

STEINER MITCHELL SHUSTER
Form SC 13G/A
February 13, 2009

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

**Schedule 13G/A
UNDER THE SECURITIES EXCHANGE ACT OF 1934
(Amendment No. 4)*
GTx, Inc.**

(Name of Issuer)
Common Stock, \$ 0.001 par value

(Title of Class of Securities)
40052B108

(CUSIP Number)
December 31, 2008

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- Rule 13d-1(b)
- Rule 13d-1(c)
- Rule 13d-1(d)

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be filed for the purpose of Section 18 of the Securities Exchange Act of 1934 (Act) or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

CUSIP No. 40052B108

13G/A

Page 2 of 5 Pages

NAME OF REPORTING PERSON

1

I.R.S. IDENTIFICATION NO. OF ABOVE PERSON (ENTITIES ONLY)

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

CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS)

2

(a)

(b)

SEC USE ONLY

3

CITIZENSHIP OR PLACE OF ORGANIZATION

4

United States of America

SOLE VOTING POWER

5

NUMBER OF 2,064,132

SHARED VOTING POWER

6

SHARES BENEFICIALLY OWNED BY 733,884

SOLE DISPOSITIVE POWER

7

EACH REPORTING PERSON 2,064,132

SHARED DISPOSITIVE POWER

8

WITH 733,884

AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

9

2,798,016

10 CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) (a)

2,064,131(1)

11 PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 9

7.7%

12 TYPE OF REPORTING PERSON (SEE INSTRUCTIONS)*

IN

(1) Shares owned by Dr. Steiner's spouse, as to which Dr. Steiner disclaims beneficial interest

CUSIP No. 40052B108 13G/A Page 3 of 5 Pages

- Item 1(a). Name of Issuer: GTx, Inc.
- Item 1(b). Address of Issuer's Principal Executive Offices: 3 N. Dunlap Street
Van Vleet Building
Memphis, TN 38163
- Item 2(a). Name of Person Filing: Mitchell S. Steiner, M.D., F.A.C.S.
- Item 2(b). Address of Principal Business Office or, if none, Residence: 3 N. Dunlap Street
Memphis, TN 38163
- Item 2(c). Organization/Citizenship: United States of America
- Item 2(d). Title of Class Of Securities: Common Stock, \$0.001 par value
- Item 2(e). CUSIP Number: **40052B108**
- Item 3. Inapplicable.
- Item 4. Ownership.

Person	Total Shares of Common Stock Beneficially Owned	Percent of Class(1)	Sole Voting Power	Shared Voting Power	Sole Power to Dispose	Shared Power to Dispose
Mitchell S. Steiner, M.D., F.A.C.S.	2,798,016	7.7%	2,064,132	733,884	2,064,132	733,884

(1) Based on **36,366,216** shares of Common Stock outstanding as of December 31, 2008.

CUSIP No. 40052B108

13G/A

Page 4 of 5 Pages

Item 5. Ownership of Five Percent or Less of a Class.

Inapplicable

Item 6. Ownership of More than Five Percent on Behalf of Another Person.

Inapplicable

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on by the Parent Holding Company.

Inapplicable

Item 8. Identification and Classification of Members of the Group.

Inapplicable

Item 9. Notice of Dissolution of Group.

Inapplicable

Item 10. Certification.

Inapplicable

CUSIP No. 40052B108

13G/A

Page 5 of 5 Pages

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

2/13/2009

Date

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

(Signature)

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

Chief Executive Officer and Vice Chairman of the
Board of Directors of GTx, Inc.