operating Officer. That recommendation was to make grants for all eligible employees in the range of 30% to 60% higher than what they had been granted in 2012.

In making this recommendation, among the factors taken into account were: (1) that most previous grants to executive officers and other employees had exercise prices far in excess of our then current stock price; (2) that the recommended increase in stock option awards was less than the number of options forfeited by personnel who terminated employment with us in the previous year, and therefore would not result in an overall increase in the number of shares awarded over the prior year, and (3) that the levels of equity awards received by the executive officers of our peer group companies were substantially greater than levels of equity awards granted to our executives each year.

After considering these factors, as well as the overall budget and shares remaining available for issuance under our 2013 Plan, the Compensation Committee approved the recommended increases. The Compensation Committee reasoned that it was an appropriate time to increase the number of annual stock options granted as of January 1, 2013, because if the company reported Positive Clinical Data from the POWER trials, the five-year vesting term of the option awards would provide meaningful long-term incentive compensation to employees, as well as retentive value to the company. This would have been especially useful over the next several years, because we would have needed to focus on transitioning from a research and development company to one that is about to commercialize its first product candidate.

In making these awards, the Compensation Committee also wanted to ensure that all employees were appropriately focused on completing the POWER trials and having data available for public release later in the second half of 2013. With this in mind, the Compensation Committee approved annual option grants to most employees that were approximately 60% higher than the annual grants approved for the prior calendar year. The grants to both Dr. Steiner and Mr. Hanover were limited to approximately 30% more than their respective 2012 annual option grants, due to the fact that both had received substantial grants in the form of founders' stock. These percentage determinations were not made in a formulaic setting but rather, reflected the Compensation Committee's subjective assessment of the appropriate levels of grants in light of the above factors.

With respect to our named executive officers for 2013, the Compensation Committee approved the award of an annual stock option to purchase 135,000 shares for Dr. Steiner, an annual stock option to purchase 90,000 shares for Mr. Hanover, and annual stock options to purchase 55,000 shares of common stock for each our other executive officers, as detailed in the table below.

Annual Stock Option Awards For Fiscal Year 2013

	Stock Options	Exercise
Name	Awarded(#)	Price(\$)
Mitchell S. Steiner	135,000	4.20
Mark E. Mosteller	55,000	4.20
Marc S. Hanover	90,000	4.20
James T. Dalton ⁽¹⁾	55,000	4.20
Henry P. Doggrell ⁽¹⁾	55,000	4.20

(1)

In addition to the annual stock options, each of Dr. Dalton and Mr. Doggrell were also granted retention stock options and retention restricted stock unit awards, as described below.

Although our Compensation Committee generally makes new stock option grants to our named executive officers each year, in order to retain executives and to keep the executives focused on our long-term performance for 2014, the Compensation Committee determined not to award any annual stock options to any of our employees. The Compensation Committee did, however, make grants of retention stock options and restricted stock unit, or RSU, awards to certain key employees in connection with key retention actions, as described in more detail below.

Retention Bonus Program

Following our August 2013 announcement that the POWER trials failed to meet their co-primary endpoints as agreed upon with the FDA, we suffered a precipitous drop in stock price and laid off approximately 60% of our workforce. During that time, the Compensation Committee moved quickly and undertook a series of swift and decisive actions intended to conserve cash, stabilize the company and retain those employees who we considered critical to moving the company forward. These actions included the base pay reductions and Bonus Plan suspension actions discussed above. In addition, the Compensation Committee approved a set of retention benefits and arrangements for its continuing employees, with the exception of Mr. Mosteller, who had notified us of his intention to resign from GTx effective December 31, 2013. These packages included incentives tied to their continued employment through June 1, 2014; this time period was selected because the Compensation Committee believed it would provide sufficient time for us to analyze data from the POWER trials, meet with regulatory agencies in both the U.S. and European Union, and determine if there is an acceptable path forward to continue to develop enobosarm for potential regulatory approval.

Under the retention bonus program approved by the Compensation Committee, each of Dr. Dalton and Mr. Doggrell (as well as substantially all continuing GTx employees, with the exception of Dr. Steiner and Mr. Hanover) will receive a lump sum cash retention bonus equal to 50% of his then-current base salary if he remains an employee of GTx through the earliest to occur of (i) the end of business on May 31, 2014, (ii) an involuntary termination of employment by GTx (excluding a termination for cause or a voluntary resignation), and (iii) a change of control of our company. Since many of the employees laid off by the company as of October 1, 2013 were receiving severance payments equal to three to six months of their then base salaries, the Compensation Committee reasoned that bonus retention payments equal to 50% of base salary would be necessary to convince key employees to stay employed and focused on preparing for meetings with regulators to review the data from the POWER trials while the company continued to enroll and complete its Phase 2 clinical studies of enobosarm 9 mg to treat advanced breast cancer and its Phase 2 clinical trial of GTx-758 to treat advanced prostate cancer. The Compensation Committee also recognized that it was seeking to retain those employees who were, for the most part, the ones most likely to be employable elsewhere in

Table of Contents

an environment where there would be substantially fewer personnel to continue the business of a company whose financial prospects were then diminished.

In addition to the retention bonus payments, the Compensation Committee agreed that as a part of the retention package, each outstanding stock option that was then held by each of our named executive officers and other retained employees was modified to provide that if the employee continues to be employed by the company through the earlier to occur of the end of business on May 31, 2014 and an involuntary termination of employment (excluding a termination for cause or a voluntary resignation), then, as of the applicable date: (i) an additional number of shares subject to such option will immediately vest as if the applicable named employees service had continued through January 1, 2015, and (ii) the period during which the vested portion of all such options then held by such employee will generally expire will be extended from three months to six months after the applicable named executive officer's termination of service. In approving the additional vesting of options and the extended exercise period for vested options for the retained employees, the Compensation Committee recognized that similar provisions were provided to company employees as a part of their severance package from the company following the layoffs on October 1, 2013.

As part of the retention bonus program, the Compensation Committee also approved the provision of extended health benefit coverage through the calendar year 2014 to all of our continuing employees, including all of the named executive officers with the exception of Mr. Mosteller. As approved by the Compensation Committee, if a named executive officer's service continues through the end of business on May 31, 2014, and thereafter such service is terminated for any reason (other than for cause), including a voluntary termination, then such named executive officer will be eligible to receive monthly premium payments from us to continue his existing coverage through December 31, 2014 (or, if earlier, the date on which the named executive officer becomes eligible for coverage under the group health insurance of a subsequent employer or is otherwise no longer eligible for such continued coverage). In addition, if a named executive officer's service is terminated by us prior to June 1, 2014 for any reason (other than for cause), then such executive officer will be eligible for the monthly premium payments described in the preceding sentence. Extended health coverage will not be provided to any named executive officer who voluntarily resigns prior to June 1, 2014. The Compensation Committee decided to provide this extended health benefit coverage, in part, to address the concerns of our continuing employees with respect to their ability to maintain medical coverage in light of the company's circumstances.

The Compensation Committee also determined to grant retention equity awards to certain of the continuing employees, including Mr. Doggrell and Dr. Dalton. In so doing, the Compensation Committee determined to grant the retention equity awards as a mix of stock options and RSUs. In this regard, while both stock options and RSUs enable employees to benefit, like stockholders, from any increases in the value of our stock, stock options deliver future value only if the value of our stock increases above the exercise price. In contrast, RSUs deliver fully paid shares of our stock upon vesting, so they retain some value even if our stock price declines, stays flat or only increases marginally after the RSU is granted, and therefore have greater retention value than stock options. While the Compensation Committee could have determined to grant the retention equity awards entirely in the form of RSUs given the purpose of the retention awards, the Compensation Committee determined that stock options should comprise half of the overall equity award so that some portion of the value of the overall equity award is tied to stock price appreciation and therefore reward only for stock price growth.

In determining the size of the options grants and RSU awards, the Compensation Committee reasoned that with all prior stock option grants to employees significantly "out of the money", only new meaningful equity grants would provide meaningful incentives for employees to continue the work previously undertaken by a much larger work force to get the company to a point where it could

Table of Contents

determine if there is a feasible regulatory pathway forward for enobosarm 3 mg. The Compensation Committee believed that the equity grants had the potential to significantly appreciate only if we were able to determine an appropriate and feasible pathway forward to obtain marketing approval of enobosarm 3 mg to prevent and treat muscle wasting in non-small cell lung cancer patients, and if that occurred, all stockholders would equally benefit. In arriving at the vesting schedules for the retention stock options and RSUs, the Compensation Committee, given the purposes of these awards, tracked the vesting schedules to the retention bonus payments such that the options and RSUs will vest in full on the earlier to occur of (i) June 1, 2014, (ii) an involuntary termination of the named executive officer's continuous service with us (other than for cause) and (iii) a change of control of our company.

Retention Equity Awards

Name	Stock Options Awarded(#)	Option Exercise Price(\$)	RSUs Awarded(#)
James T. Dalton	100,000	1.88	100,000
Henry P. Doggrell	100,000	1.88	100,000

As noted above Dr. Steiner and Mr. Hanover are not eligible to receive retention cash bonuses, nor were they granted any retention equity awards due to their significant ownership of founders' stock; that is, no additional cash or equity incentives were believed to be necessary to retain them as employees.

Other Post-Employment Compensation and Change of Control Benefits

We have entered into a written employment agreement with each of our executive officers, providing for employment on an at-will basis, that is, employment that may be terminated by either the executive officer or us at any time. These employment agreements were amended and restated and executed between us and each of our named executive officers, following approval of the agreements by our Board in February 2013. These employment agreements provide for cash severance payments equal to one year's base salary and up to twelve months of health insurance payments under COBRA in the event of an involuntary termination by the company without "cause" or a resignation by the executive officer for "good reason" within twelve months after a change of control. In addition, the executive officers have agreed not to compete with us (including by soliciting our employees for alternative employment) during the term of their employment and for a period of two years after their employment ends (or one year, if termination ends in connection with a change of control).

The Compensation Committee believes these agreements were necessary to attract and retain our key executives, and are consistent with market practices. We also believe these agreements motivate our named executive officers to act in the best interests of our stockholders by removing the distraction of post change of control uncertainties faced by each named executive officer with regard to his continued employment and compensation.

Under our broad-based employee stock option plans that we adopted prior to our initial public offering, upon a change of control, all then-outstanding and unvested stock options will automatically become fully vested. Under our 2004 and 2013 Equity Incentive Plans, a participant's outstanding equity awards will become fully vested only if the executive officer is involuntary terminated without cause or experiences a constructive termination within twelve months following a change of control or is required to resign his position with us as a condition of the change of control, or if the surviving or acquiring entity refuses to assume or substitute for the options. The change of control provisions in our stock option plans are designed to reduce any personal disincentive an executive officer may have to

Table of Contents

work toward the successful completion of a change of control transaction which, if appropriately assessed on its merits, may prove beneficial to us and our stockholders.

Please refer to the discussion above under "Retention Bonus Program" for a description of the retention benefits and arrangements payable to our named executive officers in various termination and change of control events.

Severance Arrangement with Mr. Mosteller

In connection with the significant events that occurred for us in August and September of 2013, Mr. Mosteller announced that he would resign from the company. Mr. Mosteller agreed, however, to remain with GTx through December 31, 2013 in order to, among other things, provide a smooth transition. In addition, he agreed to undertake the significant efforts involved in withdrawing from our leased research facilities, the sale of all inventory and equipment at those sites, and the integration of remaining personnel into our corporate office location.

In recognition of his significant service, as well as the considerable and invaluable effort he provided to us, the Compensation Committee approved a severance package for Mr. Mosteller which provided cash payments equal to nine months of base salary, an additional severance payment in an amount intended to offset the loss of company benefits by Mr. Mosteller in connection with his resignation, the full accelerated vesting of his outstanding option grants (all of which had exercise prices in excess of the then fair market value of the company's stock) and an extended period in which to exercise those options. The elements of this severance package are similar to those previously provided by us and approved by the Compensation Committee with respect to other departing executives. In this regard, the Compensation Committee has in the past awarded cash severance to other departing executives equal to six months' base salary; however, the amount of cash severance in this case was increased in light of Mr. Mosteller considerable period of service, his significant contribution to the company, and his willingness to stay fully engaged with the company through December 31, 2013. The Compensation Committee's determination to pay Mr. Mosteller nine months' severance and the additional severance benefits resulted from the Compensation Committee's subjective assessment that this was a fair level of benefits in light of Mr. Mosteller's excellent service and many contributions to our company over the years.

Retirement Benefits

We do not provide our employees, including our named executive officers, with a defined benefit pension plan, any supplemental executive retirement plans or retiree health benefits. Our named executive officers may participate on the same basis as other employees in our 401(k) retirement savings plan. Our 401(k) retirement savings plan provides an employer matching contribution of 100% of the first 4% of the employee's eligible compensation, subject to the annual Internal Revenue Service limits in effect from time to time. We believe this matching contribution is consistent with market practice and helps in attracting and retaining key executives.

Employee Benefits

We offer a comprehensive employee benefit program, including health, life and disability insurance, to all of our regular employees, including our named executive officers. This program provides a safety net of protection against the financial catastrophes that can result from illness, disability or death. Company-funded life insurance is up to \$50,000 for employees generally, and company-funded long-term disability insurance provides a 60% income-replacement benefit, up to \$10,000 per month.

Table of Contents

The Compensation Committee has approved supplemental life and long-term disability insurance for our executive officers. The total life insurance benefit for our named executive officers is equal to twice the executive officer's annual salary, not to exceed \$1 million in coverage for any named executive officer. The supplemental disability insurance, offered to all employees at the level of Vice Presidents and above, provides for total target income replacement equal to 75% of base salary, or approximately 15% more income replacement than is offered to the general employee population.

The Compensation Committee believes that the cost of providing this supplemental insurance coverage is minimal in comparison to the value of such benefits in attracting and retaining executive employees, and that providing these supplemental benefits are consistent with the practices of other public companies.

Equity Granting Practices

Our Compensation Committee has historically granted stock options to our named executive officers at the same time that it makes awards to the broader employee population, that is, at a meeting late in the calendar year, with the grants effective on January 1 of the following year. When so granted, the options have an exercise price equal to the closing price of GTx's common stock on the NASDAQ Global Market on the last trading day of the prior year.

Our Compensation Committee generally approves grants at other times only for new employees, employees who are promoted or granted additional responsibilities or, more rarely, employees who have performed at a level that warrants special recognition. These grants are generally made only on the date of a scheduled meeting of the Compensation Committee, and will be granted with an exercise price equal to the closing price of GTx's common stock on the NASDAQ Global Market on the date of grant. With respect to the retention equity awards, these awards were approved with a grant date of October 1, 2013 so that grant date coincided with the effective date of our reduction in force, with the retention stock options having an exercise price equal to the closing price of GTx's common stock on the NASDAQ Global Market on the October 1, 2013 grant date.

Deductibility of Executive Compensation under Code Section 162(m)

Section 162(m) of the Code limits the amount that a public company may deduct from federal income taxes for remuneration paid to the chief executive officer and the three other most highly paid executive officers, other than the chief financial officer, to \$1.0 million per executive per year, unless certain requirements are met. Section 162(m) provides an exception from this deduction limitation for certain forms of "performance-based compensation," including the gain recognized by executive officers upon the exercise of qualifying compensatory stock options. While our Compensation Committee is mindful of the benefit to us of the full deductibility of compensation, the Compensation Committee believes that it should not be constrained by the requirements of Section 162(m) where those requirements would impair flexibility in compensating our executive officers in a manner that can best promote our corporate objectives. We intend to continue to compensate our executive officers in a manner consistent with the best interests of GTx and our stockholders.

Accounting Considerations

We account for equity compensation paid to our employees under accounting rules that require us to estimate and record an expense over the service period of the award. Our cash compensation, on the other hand, is recorded as an expense at the time the obligation is accrued. The accounting impact of our executive compensation program is one of many factors that the Compensation Committee considers in determining the size and structure of that program.

Table of Contents

Compensation Recovery Policy

We do not have a policy to attempt to recover cash bonus payments paid to our executive officers if the performance objectives that led to the determination of such payments were to be restated, or found not to have been met to the extent the Compensation Committee originally believed. However, as a public company subject to the provisions of Section 304 of the Sarbanes-Oxley Act of 2002, if we are required as a result of misconduct to restate our financial results due to our material noncompliance with any financial reporting requirements under the federal securities laws, our Chief Executive Officer and Chief Financial Officer may be legally required to reimburse us for any bonus or other incentive-based or equity-based compensation they receive. In addition, we will comply with the requirements of the Dodd-Frank Wall Street Reform and Consumer Protection Act and will adopt a compensation recovery policy once the SEC adopts final regulations on the subject.

COMPENSATION COMMITTEE REPORT⁽¹⁾

The Compensation Committee of the Board of Directors of GTx, Inc. has reviewed and discussed with management the information contained in the Compensation Discussion and Analysis section of this Proxy Statement and based on such review and discussion, has recommended to the Board of Directors that the Compensation Discussion and Analysis be included in this Proxy Statement and incorporated into our Annual Report on Form 10-K for the fiscal year ended December 31, 2013.

COMPENSATION COMMITTEE:

Michael G. Carter, M.D. (Chair) J. Kenneth Glass J. R. Hyde, III

(1)

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 under the Securities Act of 1933 or the Securities Exchange Act of 1934, other than GTx's Annual Report on Form 10-K where it shall be deemed to be furnished, whether made before or after the date hereof and irrespective of any general incorporation language in any such filing.

49

EXECUTIVE COMPENSATION

Summary Compensation Table

The following table sets forth certain summary information for the year indicated with respect to the compensation earned by our Chief Executive Officer, our President, Chief Operating Officer and acting principal financial officer, our former Chief Financial Officer who resigned effective December 31, 2013, and each of the other individuals who were serving as executive officers at December 31, 2013. The individuals listed in the table below are referred to in this proxy statement as our "named executive officers."

SUMMARY COMPENSATION TABLE FISCAL 2011, 2012 AND 2013

Name and Principal Position	Year	Salary (\$)	Bonus (\$)	Stock Awards (\$) ⁽⁴⁾	Option Awards (\$) ⁽⁵⁾	Non-Equity Incentive Plan CompensationC (\$) ⁽⁷⁾	All Other ompensation (\$) ⁽⁸⁾	Total (\$)
Mitchell S. Steiner, M.D., F.A.C.S.	2013	536,420(2)			379,323		15,692	931,435
Chief Executive Officer and Vice-	2012	546,000			224,427	205,842	13,771	990,040
Chairman of the Board of Directors	2011	525,000	170,625(3)		173,964		10,030	879,619
Marc S. Hanover	2013	466,685(2)			252,882		21,442	741,009
President, Chief Operating Officer	2012	475,020			149,618	151,531	20,115	796,284
and acting Principal Financial Officer	2011	456,750	125,606 ⁽³⁾		115,976		18,389	716,721
Mark E. Mosteller, CPA ⁽¹⁾	2013	320,857			280,699(5)	276,729(9)	878,285
Former Vice President, Chief	2012	310,006			74,809	53,941	14,050	452,806
Ciney Financial Officer and Treasurer	2011	298,083	44,712(3)		57,988		12,910	413,693
James T. Dalton, Ph.D.	2013	416,456 ⁽²⁾		188,000	290,589		18,636	913,681
Vice President, Chief Scientific	2012	416,000		100,000	74,809	72,384	17,992	581,185
Officer	2011	400,000	60,000(3)		82,840		15,840	558,680
Henry P. Doggrell Vice President, Chief	2013 2012	363,576 351,281		188,000	290,589 74,809	61,123	23,469 19,719	865,634 506,932
Legal			72.0.52(2)		ŕ	01,123	,	ŕ
Officer and Secretary	2011	343,589	$52,962^{(3)}$		57,988		18,974	473,513

⁽¹⁾ Mr. Mosteller resigned from GTx, effective December 31, 2013.

Effective October 1, 2013, the annual base salaries of each of Dr. Steiner, Mr. Hanover and Dr. Dalton were reduced in connection with our October 2013 workforce reduction. For more information on these base salary reductions, please see "Compensation Discussion and Analysis Elements of Compensation Base Salary". The amounts reported in the table above represented the total base salary earned by the named executive officers during the year ended December 31, 2013.

- (3)

 Represents amounts awarded as a discretionary bonus and paid under our Executive Bonus Compensation Plan. Because the cash bonuses actually awarded by our Compensation Committee in 2011 were discretionary in nature, the cash bonuses for 2011 paid under our Executive Bonus Compensation Plan are reported in this column instead of the Non-Equity Incentive Plan Compensation column.
- (4)

 The amounts in this column represent the full grant date fair value of restricted stock units granted during the indicated fiscal year as computed in accordance with FASB ASC Topic 718. For more information on the restricted stock units granted to Dr. Dalton and Mr. Doggrell in 2013, see " Grants of Plan-Based Awards" and " Narrative Disclosure to Summary Compensation Table and Grants of Plan-Based Awards Table Annual Option and Retention Stock Awards" below.
- (5) Except as indicated in footnote (6) below, the amounts in the column represent the aggregate grant date fair value of all option awards granted during the indicated fiscal year as computed in accordance with FASB ASC Topic 718.

Table of Contents

Assumptions used in computing the grant date fair values of the stock options in accordance with FASB ASC Topic 718 are set forth in Note 3 Share-Based Compensation to our audited financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2013. As described in footnote (5) to the "Grants of Plan-Based Awards" table below, there was no incremental fair value, as determined in accordance with FASB ASC Topic 718, associated the modifications of stock options held by Dr. Steiner, Dr. Dalton and Messrs. Hanover and Doggrell during 2013. For more information on both the options granted to the named executive officers in 2013 and the modification of stock options held by the named executive officers in 2013, see " Grants of Plan-Based Awards" and " Narrative Disclosure to Summary Compensation Table and Grants of Plan-Based Awards Table Annual Option and Retention Stock Awards" and " Retention Bonus Program Stock Option Modifications" below.

- Consists of \$154,539, the grant date fair value of the annual option award granted to Mr. Mosteller in 2013, and \$126,160, which represents the aggregate incremental fair value calculated in accordance with FASB ASC Topic 718 in connection with the modification of Mr. Mosteller's option awards pursuant to the terms of Mr. Mosteller's severance and release agreement with GTx. For more information on the modification of stock options held by Mr. Mosteller in 2013, see "Grants of Plan-Based Awards" and "Potential Payments upon Termination or Change of Control Severance and Release Agreement with Mr. Mosteller" below.
- Represents amounts earned by the named executive officers pursuant to and paid under our Executive Bonus Compensation Plan. In September 2013, the Compensation Committee suspended cash bonus award eligibility under our Executive Bonus Compensation Plan until such time as the Compensation Committee determines to re-instate such eligibility, and there were no amounts earned by the named executive officers under our Executive Bonus Compensation Plan for 2013. For more information on our Executive Bonus Compensation Plan, please see "Compensation Discussion and Analysis Elements of Compensation Annual Bonus Plan" above as well as "Grants of Plan-Based Awards" below.
- Except as indicated in footnote (9) below, the amounts in this column consisted of: (a) the incremental cost of life insurance premiums to provide additional term life insurance benefits equal to two times each such named executive officer's base salary, (b) supplemental long-term disability insurance premiums, and (c) other than with respect to Dr. Steiner, employer matching contributions to our defined contribution 401(k) Plan.
- (9) With respect to Mr. Mosteller, the amounts indicated for 2013 also include, in addition to the items of compensation specified in footnote (8), \$262,047 in total cash severance paid to Mr. Mosteller pursuant to Mr. Mosteller's severance and release agreement with GTx. For more information on Mr. Mosteller's severance arrangements, see "Potential Payments upon Termination or Change of Control Severance and Release Agreement with Mr. Mosteller" below.

Grants of Plan-Based Awards

The following table shows for the fiscal year ended December 31, 2013, certain information regarding grants of plan-based awards to the named executive officers.

GRANTS OF PLAN-BASED AWARDS TABLE FISCAL 2013

		Grant Date		Payout Non-Equit	d Possible is Under ty Incentive wards ⁽¹⁾	All Other Stock Awards: Number of Shares of	All Other Option Awards: Number of Securities	Exercise or Base Price of	Grant Date Fair Value of Stock and
Name	Award Type	or Modification Date	Approval Date	Target (\$)	Maximum (\$)	Stock or Units (#)	Underlying Options (#)	Option Awards (\$/Sh) ⁽²⁾	Option Awards (\$) ⁽³⁾
Mitchell S. Steiner	Annual Cash Annual Option ⁽⁴⁾ Modified Option ⁽⁵⁾	01/01/2013 10/01/2013 10/01/2013 10/01/2013 10/01/2013 10/01/2013	12/14/2012 09/27/2013 09/27/2013 09/27/2013 09/27/2013 09/27/2013	367,322	477,518		135,000 75,000 105,000 105,000 105,000 135,000	4.20 16.84 4.20 2.65 3.36 4.20	379,323
Marc S. Hanover	Annual Cash Annual Option ⁽⁴⁾ Modified Option ⁽⁵⁾	01/01/2013 10/01/2013 10/01/2013 10/01/2013 10/01/2013 10/01/2013 10/01/2013	12/14/2012 09/27/2013 09/27/2013 09/27/2013 09/27/2013 09/27/2013 09/27/2013	270,405	351,527		90,000 125,000 50,000 70,000 70,000 70,000 90,000	4.20 14.35 16.84 4.20 2.65 3.36 4.20	252,882
Mark E. Mosteller	Annual Cash Annual Option(4) Modified Option(6)	01/01/2013 12/31/2013 12/31/2013 12/31/2013 12/31/2013 12/31/2013 12/31/2013 12/31/2013 12/31/2013 12/31/2013	12/14/2012 12/20/2013 12/20/2013 12/20/2013 12/20/2013 12/20/2013 12/20/2013 12/20/2013 12/20/2013 12/20/2013	96,257	125,134		55,000 10,000 25,000 25,000 25,000 25,000 35,000 35,000 35,000 55,000	4.20 8.90 10.86 17.84 14.35 16.84 4.20 2.65 3.36 4.20	154,539 1,664 5,056 4,762 5,875 5,042 20,841 26,554 23,637 32,751
James T. Dalton	Annual Cash Annual Option(4) Retention Option(7) Retention RSU(7) Modified Option(5)	01/01/2013 10/01/2013 10/01/2013 10/01/2013 10/01/2013 10/01/2013 10/01/2013 10/01/2013 10/01/2013 10/01/2013 10/01/2013 10/01/2013 10/01/2013	12/14/2012 09/27/2013 09/27/2013 09/27/2013 09/27/2013 09/27/2013 09/27/2013 09/27/2013 09/27/2013 09/27/2013 09/27/2013 09/27/2013	129,168	167,918	100,000	55,000 100,000 33,000 25,000 20,000 25,000 25,000 35,000 35,000 55,000	4.20 1.88 13.07 9.71 7.56 17.84 14.35 16.84 4.20 2.65 3.36 4.20	154,539 136,050 188,000
Henry P. Doggrell	Annual Cash Annual Option ⁽⁴⁾ Retention Option ⁽⁷⁾ Retention RSU ⁽⁷⁾ Modified Option ⁽⁵⁾	01/01/2013 10/01/2013 10/01/2013 10/01/2013	12/14/2012 09/27/2013 09/27/2013 09/27/2013	109,073	141,795	100,000	55,000 100,000 10,000	4.20 1.88 8.90	154,539 136,050 188,000

M-4:6:-4 O-4:(5)	10/01/2012	00/27/2012	25 000 10.97
Modified Option ⁽⁵⁾	10/01/2013	09/27/2013	25,000 10.86
Modified Option ⁽⁵⁾	10/01/2013	09/27/2013	25,000 17.84
Modified Option ⁽⁵⁾	10/01/2013	09/27/2013	25,000 14.35
Modified Option ⁽⁵⁾	10/01/2013	09/27/2013	25,000 16.84
Modified Option ⁽⁵⁾	10/01/2013	09/27/2013	35,000 4.20
Modified Option ⁽⁵⁾	10/01/2013	09/27/2013	35,000 2.65
Modified Option ⁽⁵⁾	10/01/2013	09/27/2013	35,000 3.36
Modified Option ⁽⁵⁾	10/01/2013	09/27/2013	55,000 4.20

This column sets forth the target and maximum amounts of each named executive officer's annual cash bonus award for the year ended December 31, 2013 under our Executive Bonus Compensation Plan. The target amount represents 65% of Dr. Steiner's initial base salary for 2013, 55% of Mr. Hanover's initial base salary for 2013, and 30% of initial base salary for 2013 for each of the other named executive officers. Maximum amounts represent 130% of 2013 target

Table of Contents

bonuses for each of the named executive officers. As described under "Compensation Discussion and Analysis Elements of Compensation Annual Bonus Plan," cash bonus award eligibility under the Executive Bonus Compensation Plan was suspended in 2013, and no cash bonuses were earned for the year ended December 31, 2013 under our Executive Bonus Compensation Plan. Accordingly, the amounts set forth in this column do not represent additional compensation earned by the named executive officers for the year ended December 31, 2013.

- Stock options were granted with an exercise price equal to 100% of the fair market value on the date of grant, as determined in accordance with the applicable GTx equity incentive plan. The annual stock options granted in 2013 carry an exercise price of \$4.20 per share, the closing price of GTx's common stock on December 31, 2012, the last trading day immediately prior to the grant date. The retention stock options granted to Dr. Dalton and Mr. Doggrell carry an exercise price of \$1.88 per share, the closing price of GTx's common stock on the October 1, 2013 grant date.
- Represents the grant date fair value of such stock option or restricted stock unit, or the incremental fair value resulting from the modifications of such stock option, as applicable, in each case as determined in accordance with FASB ASC Topic 718. Assumptions used in computing the grant date fair values of the stock options in accordance with FASB ASC Topic 718 are set forth in Note 3 Share-Based Compensation to our audited financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2013.
- The annual options granted in 2013 vest in five equal annual installments beginning January 1, 2014, subject to vesting acceleration under certain circumstances, including as described in footnotes (5) and (6) below. For more information on the terms of the stock options granted to our named executive officers in 2013, please see "Narrative Disclosure to Summary Compensation Table and Grants of Plan-Based Awards Table Annual Option and Retention Stock Awards" and "Potential Payments Upon Termination or Change of Control Continuing Named Executive Officers Stock Option and Equity Plan Provisions "below.
- (5) All stock options held by the named executive officers (with the exception of Mr. Mosteller) that were outstanding on September 27, 2013 were modified effective October 1, 2013 to provide that if the applicable named executive officer's service continues through the earlier to occur of (i) the end of business on May 31, 2014, and (ii) an involuntary termination of employment by GTx (excluding a termination for cause or a voluntary resignation) (the "Determination Date"), then, as of the Determination Date: (i) an additional number of shares subject to such option will immediately vest as if the applicable named executive's service had continued through January 1, 2015 and (ii) the period during which the vested portion of such options will generally expire, or the post-termination exercise period, will be extended from three months to six months after the executive officer's termination of service (subject to further extension under certain circumstances per the original terms of the stock option awards), subject in each case to the earlier expiration of the original term of the applicable stock option award. There were no other modifications to the terms of these stock options, including no modification of or change to the exercise prices of these stock options. The stock options reported in the table above and identified as a "Modified Option" represent the same stock options that were originally granted in 2013 and in prior years at the exercise price on the original grant date, with the shares as shown representing the number shares subject to such options on the modification date, and the amount reported in the "Grant Date Fair Value of Stock and Option Awards" column with respect to the modified stock options represents the incremental fair value on the modification date associated with those modified stock options, which was \$0 as determined in accordance with FASB ASC Topic 718. For purposes of these modified options, the "Grant Date" represents the modification date of these options, which was October 1, 2013. For more information on the foregoing option modifications, please see "Compensation Discussion and Analysis Retention Bonus Program" above and " Narrative Disclosure to Summary Compensation Table and Grants of Plan-Based Awards Table Retention Bonus Program Stock Option Modifications" below.
- All stock options held Mr. Mosteller and outstanding on December 20, 2013 were modified, effective December 31, 2013, to provide for (i) the acceleration of all outstanding unvested stock options held by Mr. Mosteller such that all of such outstanding unvested stock options became fully vested and exercisable as of December 31, 2013; and (ii) the extension of the post-termination exercise period applicable to all of Mr. Mosteller's outstanding stock options through December 31, 2015, subject in each case to the earlier expiration of the original term of the applicable stock option. There were no other modifications to the terms of these stock options, including no modification of or change to the exercise prices of these stock options. The stock options reported in the table above and identified as a "Modified Option" represent the same stock options that were originally granted in 2013 and in prior years at the exercise price on the original grant date, with the shares as shown representing the number shares subject to such options on the modification date, and the amount reported in the "Grant Date Fair Value of Stock and Option Awards" column with respect to the modified stock options represents the incremental fair value on the modification date associated with those modified stock options. For purposes of these modified options, the "Grant Date" represents the modification date of these options, which was December 31, 2013. The Compensation Committee approved the modification of Mr. Mosteller's awards on December 20, 2013. For more information on Mr. Mosteller's option modifications, please see "Compensation Discussion and Analysis Severance Arrangement with Mr. Mosteller" above and "Potential Payments upon Termination or Change of Control Severance and Release Agreement with Mr. Mosteller" below.

Table of Contents

(7)

Each of the retention stock options and restricted stock units granted to Dr. Dalton and Mr. Doggrell vest in full on the earlier to occur of (i) June 1, 2014, (ii) an involuntary termination of the named executive officer's continuous service by GTx other than for cause and (iii) a change of control of GTx, except that vesting will not occur in the event of a voluntary resignation or involuntary termination for cause occurring prior to any of these events. For more information on the terms of the retention stock awards granted to Dr. Dalton and Mr. Doggrell, please see "Narrative Disclosure to Summary Compensation Table and Grants of Plan-Based Awards Table Annual Option and Retention Stock Awards" and "Potential Payments Upon Termination or Change of Control Continuing Named Executive Officers Stock Option and Equity Plan Provisions Retention Stock Awards" below.

Narrative Disclosure to Summary Compensation Table and Grants of Plan-Based Awards Table

Employment and Severance Agreements. Each of our named executive officers has entered into a written employment agreement with GTx. Descriptions of our employment agreements with our named executive officers are included under the captions "Compensation Discussion and Analysis Other Post-Employment Compensation and Change of Control Benefits" above, as well as "Potential Payments upon Termination or Change of Control Continuing Named Executive Officers Employment Agreements" below. In connection with Mr. Mosteller's resignation from GTx effective December 31, 2013, we entered into a severance and release agreement with Mr. Mosteller, which is described under the captions "Compensation Discussion and Analysis Severance Arrangement with Mr. Mosteller" above and "Potential Payments upon Termination or Change of Control Severance and Release Agreement with Mr. Mosteller" below.

Annual Option and Retention Stock Awards. Consistent with its historical practices for awarding annual stock options as described under the caption "Compensation Discussion and Analysis Elements of Compensation Annual Long-Term Incentive Awards," the Compensation Committee approved the grant of annual stock options to our named executive officers in December 2012, all of which grants were made effective on January 1, 2013. The exercise price for these annual stock options is \$4.20 per share, the closing price of GTx's common stock on December 31, 2012, the last trading day of 2012. These annual stock options vest in five equal annual installments beginning January 1, 2014 and expire on December 31, 2022, unless they are forfeited or expire earlier in accordance with their terms.

In connection with a retention bonus program approved by the Compensation Committee in September 2013 and described below, the Compensation Committee approved the grant of retention stock options and restricted stock units to Dr. Dalton and Mr. Doggrell, all of which grants were made effective on October 1, 2013. The exercise price for these retention stock options is \$1.88 per share, the closing price of GTx's common stock on the October 1, 2013 grant date. Each of the stock options and the restricted stock units will vest in full on the earlier to occur of (i) June 1, 2014, (ii) an involuntary termination of the applicable named executive officer's continuous service by GTx other than for cause and (iii) a change of control of GTx, except that vesting will not occur in the event of a voluntary resignation or involuntary termination for cause occurring prior to any of these events. The retention stock options expire on September 30, 2023, unless they are forfeited or expire earlier in accordance with their terms. In connection with the approval of the retention bonus program, the Compensation Committee departed from its historical past practice and determined not to grant annual stock options to the named executive officers, which annual stock option grants would have otherwise been granted effective January 1, 2014.

All options granted to our named executive officers may be exercised with cash, provided that the Board or the Compensation Committee may provide that the exercise price may also be paid by delivery to us of other unencumbered shares of our common stock with a value equal to the aggregate option exercise price, pursuant to a cashless exercise program, or in any other form of legal consideration that may be acceptable to the Board or the Compensation Committee (which may include a "net exercise" of the option). As a general matter, the vested portion of the annual options granted to our named executive officers in 2013, with the exception of the annual stock option granted

Table of Contents

to Mr. Mosteller, will expire three months or six months, as applicable, after the named executive officer's last day of service with us, subject to extension in certain termination situations as described under and "Potential Payments Upon Termination or Change of Control Continuing Named Executive Officers Stock Option and Equity Plan Provisions Extended Post-Termination Exercise Period" below. The vested portion of the annual option granted to Mr. Mosteller in 2013 will expire on December 31, 2015. The vested portion of the retention stock options granted to Dr. Dalton and Mr. Doggrell in 2013 will expire six months after the applicable named executive officer's last day of service, subject to extension in certain termination situations as described under "Potential Payments Upon Termination or Change of Control Continuing Named Executive Officers Stock Option and Equity Plan Provisions Extended Post-Termination Exercise Period" below. Events that can accelerate the vesting of the annual stock options are described below under "Retention Bonus Program Stock Option Modifications" and "Potential Payments Upon Termination or Change of Control Continuing Named Executive Officers Stock Option and Equity Plan Provisions Stock Option Vesting Acceleration (General)" below.

Retention Bonus Program. As part of our efforts to retain the essential employees who continued with GTx following our October 1, 2013 workforce reduction, the Compensation Committee approved a retention bonus program for our continuing employees, including all of the named executive officers with the exception of Mr. Mosteller. The retention bonus program includes the following retention benefits and arrangements:

Cash Retention Bonuses. Under the retention bonus program, each of Dr. Dalton and Mr. Doggrell will be entitled to a cash retention bonus equal to 50% of the then current base salary of the applicable named executive officer if the named executive officer remains an employee of GTx through the earliest to occur of (i) the end of business on May 31, 2014, (ii) an involuntary termination of employment by GTx (excluding a termination for cause or a voluntary resignation), and (iii) a change of control of GTx. Neither Dr. Steiner nor Mr. Hanover are eligible for a cash retention bonus. In connection with the adoption of the retention bonus program, the Compensation Committee suspended cash bonus award eligibility under our Executive Bonus Compensation Plan until such time as the Compensation Committee determines to re-instate such eligibility. In addition, no executive officers of GTx received a performance bonus award under our Executive Bonus Compensation Plan for 2013.

Retention Stock Awards. As part of the retention bonus program, the Compensation Committee approved the grant of retention stock options to purchase 100,000 shares of GTx common stock and restricted stock units covering 100,000 shares of GTx common stock to each of Dr. Dalton and Mr. Doggrell, which such retention stock awards are described above under "Annual Option and Retention Stock Awards."

Stock Option Modifications. As part of the retention bonus program, the Compensation Committee also approved the modification of all then outstanding stock options held by all of our continuing employees, including all of the named executive officers with the exception of Mr. Mosteller. As approved by the Compensation Committee, each outstanding stock option held by each such named executive officer was modified effective October 1, 2013 to provide that if the applicable named executive officer's service continues through the earlier to occur of the end of business on May 31, 2014 and an involuntary termination of employment by GTx (excluding a termination for cause or a voluntary resignation), then, as of the applicable date: (i) an additional number of shares subject to such option will immediately vest as if the applicable named executive officer's service had continued through January 1, 2015 and (ii) the period during which the vested portion of such options will generally expire will be extended from three months to six months after the applicable named executive officer's termination of service (subject to further extension under certain circumstances per the original terms of the stock option awards), subject in each case to the earlier expiration of the original term of the applicable stock option award.

Table of Contents

Extended Post-Termination Health Coverage Benefit. As part of the retention bonus program, the Compensation Committee also approved the provision of extended health benefit coverage to all of our continuing employees, including all of the named executive officers with the exception of Mr. Mosteller. As approved by the Compensation Committee, if a named executive officer's service continues through the end of business on May 31, 2014 and thereafter such service is terminated for any reason (other than for cause), including a voluntary termination, then such named executive officer will be eligible to receive monthly premium payments from GTx to continue his existing coverage through December 31, 2014 (or, if earlier, the date on which the named executive officer becomes eligible for coverage under the group health insurance of a subsequent employer or is otherwise no longer eligible for such continued coverage). In addition, if a named executive officer's service is terminated by GTx prior to June 1, 2014 for any reason (other than for cause), then such executive officer will be eligible for the monthly premium payments described in the preceding sentence. Extended health coverage will not be provided to any named executive officer who voluntarily resigns prior to June 1, 2014.

Please also see "Potential Payments upon Termination or Change of Control Continuing Named Executive Officers Stock Option and Equity Plan Provisions" and "Other Retention Bonus Program Benefits" below for additional information regarding the elements of our retention bonus program.

Annual Cash Bonus Awards. Our Executive Bonus Compensation Plan provides for annual cash bonus award opportunities to reward executive officers for performance in the prior fiscal year. For more information regarding our Executive Bonus Compensation Plan, including the Compensation Committee's determination to suspend cash bonus award eligibility under that plan, please see "Retention Bonus Program" and "Compensation Discussion and Analysis Elements of Compensation Annual Bonus Plan" above.

Other Compensatory Arrangements. For a description of the other elements of our executive compensation program, see "Compensation Discussion and Analysis Retirement Benefits" and "Compensation Discussion and Analysis Employee Benefits" above.

Outstanding Equity Awards at Fiscal-Year End

The following table summarizes the number of outstanding equity awards held by each of our named executive officers as of December 31, 2013.

OUTSTANDING EQUITY AWARDS AT 2013 FISCAL-YEAR END TABLE

Name	Number of Securities Underlying Unexercised Options (#)	Option Awa Number of Securities Underlying Unexercised Options (#)	Option Exercise Price (\$)	Option Expiration Date	Stock A Number of Shares or Units of Stock That Have Not Vested (#)	wards Market Value of Shares or Units of Stock That Have Not Vested (\$)^{(10)}
Mitchell S. Steiner	50,000 63,000 42,000 21,000	25,000 ₍₂₎ 42,000 ₍₃₎ 63,000 ₍₄₎ 84,000 ₍₅₎ 135,000 ₍₆₎	4.20 2.65 3.36	12/31/18 12/31/19 12/31/20 12/31/21 12/31/22		
Marc S. Hanover	125,000 33,334 42,000 28,000 14,000	16,666 ₍₂₎ 28,000 ₍₃₎ 42,000 ₍₄₎ 56,000 ₍₅₎ 90,000 ₍₆₎	4.20 2.65 3.36	12/31/17 12/31/18 12/31/19 12/31/20 12/31/21 12/31/22		
Mark E. Mosteller ⁽⁷⁾	10,000 25,000 25,000 25,000 25,000 35,000 35,000 55,000		8.90 10.86 17.84 14.35 16.84 4.20 2.65 3.36 4.20	07/27/14 07/26/15 12/31/15 12/31/15 12/31/15 12/31/15 12/31/15 12/31/15 12/31/15		
James T. Dalton	33,000 25,000 20,000 25,000 25,000 16,666 21,000 7,000	8,334 ₍₂₎ 14,000 ₍₃₎ 30,000 ₍₄₎ 28,000 ₍₅₎ 55,000 ₍₆₎ 100,000 ₍₈₎	4.20 2.65 3.36 4.20	01/19/15 05/18/15 12/31/15 12/31/16 12/31/17 12/31/18 12/31/19 12/31/20 12/31/21 12/31/22 09/30/23	100,000(9)	165,000

Edgar Filing: GTX INC /DE/ - Form PRE 14A

Henry P. Doggrell	10,000		8.90	07/27/14	100,000(9)	165,000
	25,000		10.86	07/26/15		
	25,000		17.84	12/31/16		
	25,000		14.35	12/31/17		
	16,666	8,334(2)	16.84	12/31/18		
	21,000	14,000(3)	4.20	12/31/19		
	14,000	21,000(4)	2.65	12/31/20		
	7,000	28,000 ₍₅₎	3.36	12/31/21		
		55,000(6)	4.20	12/31/22		
		$100,000_{(8)}$	1.88	09/30/23		

(1)
In addition to the specific vesting schedule for each stock option award, each unvested stock option is subject potential future vesting acceleration as described under the heading " Potential Payments upon Termination or Change of

Table of Contents

Control Continuing Named Executive Officers Stock Option and Equity Plan Provisions" below. In particular, in addition to potential vesting acceleration benefits as a result of specified change of control transactions, or as a result of certain terminations in connection with specified change of control transactions, as part of the retention bonus program approved by the Compensation Committee in September 2013, each outstanding stock option held by each named executive officer (other than Mr. Mosteller) was modified to provide that if the applicable named executive officer's service continues through the earlier to occur of the end of business on May 31, 2014 and an involuntary termination of employment by GTx (excluding a termination for cause or a voluntary resignation), then, as of the applicable date an additional number of shares subject to such option will immediately vest as if the applicable named executive officer's service had continued through January 1, 2015. For more information, see " Potential Payments upon Termination or Change of Control Continuing Named Executive Officers Stock Option and Equity Plan Provisions Stock Option Modifications Retention Bonus Program" below.

- (2) One-third of the shares vested on each of January 1, 2012, January 1, 2013 and January 1, 2014.
- One-fifth of the shares vested on each of January 1, 2011, January 1, 2012, January 1, 2013 and January 1, 2014, with the remaining shares vesting as to one-fifth of the shares on January 1, 2015.
- (4) One-fifth of the shares vested on each of January 1, 2012, January 1, 2013 and January 1, 2014, with the remaining shares vesting as to one-fifth of the shares on each of January 1, 2015 and January 1, 2016.
- One-fifth of the shares vested on each of January 1, 2013 and January 1, 2014, with the remaining shares vesting as to one-fifth of the shares on each of January 1, 2015, January 1, 2016 and January 1, 2017.
- (6)
 One-fifth of the shares vested on January 1, 2014, with the remaining shares vesting as to one-fifth of the shares on each of January 1, 2015, January 1, 2016, January 1, 2017 and January 1, 2018.
- In connection with Mr. Mosteller's resignation from GTx, the Compensation Committee approved the full vesting of unvested shares subject to his outstanding stock options, effective December 31, 2013. All of Mr. Mosteller's stock options will expire on the earliest to occur of through December 31, 2015 or the expiration of the original term of the applicable stock option.
- (8) The shares will vest in full on the earlier to occur of (i) June 1, 2014, (ii) an involuntary termination of the named executive officer's continuous service by GTx (other than for cause) and (iii) a change of control of GTx.
- (9)

 The restricted stock units will vest in full on the earlier to occur of (i) June 1, 2014, (ii) an involuntary termination of the named executive officer's continuous service by GTx (other than for cause) and (iii) a change of control of GTx.
- (10)

 The market values of the restricted stock units that have not vested are calculated by multiplying the number of restricted stock units shown in the table by the closing price of our common stock on December 31, 2013, which was \$1.65.

Option Exercises and Stock Vested During 2013

The following table sets forth certain information regarding option exercises by our named executive officers during the fiscal year ended December 31, 2013. No restricted stock units held by our named executive officers vested during the year ended December 31, 2013.

Option Awards
Number of Shares Value Realized
Acquired on Exercise(1)
Exercise (#) (\$)

Name

Mitchell S. Steiner

Marc S. Hanover

17,000	12,300
20,000	49,400
	,

(1)

The value realized on exercise is based on the difference between the closing price of our common stock as reported on The NASDAQ Global Market on the date of exercise and the applicable exercise price of the option, and does not represent actual amounts received as a result of the option exercise.

58

Table of Contents

Potential Payments upon Termination or Change of Control

Continuing Named Executive Officers

We have entered into employment agreements with each of our named executive officers. Described below are the circumstances that would trigger our obligation to make cash payments pursuant to these employment agreements following the termination of a named executive officer's employment with us and the cash payments that we would be required to provide. We also describe below the termination and change of control events that would trigger the accelerated vesting of stock options held by our named executive officers, the extension of the post-termination exercise period with respect to those stock options and the provision of certain healthcare continuation payments, and in the case of Dr. Dalton and Mr. Doggrell, the termination and change of control events that would trigger the payment of retention bonuses and the vesting of the retention stock options and restricted stock units we granted to Dr. Dalton and Mr. Doggrell under the retention bonus program approved by the Compensation Committee in September 2013. As noted below, Mr. Mosteller resigned from GTx effective December 31, 2013. Accordingly, he is no longer entitled to payments and benefits described below for our continuing named executive officers. We describe the compensation and benefits that we actually provided to Mr. Mosteller in connection with his resignation under the caption "Severance and Release Agreement with Mr. Mosteller" below.

Employment Agreements

Termination Without "Cause" or For "Good Reason" after a Change of Control

The employment agreements with our named executive officers provide for cash post-termination change of control payments equal to one year's base salary and monthly premium payments to continue the named executive officer's health insurance coverage for up to twelve months following his termination. These change of control salary continuation and health insurance coverage benefits are structured on a "double-trigger" basis, meaning that before a named executive officer is eligible to receive such benefits, (1) a change of control must occur and (2) within twelve months after such change of control, the named executive officer's employment must be terminated without "cause" or the named executive officer must resign for "good reason." GTx's obligation to make the salary continuation payments and health insurance premium payments under the employment agreements is conditioned upon the former named executive officer's compliance with the confidentiality provisions of the employment agreement and the provisions of the non-competition provisions of the employment agreement for a period of one year following termination. In addition, GTx's obligation to make the salary continuation payments and health insurance premium payments is conditioned upon GTx's receipt of an effective general release of claims executed by the named executive officer. The post-termination salary continuation payments will be generally made over the one-year period following termination on our regular payroll dates rather than in a lump sum, except that the timing of these payments may be deferred for up to six months if these payments would constitute deferred compensation under Section 409A of the Internal Revenue Code (in which case, the deferred payment would be made in a lump sum following the end of the deferral period, with the balance being paid thereafter on our regular payroll dates).

A change of control generally means the following:

the sale or other disposition of all or substantially all of GTx's assets (including a liquidation or dissolution of GTx);

if any person or group acquires beneficial ownership of 50% or more of GTx's voting securities (subject to certain exceptions);

59

Table of Contents

a merger or consolidation of GTx with or into any other entity, if immediately after the transaction more than 50% of the voting stock of the surviving entity is held by persons who were not holders of at least 50% of GTx's voting stock as of the effective date of the named executive officer's employment agreement; or

a majority of our Board becomes comprised of individuals whose nomination, appointment, or election was not approved by a majority of the Board members or their approved successors.

"Cause" is generally defined as the named executive officer's:

conviction for a felony;

theft, embezzlement, misappropriation of or intentional infliction of material damage to GTx's property or business opportunities;

breach of his confidentiality or non-competition obligations, as applicable, under his employment agreement; or

ongoing willful neglect of or failure to perform his duties, or his ongoing willful failure or refusal to follow any reasonable, unambiguous duly adopted written direction of Dr. Steiner (or the Board in the case of Dr. Steiner) that is not inconsistent with the description of such named executive officer's duties, provided that such willful neglect or failure is materially damaging or materially detrimental to the business and operations of GTx, and after 30 days notice and the opportunity to cure.

"Good reason" is generally defined as the following actions taken without the consent of the named executive officer after a change of control (in each case where the named executive officer has provided written notice within 30 days of the action, such action is not remedied by GTx within 30 days following such notice, and the named executive officer's resignation is effective not later than 60 days after the expiration of such 30-day cure):

an adverse change in the named executive officer's authority, duties or responsibilities (including reporting responsibilities) which, without the named executive officer's consent, represents a material reduction in or a material demotion of the named executive officer's authority, duties or responsibilities as in effect immediately prior to the change of control, or the assignment to the named executive officer of any duties or responsibilities that are materially inconsistent with and materially adverse to such authority, duties or responsibilities;

a material reduction in the then current base salary of the named executive officer;

the relocation of the named executive officer's principal office to a location that increases his one-way commute by more than 20 miles;

the failure of GTx to obtain an agreement reasonably satisfactory to the named executive officer from any successor entity upon the change of control to assume and agree to perform his employment agreement in all material respects; or

a material breach by GTx of any provision of the named executive officer's employment agreement or any other then-effective agreement with the named executive officer.

Table of Contents

Other Termination Scenarios

If we terminate a named executive officer's employment for "cause," or if a named executive officer voluntarily terminates his or her employment without "good reason," or upon the death of a named executive officer, the named executive officer would have no right to receive any compensation or benefits under his employment agreement on or after the effective date of termination, other than any accrued and unpaid salary and expense reimbursement. Likewise, if we terminate a named executive officer's employment without "cause," or if a named executive officer voluntarily terminates his employment with "good reason," in each case not within twelve months following a change of control, the named executive officer would have no right to receive any compensation or benefits under his employment agreement on or after the effective date of termination, other than any accrued and unpaid salary and expense reimbursement.

Other Benefits

Except as set forth above, under the employment agreements with our named executive officers, our named executive officers would not be entitled to any other benefits following termination of service, including the continuation of general employee benefits, life insurance coverage and long term disability coverage, except as otherwise required by applicable law.

Stock Option and Equity Plan Provisions

Stock Option Vesting Acceleration (General)

Pre-IPO Plans. The Genotherapeutics, Inc. Stock Option Plan, or the 1999 Plan, the GTx, Inc. 2000 Stock Option Plan, or the 2000 Plan, the GTx, Inc. 2001 Stock Option Plan, or the 2001 Plan, and the GTx, Inc. 2002 Stock Option Plan, or the 2002 Plan, each provide that in the event of a specified change of control transaction, all shares subject to option awards granted under these plans will immediately vest and be converted into cash, options or stock of equivalent value in the surviving organization under terms and conditions that substantially preserve the economic status of plan participants. Certain of the options granted to our executive officers to date have been granted pursuant to these plans. For purposes of our 1999 Plan, 2000 Plan, 2001 Plan and 2002 Plan, the definition of change of control is substantially similar to the definition of change of control under the employment agreements with our named executive officers. As a result of the adoption of our 2013 Equity Incentive Plan, or the 2013 Plan, we no longer grant any options under any of these plans.

2004 Plan. Our 2004 Equity Incentive Plan, or the 2004 Plan, provides that in the event of a specified corporate transaction such as a merger, consolidation or similar transaction, all outstanding options under the 2004 Plan may be assumed, continued or substituted for by any surviving or acquiring entity. If the surviving or acquiring entity elects not to assume, continue or substitute for such options, such options held by individuals whose service has not terminated prior to the effective date of the corporate transaction will become fully vested, and, if applicable, exercisable and such options will be terminated if not exercised prior to the effective date of the corporate transaction. A recipient's award agreement may provide for acceleration upon other events. In this regard, the standard form of stock option agreement under the 2004 Plan provides for each stock option to become fully vested and exercisable if (i) the optionholder's service with GTx or its successor terminates within twelve months after a change of control and the termination of service is a result of an involuntary termination without cause or a constructive termination or (ii) the optionholder is required to resign his or her position with GTx as a condition of the change of control. For purposes of our 2004 Plan, the definition of change of control is similar to the definition of change of control under the employment agreements with our named executive officers. As a result of the adoption of the 2013 Plan, we no

Table of Contents

longer grant any equity awards under the 2004 Plan, and stock options were the only form of stock awards granted to our named executive officers under the 2004 Plan.

The standard form of stock option agreement under the 2004 Plan generally defines "cause" as the grant recipient:

committing an act that materially injures the business of GTx;

refusing or failing to follow the lawful and reasonable directions of the Board or the appropriate individual to whom he or she reports, after 15 days notice and the opportunity to cure;

willfully or habitually neglecting his or her duties with GTx, after 15 days notice and the opportunity to cure;

being convicted of a felony that is likely to inflict or has inflicted material injury on the business of GTx; or

committing a material fraud, misappropriation, embezzlement or other act of gross dishonesty that resulted in material loss, damage or injury to GTx.

The standard form of stock option agreement under the 2004 Plan generally defines a "constructive termination" as a voluntary termination within 12 months after a change of control after any of the following actions are taken without the consent of the grant recipient:

the assignment to the grant recipient of any duties or responsibilities which results in a significant reduction in his or her function as in effect immediately prior to the change of control;

a material reduction in the grant recipient's salary, as in effect on the effective date of the change of control;

the failure to continue in effect any benefit plan or program in which the grant recipient was participating immediately prior to the effective date of the change of control, or the taking of any action that would adversely affect his or her participation in (or reduce his or her benefits under) any such benefit plan or program (but either circumstance will only be grounds for a "constructive termination" if the range of benefit plans and programs offered by the acquirer is not comparable to the benefit plans previously offered by GTx, when considered as a whole);

a relocation of the grant recipient's principal office to a location more than 50 miles from the location at which he or she performed his or her duties as of the effective date of the change of control; or

a material breach by GTx of any provision of the grant recipient's stock option agreement under the 2004 Plan.

2013 Plan. Our 2013 Plan provides that in the event of a specified corporate transaction such as a merger, consolidation or similar transaction, all outstanding stock awards under the 2013 Plan may be assumed, continued or substituted for by any surviving or acquiring entity, and any reacquisition or repurchase rights held by GTx in respect of common stock issued pursuant to outstanding stock awards may be assigned by GTx to its successor (or the successor's parent company). If the surviving or acquiring corporation does not assume, continue or substitute any or all such outstanding stock awards,

Table of Contents

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 (and, if applicable, the exercisability) of such stock awards will (contingent upon the effectiveness of the corporate transaction) be accelerated in full to a date prior to the effective time of the corporate transaction as the Board determines (or, if the Board does not determine such a date, to the date that is five days prior to the effective time of the corporate transaction), such stock awards will terminate if not exercised (if applicable) at or prior to the effective time of the corporate transaction, and any reacquisition or repurchase rights held by GTx with respect to such stock awards will (contingent upon the effectiveness of the corporate transaction) lapse. Unless otherwise provided in a written agreement between GTx or an affiliate and a participant, the vesting (and, if applicable, the exercisability) of any other outstanding stock awards that are not assumed, continued or substituted in connection with the corporate transaction will not be accelerated and such stock awards will terminate if not exercised (if applicable) prior to the effective time of the corporate transaction. A recipient's award agreement may provide for acceleration upon other events. In this regard, the standard form of stock option agreement under the 2013 Plan provides for each stock option to become fully vested and exercisable if the optionholder's service with GTx or its successor terminates on or within twelve months after a change of control and the termination of service is a result of an involuntary termination without cause or a constructive termination. We have also made retention stock option and restricted stock unit grants to Dr. Dalton and Mr. Doggrell under the 2013 Plan that provide for full vesting upon a change of control, as described below.

For purposes of our 2013 Plan, the definition of change of control is similar to the definition of change of control under the employment agreements with our named executive officers.

For purposes of our 2013 Plan, "cause" has the meaning ascribed to such term in any written agreement between the grant recipient and GTx, and in the absence of such an agreement, "cause" means the occurrence of any of the following:

the grant recipient's willful failure substantially to perform his or her duties and responsibilities or deliberate violation of a company policy;

the grant recipient'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 GTx;

unauthorized use or disclosure by the grant recipient of any proprietary information or trade secrets of GTx or any affiliate or any other party to whom the grant recipient owes an obligation of nondisclosure as a result of the grant recipient's relationship with GTx or any affiliate; or

the grant recipient's willful breach of any of his or her obligations under any written agreement or covenant with GTx or any affiliate.

The definition of a "constructive termination" in the standard form of stock option agreement under the 2013 Plan is similar to the definition of a "constructive termination" in the standard form of stock option agreement under the 2004 Plan, except that a constructive termination would also be deemed to occur if the board of GTx's successor requires the participant to resign from GTx in a manner that terminates the participant's continuous service, as a condition of the change in control. In addition, in order to have a basis for constructive termination under the 2013 Plan, a participant must provide written notice of the event giving rise to constructive termination to the board of GTx's successor within 30 days following such event, provide the successor with 30 days to cure such event, and, if not cured, the participant must resign from all positions then held with GTx and its successor

Table of Contents

not later than six months after the date of the participant's written notice to the board of the successor (or such earlier date as may be requested by the Board).

Retention Stock Awards

As part of the retention bonus program approved by the Compensation Committee in September 2013, we granted to each of Dr. Dalton and Mr. Doggrell retention stock options to purchase 100,000 shares of GTx common stock and restricted stock units covering 100,000 shares of GTx common stock under the 2013 Plan. Each of these stock options and the restricted stock units will vest in full on the earlier to occur of (i) June 1, 2014, (ii) an involuntary termination of the applicable named executive officer's continuous service by GTx other than for cause and (iii) a change of control, except that vesting will not occur in the event of a voluntary resignation or involuntary termination for cause occurring prior to any of these events. The definition of change of control is governed by the 2013 Plan and is described above. The retention grant agreements define "cause" as:

the grant recipient's failure to substantially perform his or her duties and responsibilities to GTx;

the grant recipient's material breach or violation of a company policy;

the grant recipient's act or omission which results in significant harm to GTx;

any violation or breach by the grant recipient of any obligations under any agreement, covenant or restrictive covenant between the grant recipient and GTx; or

the grant recipient's commission of an act of fraud, embezzlement, dishonesty, misappropriation or breach of fiduciary duty against GTx, or any felony involving the business, assets or customers or clients of GTx, or the grant recipient's conviction or plea of guilty or nolo contendere to any other felony.

Stock Option Modifications Retention Bonus Program

In connection with the adoption of the retention bonus program by the Compensation Committee in September 2013, each outstanding stock option held by each named executive officer (other than Mr. Mosteller) was modified effective October 1, 2013 to provide that if the applicable named executive officer's service continues through the earlier to occur of the end of business on May 31, 2014 and an involuntary termination of employment by GTx (excluding a termination for cause or a voluntary resignation), then, as of the applicable date: (i) an additional number of shares subject to such option will immediately vest as if the applicable named executive officer's service had continued through January 1, 2015 and (ii) the period during which the vested portion of such options will generally expire will be extended from three months to six months after the applicable named executive officer's termination of service (subject to further extension under certain circumstances per the original terms of the stock option awards), subject in each case to the earlier expiration of the original term of the applicable stock option award. For these purposes, "cause" has the same meaning as ascribed to such term in the retention stock award agreements with Dr. Dalton and Mr. Doggrell.

Extended Post-Termination Exercise Period

As a general matter, the terms of the options we have granted to our named executive officers (other than the retention options granted to Dr. Dalton and Mr. Doggrell) provided that the vested portion of these options will expire three months after the named executive officer's termination of service. We refer to the period following the named executive officer's termination during which he can

Table of Contents

continue to exercise his vested stock options as the post-termination exercise period. In connection with the adoption of the retention bonus program by the Compensation Committee in September 2013, however, the outstanding options then held by our named executive officers (with the exception of Mr. Mosteller) were modified effective October 1, 2013 to generally provide for a six month post-termination exercise period. In addition, the retention stock options granted to Dr. Dalton and Mr. Doggrell each generally provide for a six month post-termination exercise period. All such post-termination exercise periods are limited by, and will not exceed, the original expiration date of the option. However, in termination situations involving the death or disability of the named executive officer, or the named executive officer's voluntary retirement, the post-termination exercise period is generally extended beyond three months or six months, as applicable, following the named executive officer's termination of service. Under our 2004 Plan and the form of stock option agreement under our 2004 Plan, the post-termination exercise period will generally be one year following termination if the termination of service is a result of an involuntary termination without cause or a constructive termination within twelve months after a change of control. Under our 2013 Plan and the form of stock option agreement under our 2013 Plan, the post-termination exercise period will generally be one year following termination if the termination of service occurs either as a condition of a change of control or upon the effectiveness of a change of control, unless the stock option is not assumed, continued or replaced by the successor or acquiring entity. With respect to all of our stock option plans and the forms of stock option agreements under such stock option plans, if the termination is due to the named executive officer's death, the post-termination exercise period will generally be 18 months following termination, and if the termination is due to the named executive officer's disability, the post-termination exercise period will generally be one year following termination. With respect to our 2013 Plan and the form of stock option agreement under our 2013 Plan, if the termination is for cause, the option will terminate upon the date on which the event giving rise to the termination for cause first occurred (or, if required by law, the date of the termination). With respect to our 1999 Plan, 2000 Plan and 2002 Plan and the forms of stock option agreements under those plans, if a named executive officer voluntarily retires his employment (which generally means a retirement after age 65 or after age 55 following a specified period of service), the post-termination exercise period will generally be five years following termination. However, our 1999 and 2000 Plans provide that the Compensation Committee in its discretion can provide for any post-termination exercise period for a vested option in the event of the disability, death or involuntary termination of an option grant recipient of up to, but not exceeding, the initial ten-year term of the option. Under our 2004 Plan and 2013 Plan and the forms of stock option agreements under those plans, if a named executive officer voluntarily retires his employment (which generally means a retirement after age 65 following a specified period of service or after age 55 following a specified period of service and with the authorization of our Chief Executive Officer or the Board), the post-termination exercise period will generally be two years following termination. In no event, however, will the post-termination exercise period be extended beyond the initial ten-year term of the option.

Other Retention Bonus Program Benefits

Cash Retention Bonuses. As part of the retention bonus program approved by the Compensation Committee in September 2013, each of Dr. Dalton and Mr. Doggrell will receive a lump sum cash retention bonus equal to 50% of his then-current base salary if he remains an employee of GTx through the earliest to occur of (i) the end of business on May 31, 2014, (ii) an involuntary termination of employment by GTx (excluding a termination for cause or a voluntary resignation), and (iii) a change of control. Neither Dr. Steiner nor Mr. Hanover are eligible for a cash retention bonus. The definition of change of control for these retention bonuses is governed by the 2013 Plan except that a change of control will be deemed to have occurred only if a change in the ownership or effective control of GTx or a change in ownership of a substantial portion of the assets of GTx is also deemed to have occurred under Section 409A of the Internal Revenue Code. For purposes of the retention

Table of Contents

bonuses, "cause" has the same meaning as ascribed to such term in the retention stock award agreements with Dr. Dalton and Mr. Doggrell.

Extended Post-Termination Health Coverage Benefit. As part of the retention bonus program, the Compensation Committee also approved the extension of health benefit coverage to all of our continuing employees in certain circumstances, including all of the named executive officers with the exception of Mr. Mosteller. As approved by the Compensation Committee, if a named executive officer's service continues through the end of business on May 31, 2014 and thereafter such service is terminated for any reason (other than for cause), including a voluntary termination, then such named executive officer will be entitled to monthly premium payments from GTx to continue such named executive officer's health insurance coverage through December 31, 2014 (or, if earlier, the date on which the named executive officer becomes eligible for coverage under the group health insurance of a subsequent employer or is otherwise no longer eligible for such continued coverage). In addition, if a named executive officer's service is terminated by GTx prior to June 1, 2014 for any reason (other than for cause), then such executive officer will be entitled to the monthly premium payments described in the preceding sentence. Extended health coverage will not be provided to any named executive officer who voluntarily resigns prior to June 1, 2014. For these purposes, "cause" has the same meaning as ascribed to such term in the retention stock award agreements with Dr. Dalton and Mr. Doggrell.

Other Benefits

For a description of certain other retirement, life insurance and disability benefits, please see "Compensation Discussion and Analysis Retirement Benefits" and "Compensation Discussion and Analysis Employee Benefits" above.

Severance and Release Agreement with Mr. Mosteller

In connection with Mr. Mosteller's resignation from GTx, effective December 31, 2013, we entered into a severance and release agreement with Mr. Mosteller. Pursuant to the severance and release agreement, in exchange for Mr. Mosteller's full general release of any claims he may have on account of his employment with GTx and the termination of his employment:

we made a lump sum severance payment equal to nine months of Mr. Mosteller's base salary as in effect immediately prior to his resignation;

we made a additional lump sum severance payment equal to \$14,000, which was intended to offset the loss of company benefits by Mr. Mosteller in connection with his resignation;

the vesting of all outstanding unvested stock options held by Mr. Mosteller was accelerated in full, such that all of such outstanding unvested stock options became fully vested and exercisable as of December 31, 2013; and

the post-termination exercise period applicable to all of Mr. Mosteller's outstanding stock options was extended through December 31, 2015, subject in each case to the earlier expiration of the original term of the applicable stock option.

We have calculated the total value of those payments and benefits to be \$388,207, which consists of: (i) \$240,643, which represents a severance payment equal to nine months of his base salary then in effect; (ii) the additional severance payment of \$14,000 referred to above; (iii) a payout of accrued vacation of \$7,404; and (iv) \$126,160, which represents the aggregate incremental fair value associated with the modifications of Mr. Mosteller's stock options as calculated in accordance with FASB ASC Topic 718.

Table of Contents

Calculation of Potential Termination and Change of Control Benefits

The following table includes an estimate of the potential compensation and benefits payable to our named executive officers in certain termination and change of control situations. In providing the estimated potential payments and benefits, we have made the following general assumptions in all circumstances where applicable:

a change of control and/or a employment termination event has occurred, and the date of such event is December 31, 2013;

the annual salary at the time of termination is as follows: Mitchell S. Steiner, \$452,088; Marc S. Hanover \$393,317; Mark E. Mosteller, \$320,857; James T. Dalton, \$375,000; and Henry P. Doggrell \$363,576;

there is no accrued and unpaid salary; and

there is no unpaid reimbursement for expenses incurred prior to the date of termination.

As of December 31, 2013, all of the stock options held by the named executive officers were out-of-the-money, meaning that all of such stock options had exercise prices that were in excess of the closing price of our common stock on December 31, 2013 (\$1.65). As a result, the value of any stock option vesting or vesting acceleration benefits in connection with the termination or change of control events, for purposes of the table below, is \$0. This does not mean, however, that the named executive officers will not receive any value as a result of stock option vesting or vesting acceleration benefits in connection with an actual termination or change of control event occurring in the future; the actual value that the named executive officers would receive can be determined only at the time of such termination or change of control event.

Finally, to provide comprehensive disclosure to our stockholders with respect to potential compensation and benefits payable to our named executive officers, we have included in the table below an estimate of the potential compensation and benefits payable to Mr. Mosteller under his pre-termination compensation arrangements. The actual compensation and benefits afforded to Mr. Mosteller in connection with his resignation from GTx are described and quantified under "Severance and Release Agreement with Mr. Mosteller" above.

Table of Contents

(1)

		GI.		Change of Control with No	ern	nination/Chang Termination w/o Cause or Constructive Termination in			nt			
Name and Form of		Change of Control Only		Assumption or Replacement Equity		Connection with Change of Control		Fermination w/o Cause (no Change of Control)		Death or Disability	R	Retirement
Benefit/Payment		(a) ⁽¹⁾		$(b)^{(1)}$		(c) ⁽¹⁾		(d) ⁽¹⁾		(e) ⁽¹⁾		(f) ⁽¹⁾
Mitchell S. Steiner Base Salary Continuation ⁽²⁾ Life, Health & Other Benefits ⁽³⁾ Stock Options (full vesting acceleration) ⁽⁴⁾ Stock Options (partial vesting	\$		\$		\$	452,088 27,072	\$	27,072	\$	1,243,242	\$	
acceleration)(5)						N/A						
Dr. Steiner's Totals Marc S. Hanover	\$		\$		\$	479,160	\$	27,072	\$	1,243,242	\$	
Marc S. Hanover Base Salary Continuation ⁽²⁾ Life, Health & Other Benefits ⁽³⁾ Stock Options (full vesting acceleration) ⁽⁴⁾	\$		\$		\$	393,317 18,732	\$	18,732	\$	1,081,622	\$	
Stock Options (partial vesting acceleration) ⁽⁵⁾						N/A						
Mr. Hanover's Totals	\$		\$		\$	412,049	\$	18,732	\$	1,081,622	\$	
Mark E. Mosteller ⁽⁶⁾ Base Salary Continuation ⁽²⁾ Life, Health & Other Benefits ⁽³⁾ Stock Options (full vesting acceleration) ⁽⁴⁾	\$		\$		\$	320,857 27,072	\$		\$	882,357	\$	
Mr. Mosteller's Totals	\$		\$		\$	347,929	\$		\$	882,357	\$	
James T. Dalton	Ψ		Ψ		Ψ	217,525	Ψ		Ψ	002,007	Ψ	
Base Salary Continuation ⁽²⁾ Life, Health & Other Benefits ⁽³⁾ Stock Options (full vesting acceleration) ⁽⁴⁾ Stock Options (partial vesting acceleration) ⁽⁵⁾	\$		\$		\$	375,000 27,072 N/A	\$	27,072	\$	1,031,250	\$	
Lump Sum Cash Retention												
Bonus ⁽⁷⁾ Retention Stock Options (full vesting) ⁽⁸⁾ Retention Restricted Stock Units		187,500		187,500		187,500		187,500				
(full vesting) ⁽⁸⁾		165,000		165,000		165,000		165,000				
Dr. Dalton's Totals	\$	352,500	\$	352,500	\$	754,572	\$	379,572	\$	1,031,250	\$	
Henry P. Doggrell Base Salary Continuation ⁽²⁾ Life, Health & Other Benefits ⁽³⁾ Stock Options (full vesting acceleration) ⁽⁴⁾ Stock Options (partial vesting	\$		\$		\$	363,576 27,072	\$	27,072	\$	999,834	\$	
acceleration) ⁽⁵⁾ Lump Sum Cash Retention Bonus ⁽⁷⁾ Retention Stock Options (full vesting) ⁽⁸⁾		181,788		181,788		N/A 181,788		181,788				
Retention Restricted Stock Units (full vesting) ⁽⁸⁾ Mr. Doggrell's Totals	\$	165,000 346,788	\$	165,000 346,788	\$	165,000 737,436	\$	165,000 373,860	\$	999,834	\$	

The amounts in these columns do not include any value associated with the extension, if any, of the post-termination exercise period applicable to the named executive officer's stock options. The situations under which the post-termination exercise period applicable to the named executive officer's stock options may be extended are described above under "Stock Option and Equity Plan Provisions Extended Post-Termination Exercise Period."

- (2) The amounts represent the value of base salary continuation payments (to be paid in installments) equal to one year's base salary under the named executive officer's employment agreement with GTx.
- The amounts represent: (i) with respect to columns (c) and (d), the value of the monthly premium payments to continue the named executive officer's health insurance coverage through December 31, 2014 under both the retention bonus program approved by the Compensation Committee in September 2013 and the named executive officer's employment agreement with GTx; and (ii) with respect to column (e), the value of term life insurance benefits equal to two times the named executive officer's base salary and the value of total target income replacement equal to 75% of the named executive officer's base salary under the supplement third party life and long term disability insurance benefits we provide to our executive officers.
- (4)

 The amounts represent: (i) with respect to column (a), the value of the full accelerated vesting of all outstanding stock options held by the named executive officer and granted under the 1999 Plan, 2000 Plan, 2001 Plan and 2002 Plan, as

68

Table of Contents

applicable, on a single-trigger basis, or immediately upon the change of control event; (ii) with respect to column (b), the value of the full accelerated vesting of all outstanding stock options held by the named executive officer and granted under the 2004 Plan and the 2013 Plan, as applicable, assuming the surviving or acquiring entity in the change of control transaction had elected not to assume, continue or substitute for such stock option awards; and (iii) with respect to column (c), the value of the full accelerated vesting of all outstanding stock options held by the named executive officer and granted under the 2004 Plan and the 2013 Plan, as applicable, and assume that such options had been assumed, continued or substituted for by the surviving or acquiring entity in the change of control transaction, and that in connection with the change of control transaction, the named executive officer experiences an involuntary termination without cause or a constructive termination. On December 31, 2013, the last business day of our last fiscal year, the closing sale price of our common stock was \$1.65 per share. All of the stock options held by the named executive officers were out-of-the-money at that date, and accordingly, the value of the full stock option vesting acceleration benefit is \$0 for all named executive officers for purposes of the table above. For purposes of these amounts, "outstanding stock options" do not include the retention stock options granted to Dr. Dalton and Mr. Doggrell, which retention stock options are separately listed in the table above for those named executive officers, since those options fully vest by their terms in connection with the events represented by columns (a) through (d).

- The amounts represent the value of the partial vesting, in connection with the named executive officer's involuntary termination without cause, of an additional number of shares subject to the named executive officer's outstanding stock options as if the applicable named executive officer's service continued through January 1, 2015, which benefit was approved as part of the retention bonus program approved by the Compensation Committee in September 2013. On December 31, 2013, the last business day of our last fiscal year, the closing sale price of our common stock was \$1.65 per share. All of the stock options held by the named executive officers were out-of-the-money at that date, and accordingly, the value of the partial stock option vesting acceleration benefit is \$0 for all named executive officers for purposes of the table above. In addition, we have indicated "N/A" in the table above with respect to this partial vesting acceleration benefit as applied to the event covered by column (c) since such outstanding stock options would be fully vested in connection with that event. Finally, for purposes of these amounts, "outstanding stock options" do not include the retention stock options granted to Dr. Dalton and Mr. Doggrell, which retention stock options are separately listed in the table above for those named executive officers, since those options fully vest by their terms in connection with their involuntary termination without cause.
- Mr. Mosteller resigned from GTx, effective December 31, 2013. In connection with Mr. Mosteller's resignation, GTx entered into a severance and release agreement with Mr. Mosteller as described under "Severance and Release Agreement with Mr. Mosteller". The amounts reported in the above table represent the potential payments and benefits payable to Mr. Mosteller under his pre-termination compensation arrangements. With respect to the actual payments and benefits afforded to Mr. Mosteller in connection with his resignation, please see "Severance and Release Agreement with Mr. Mosteller" above.
- (7) The amounts represent a lump sum retention bonus payment equal to 50% of the annual base salary of Dr. Dalton and Mr. Doggrell, as applicable.
- The amounts represent the value of the vesting in full of the retention stock options and restricted stock units granted to Dr. Dalton and Mr. Doggrell in connection with the termination and/or change of control event. As the exercise price of the retention stock options granted to Dr. Dalton and Mr. Doggrell was in excess of the closing sale price of our common stock on December 31, 2013, the value of the vesting benefit is \$0 with respect to such retention stock options. The value of the vesting in full of the restricted stock units is based on the number of shares underlying the restricted stock units (100,000 shares) and the closing sale price of our common stock on December 31, 2013 (\$1.65).

Compensation and Risk

In February 2014, the Compensation Committee considered our compensation policies, practices and programs as generally applicable to our employees and determined that our policies, practices and programs do not encourage excessive or unnecessary risk-taking, and that the level of risk that they do encourage is not reasonably likely to have a material adverse effect on our company. The design of our compensation policies and programs encourage our employees to remain focused on both our short and long-term goals. For example, through our use of different types of compensation vehicles that provide a balance of long- and short-term incentives with fixed and variable components, as well as our through our use of multi-year vesting for stock option awards and performance criteria under our bonus plans that emphasize the achievement of our overall corporate objectives, we believe that our employee compensation programs promote a long-term stockholder perspective, encourage decisions that will result in sustainable performance over the longer term, and mitigate the risks associated with an undue short-term focus on results.

Table of Contents

DIRECTOR COMPENSATION

Cash Retainers

In 2012, on the recommendation of the Nominating and Corporate Governance Committee and the Compensation Committee, which based their recommendations on information developed by Radford, a third party compensation consultant, the Board approved the following cash compensation payments to its Board and committee members, effective January 1, 2013, to be paid quarterly in advance as follows:

a \$32,500 annual retainer for service as a member of our Board of Directors;

a supplemental annual retainer for the Chairs of the Board and each Board committee in the following amounts: \$15,000 for Chair of the Board; \$12,000 for Chair of the Audit Committee; \$8,000 for Chair of the Compensation Committee; \$6,000 for Chair of the Nominating and Corporate Governance Committee; and \$10,000 for Chair of the Scientific Advisory Committee; and

a supplemental annual retainer for each member of the following committees other than the Chairs, in the following amounts: \$6,000 for members of the Audit Committee; \$4,000 for members of the Compensation Committee; \$3,000 for members of the Nominating and Corporate Governance Committee; and \$7,500 for members of the Scientific Advisory Committee.

No directors currently receive consulting fees from GTx. A director who is also an employee (currently Dr. Steiner) receives no additional compensation for service on the Board.

Directors' Deferred Compensation Plan

Since June 30, 2004, our non-employee directors have had the opportunity to defer all or a portion of their fees under our Directors' Deferred Compensation Plan. Deferrals can be made into a cash account, a stock account, or a combination of both. Deferrals into a cash account would accrue interest at the prime rate of interest announced from time to time by a local bank utilized by us, and deferrals into a stock account accrue to the deferring director rights in shares of GTx common stock equal to the cash compensation then payable to the director for his or her Board service divided by the then current fair market value of GTx common stock. Currently, all but two of our non-employee directors have elected to defer all or some of their Board compensation into stock accounts. No directors have deferred their Board compensation into cash accounts. Under the Directors' Deferred Compensation Plan, amounts credited to cash or stock accounts are distributed in a single lump sum on the date, if any, selected by the director pursuant to his or her election or, if no such election is made or if the selected distribution date is after his or her separation from service, then the distribution would be made on the date of his or her separation from service in the form of a single lump sum (subject to deferral under certain circumstances to the extent necessary to avoid the incurrence of adverse personal tax consequences under Section 409A of the Internal Revenue Code). Any fractional shares of GTx common stock will be distributed in cash valued at the then current fair market value of GTx common stock.

Equity Compensation

Pursuant to our Non-Employee Director Compensation Policy, or the Director Compensation Policy, each non-employee director of GTx (who does not own more than ten percent of the combined voting power of GTx's then outstanding securities) is eligible for certain initial and annual nonstatutory

Table of Contents

stock option grants, which grants are currently made pursuant to GTx's 2013 Non-Employee Director Equity Incentive Plan, or the 2013 Directors' Plan, which is the successor to our Amended and Restated 2004 Non-Employee Directors' Stock Option Plan, or the Prior Directors' Plan. Accordingly, each of our non-employee directors, with the exception of Mr. Hyde, is eligible to receive these initial and annual nonstatutory stock option grants. Under the Director Compensation Policy, any individual who first becomes a non-employee director automatically is granted an option to purchase shares of common stock. The number of shares subject to each of these initial grants is currently 22,500 shares, provided that the number of shares may be increased or decreased by our Board of Directors in its sole discretion. Under the Director Compensation Policy, any individual who is serving as a non-employee director on the day following an annual meeting of GTx's stockholders automatically will be granted an option to purchase shares of common stock on that date; provided, however, that if the individual has not been serving as a non-employee director for the entire period since the preceding annual meeting, the number of shares subject to such individual's annual grant will be reduced pro rata for each full month prior to the date of grant during which such individual did not serve as a non-employee director. The number of shares subject to each annual grant is currently 20,000 shares, provided that the number of shares may be increased or decreased by our Board of Directors in its sole discretion. The shares subject to each initial grant and each annual grant vest in a series of three successive equal annual installments measured from the date of grant, so that each initial grant and each annual grant will be fully vested three years after the date of grant. The exercise price per share for the options granted under the 2013 Directors' Plan is not less than the fair market value of the stock on the date of grant. Prior to the adoption of the 2013 Directors' Plan at the 2013 Annual Meeting of Stockholders, these initial and annual grants were made pursuant to the Prior Directors' Plan.

In the event of a specified corporate transaction, as defined in the Prior Directors' Plan or the 2013 Directors' Plan, as applicable, all outstanding options granted under the Prior Directors' Plan and the 2013 Directors' Plan may be assumed or substituted for by any surviving or acquiring entity. If the surviving or acquiring entity elects not to assume or substitute for such options, then (a) with respect to any such options that are held by optionees then performing services for GTx or its affiliates, the vesting and exercisability of such options will be accelerated in full and such options will be terminated if not exercised prior to the effective date of the corporate transaction, and (b) all other outstanding options will terminate if not exercised prior to the effective date of the corporate transaction. If a specified change of control transaction occurs, as defined in the Prior Directors' Plan, then the vesting and exercisability of the optionee's options granted under the Prior Directors' Plan will be accelerated in full immediately prior to (and contingent upon) the effectiveness of the transaction. Under the Prior Directors' Plan, if an optionee is required to resign his or her position as a non-employee director as a condition of the change of control transaction, the vesting and exercisability of the optionee's options will be accelerated in full immediately prior to the effectiveness of such resignation. Under the 2013 Directors' Plan, if a specified change of control transaction occurs, as defined in the 2013 Directors' Plan, then all stock awards held by a participant whose continuous service has not terminated prior to such time will become fully vested and, if applicable, exercisable, immediately prior to the transaction. In addition, under the 2013 Directors' Plan, if a non-employee director is required to resign his or her position as a non-employee director as a condition of the change of control transaction, all outstanding stock awards held by such individual will become fully vested and, if applicable, exercisable, as of immediately prior to such resignation. During 2008, the Board, upon the recommendation of the Compensation Committee, adopted a general policy regarding the retirement of non-employee directors that provides that the Board will act, on a case-by-case basis, to accelerate the vesting and exercisability of the retiring director's options in full provided such director retires from the Board in good standing. In connection with Timothy Sear's retirement from the Board in February 2013, the Board, pursuant to this policy, accelerated in full the vesting and exercisability of all outstanding options held by Mr. Sear and extended the post-termination exercise period of all the outstanding options held by Mr. Sear. As a result of the modifications to Mr. Sear's stock options, the post-termination exercise period of the

Table of Contents

outstanding options then held by Mr. Sear was extended to the earliest to occur of (i) the three year anniversary of the date of his retirement from the Board, (ii) the expiration of the original term of the applicable option, or (iii) a change of control of GTx or similar material corporate transaction.

The table below represents the compensation earned by each current and former non-employee director during 2013. Dr. Steiner, our Chief Executive Officer, is not listed in the following table because he is our employee. Dr. Steiner's compensation is described under "Executive Compensation."

DIRECTOR COMPENSATION FISCAL 2013

Name	Fees Earned or Paid in Cash (\$) ⁽¹⁾	Option Awards (\$) ⁽²⁾	Total (\$)
	(\$)	(a)	(a)
J. R. Hyde, III	54,500		54,500
Michael G. Carter, M.D.	48,000	64,056	112,056
Barrington J.A. Furr, Ph.D.	51,500	64,056	115,556
J. Kenneth Glass	48,500	64,056	112,556
Kenneth S. Robinson, M.D., M.Div.	44,500	64,056	108,556
Timothy R. G. Sear ⁽³⁾	11,625	132,105(4)	143,730

Represents fees earned in 2013 that were either paid, deferred or were payable at the end of 2013. Each director in the table above, other than Mr. Glass and Dr. Carter, elected to defer payment of all or a portion of his earned fees during 2013 pursuant to the Directors' Deferred Compensation Plan. The number of shares credited to individual stock accounts for our non-employee directors under the Directors' Deferred Compensation Plan as of December 31, 2013 was as follows: 59,277 shares for Mr. Hyde; 6,553 shares for Mr. Glass; 36,319 shares for Dr. Carter; 48,758 shares for Dr. Robinson; and 18,477 shares for Dr. Furr. In connection with Mr. Sear's resignation from the Board in February 2013, the 45,667 shares then credited to Mr. Sear's individual stock account under the Directors' Deferred Compensation Plan were distributed to Mr. Sear.

Except as specified in footnote (4) below, the amounts in this column represent the aggregate grant date fair value of all option awards granted to our non-employee directors during the year ended December 31, 2013 as computed in accordance with FASB ASC Topic 718. Assumptions used in computing the aggregate grant date fair value in accordance with FASB ASC Topic 718 are set forth in Note 3 Share-Based Compensation to our audited financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2013.

The following table indicates the grant date fair value for the annual option awarded to each non-employee director during the year ended December 31, 2013, as determined in accordance with FASB ASC Topic 718, as well as the total number of shares subject to options outstanding as of December 31, 2013 for each non-employee director listed in the table above:

	FASB ASC Topic 718 Grant Date	Total Shares Subject to Options Outstanding at 12/31/2013
Name	Fair Value (\$)	(#)
J. R. Hyde, III		
J. Kenneth Glass	64,056	106,000
Timothy R. G. Sear		58,666
Michael G. Carter, M.D.	64,056	95,667
Kenneth S. Robinson, M.D., M.Div.	64,056	80,000
Barrington J.A. Furr, Ph.D.	64,056	55,000

Mr. Sear resigned from the Board effective February 14, 2013.

(3)

72

Table of Contents

(4)

Represents the aggregate incremental fair value calculated in accordance with FASB ASC Topic 718 in connection with the modification of Mr. Sear's option awards as described above. Mr. Sear was not granted any stock option awards during 2013. The incremental fair value, as determined in accordance with FASB ASC Topic 718, for each of Mr. Sear's modified option awards is as follows:

Number of Shares Subject to Stock Option Award	Exercise Price of Stock Option Award	FASB ASC Topic 718 Incremental Fair Value
(#)	(\$/Sh)	(\$)
2,666	10.08	4,170
8,000	19.97	6,996
8,000	17.05	8,131
10,000	9.53	16,264
10,000	3.28	18,234
15,000	5.40	33,033
15,000	3.02	45,277

73

Table of Contents

COMPENSATION COMMITTEE INTERLOCKS AND INSIDER PARTICIPATION

During the year ended December 31, 2013, the Compensation Committee consisted of Dr. Carter, Mr. Glass and Mr. Hyde. Mr. Sear, who resigned from the Board effective February 14, 2013, served on the Compensation Committee until his resignation. None of the current members of the Compensation Committee is or was an officer or employee of GTx. During 2013, none of GTx's executive officers served as a director or member of the compensation committee of any other entity whose executive officers served on GTx's Board of Directors or Compensation Committee.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Policies and Procedures for Review of Related Party Transactions

Upon recommendation of the Audit Committee, the Board adopted a related party transactions policy, which specifies GTx's policies and procedures regarding transactions between GTx and its employees, officers, directors or their family members. GTx's Chief Legal Officer is responsible for (a) ensuring that policy is distributed to all GTx officers, directors and other managers and (b) requiring that any proposed related party transaction be presented to the Audit Committee for consideration before GTx enters into any such transactions. This policy can be found on GTx's website (www.gtxinc.com) under "About GTx" at "Governance."

It is the policy of GTx to prohibit all related party transactions unless the Audit Committee determines in advance of GTx entering into any such transaction that there is a compelling business reason to enter into such a transaction. There is a general presumption that the Audit Committee will not approve a related party transaction with GTx. However, the Audit Committee may approve a related party transaction if:

the Audit Committee finds that there is a compelling business reason to approve the transaction, taking into account such factors as the absence of other unrelated parties to perform similar work for a similar price within a similar timeframe; and

the Audit Committee finds that it has been fully apprised of all significant conflicts that may exist or otherwise arise on account of the transaction, and it believes, nonetheless, that GTx is warranted entering into the related party transaction and has developed an appropriate plan to manage the potential conflicts of interest.

Certain Transactions With or Involving Related Persons

Licensed SARM Technology. James T. Dalton, Ph.D., GTx's Vice President, Chief Scientific Officer, is a party to an agreement among the University of Tennessee, or UT, the University of Tennessee Research Foundation, or UTRF, and the inventors of many of the patents filed by UT and UTRF for selective androgen receptor modulator, or SARM, technology, which was entered while Dr. Dalton and the other inventors were employed by UT. Under this agreement, all rights in the SARM technology were assigned to UTRF with the commitment that payments received by UTRF from the licensing of the SARM technology would be shared between UT and the inventors, including Dr. Dalton. In 2002, subsequent to Dr. Dalton entering into this agreement, the SARM technology was licensed exclusively to GTx. In 2005, Dr. Dalton became one of GTx's employees. In July 2007, GTx and UTRF entered into a Consolidated, Amended, and Restated License Agreement, or the New SARM Agreement, to consolidate and replace GTx's previously existing SARM license agreements with UTRF and to modify and expand certain rights and obligations of each of the parties. GTx agreed to pay to UTRF a one-time, upfront fee of \$290,000 as consideration for entering into the New SARM Agreement. GTx also agreed to pay an annual license maintenance fee during the term of the New

Table of Contents

SARM Agreement, which fee is creditable against various royalties GTx agreed to pay to UTRF on sublicense revenues and net sales of products subject to the New SARM Agreement. In November 2007, we entered into an exclusive license and collaboration agreement with Merck & Co., Inc., or Merck, with respect to SARM development and commercialization, which was subsequently terminated, pursuant to which Merck paid us an upfront licensing fee of \$40,000,000. In December 2008, GTx and UTRF entered into an amendment to the New SARM Agreement in connection with which GTx agreed to pay to UTRF one-time fee of \$494,000 as consideration for entering into the amendment to the New SARM Agreement. Since joining GTx in 2005, Dr. Dalton received from UT and UTRF a portion of the payments made by GTx to UTRF for the licensing and sublicensing of the SARM technology totaling approximately \$637,281. Dr. Dalton will continue to receive a portion of the payments GTx will make to UTRF under the New SARM Agreement in accordance with the agreement among the UT scientists, including Dr. Dalton, UT and UTRF. Since Dr. Dalton's interest in GTx's agreement with UTRF arose while Dr. Dalton was an employee of UTRF, not GTx, and GTx's initial arrangements with UTRF regarding the licensing of the SARM technology were created in 2002, our related party transactions policy did not require that the Audit Committee review and approve the transaction in advance. The members of the Audit Committee were, however, aware of Dr. Dalton's interest when the GTx Board of Directors approved the entering into of the New SARM Agreement with UTRF in July 2007 as well as when the GTx Board of Directors approved the entering into of the amendment to the New SARM Agreement in December 2008.

March 2014 Private Placement. In March 2014, we sold an aggregate of 11,976,048 immediately separable units in a private placement, or the Private Placement, which units consisted of an aggregate of 11,976,048 shares of our common stock and warrants to purchase up to 10,179,642 additional shares of our common stock. The units were sold to J. R. Hyde, III, the chairman of our Board of Directors, and The Pyramid Peak Foundation, or the Foundation, for gross proceeds of approximately \$21.3 million. In the Private Placement, each of Mr. Hyde and the Foundation purchased 5,988,024 units, consisting of 5,988,024 shares of our common stock and a warrant to purchase 5,089,821 shares of our common stock for total consideration payable to us by each of Mr. Hyde and the Foundation of \$10,636,227.71, or approximately \$1.77625 per unit. The warrants, which may only be exercised for cash, have an exercise price of \$1.67 per share and a one year term. As part of the Private Placement, we entered into a registration rights agreement with Mr. Hyde and the Foundation pursuant to which we agreed to file a registration statement with the SEC registering the resale by Mr. Hyde and the Foundation of the 11,976,048 shares we issued at the closing of the Private Placement and the 10,179,642 shares of our common stock underlying the warrants we issued at the closing of the Private Placement, no later than 180 days following the closing of the Private Placement, and to use our reasonable best efforts to have such registration statement declared effective as soon as practicable. Pursuant to the registration rights agreement, we will bear all expenses of effecting the registration of the resale of these securities. As a result of the Private Placement, Mr. Hyde's beneficial ownership interest in GTx increased from 29.3% as of immediately prior to the Private Placement to 36.9% as of immediately following the closing of the Private Placement, in each case as calculated in accordance with the SEC's rules governing the determination of beneficial ownership. As a result of the Private Placement, the Foundation became a greater than 5% stockholder of GTx, with beneficial ownership of 13.8% of GTx's outstanding common stock as of March 10, 2014, based on information provided to GTx by the Foundation and including the shares underlying the warrants that we issued to the Foundation. In connection with the Private Placement, the Board of Directors appointed a Special Committee of the Board of the Directors, consisting of J. Kenneth Glass, Michael G. Carter, Kenneth S. Robinson, and Barrington J. A. Furr, who are disinterested and independent directors, to review and evaluate the Private Placement and any other alternative transaction to the Private Placement, and delegating to the Special Committee the exclusive power and authority to consider, negotiate, disapprove or recommend to the full Board of Directors what action, if any, should be taken by the Board of Directors and GTx with respect to the Private Placement, which Special Committee

Table of Contents

ultimately determined to approve, and to recommend that the Board of Directors that it approve, the Private Placement. In addition, as a result of the participation of Mr. Hyde in the Private Placement, the Private Placement was reviewed and pre-approved by the Audit Committee in accordance with our related party transactions policy.

Indemnity Agreements. GTx has entered into indemnity agreements with each of its current directors and certain of its executive officers to give such directors and officers additional contractual assurances regarding the scope of the indemnification set forth in GTx's charter and bylaws and to provide additional procedural protections.

OTHER MATTERS

The Board of Directors, at the time of the preparation of this proxy statement, knows of no business to come before the meeting other than that referred to herein. If any other business should properly come before the meeting, the persons named in the enclosed proxy will have discretionary authority to vote all proxies in accordance with his best judgment.

By Order of the Board of Directors,

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

Memphis, Tennessee March , 2014

ANNEX A

CERTIFICATE OF AMENDMENT OF RESTATED CERTIFICATE OF INCORPORATION OF GTX. INC.

GTX, INC., a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware, hereby certifies that:

FIRST: The name of the Corporation is GTx, Inc. (the "Corporation").

SECOND: The date of filing of the original Certificate of Incorporation of the Corporation with the Secretary of State of the State of Delaware was September 4, 2003, as restated on February 6, 2004.

THIRD: The Board of Directors of the Corporation, acting in accordance with the provisions of Sections 141 and 242 of the General Corporation Law of the State of Delaware, adopted resolutions amending its Certificate of Incorporation as follows:

Section A of ARTICLE IV of the Corporation's Restated Certificate of Incorporation be, and it hereby is, amended and restated to read in its entirety as follows:

"A. <u>Authorized Stock</u>. The total number of shares which the Corporation shall have authority to issue is two hundred five million (205,000,000), consisting of two hundred million (200,000,000) shares of Common Stock, par value \$0.001 per share (the "Common Stock"), and five million (5,000,000) shares of Preferred Stock, par value \$0.001 per share (the "Preferred Stock")."

FOURTH: The foregoing amendment was submitted to the stockholders of the Corporation for their approval, and was duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

IN WITNESS WHEREOF, GTX, INC. has caused this Certificate of Amendment to be signed by its Chief Executive Officer this day of May, 2014.

(TX, INC.
В	y:
	Mitchell S. Steiner Chief Executive Officer
A-	