

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

SCHEDULE 13G
(Amendment No. 6)

Under the Securities Exchange Act of 1934

GTx, Inc.

(Name of Issuer)

Common Stock, \$0.001 par value

(Title of Class of Securities)

40052B108

(CUSIP Number)

December 31, 2011

(Date of Event Which Requires Filing of this Statement)

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

- | | | |
|-------------------------------------|---------------|----------|
| <input type="checkbox"/> | Rule | 13d-1(b) |
| <input checked="" type="checkbox"/> | Rule | 13d-1(c) |
| <input type="checkbox"/> | Rule 13d-1(d) | |

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 (the "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).

1	NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)	
	Larry N. Feinberg	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION United States	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	5	SOLE VOTING POWER 0
	6	SHARED VOTING POWER 3,633,302
	7	SOLE DISPOSITIVE POWER 0
	8	SHARED DISPOSITIVE POWER 3,633,302
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 3,633,302	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (See Instructions) <input type="checkbox"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 5.79%	
12	TYPE OF REPORTING PERSON (See Instructions) IN	

1	NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)	
	Oracle Partners, LP	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	5	SOLE VOTING POWER 0
	6	SHARED VOTING POWER 1,826,607
	7	SOLE DISPOSITIVE POWER 0
	8	SHARED DISPOSITIVE POWER 1,826,607
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,826,607	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (See Instructions)	<input type="checkbox"/>
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 2.91%	
12	TYPE OF REPORTING PERSON (See Instructions) PN	

1	NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)		
	Oracle Associates, LLC		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	5	SOLE VOTING POWER 0	
	6	SHARED VOTING POWER 2,094,107	
	7	SOLE DISPOSITIVE POWER 0	
	8	SHARED DISPOSITIVE POWER 2,094,107	
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 2,094,107		
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (See Instructions) <input type="checkbox"/>		
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 3.34%		
12	TYPE OF REPORTING PERSON (See Instructions) OO		

1	NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)	
	Oracle Investment Management, Inc.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	5	SOLE VOTING POWER 0
	6	SHARED VOTING POWER 1,535,695
	7	SOLE DISPOSITIVE POWER 0
	8	SHARED DISPOSITIVE POWER 1,535,695
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 1,535,695	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (See Instructions)	<input type="checkbox"/>
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 2.45%	
12	TYPE OF REPORTING PERSON (See Instructions) CO	

1	NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)	
	Oracle Institutional Partners, LP	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	5	SOLE VOTING POWER 0
	6	SHARED VOTING POWER 267,500
	7	SOLE DISPOSITIVE POWER 0
	8	SHARED DISPOSITIVE POWER 267,500
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 267,500	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (See Instructions)	<input type="checkbox"/>
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 0.43%	
12	TYPE OF REPORTING PERSON (See Instructions) PN	

1	NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY) Oracle Offshore Limited		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) £ (b) £		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:		5	SOLE VOTING POWER 0
		6	SHARED VOTING POWER 31,698
		7	SOLE DISPOSITIVE POWER 0
		8	SHARED DISPOSITIVE POWER 31,698
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 31,698		
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (See Instructions)		£
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 0.05%		
12	TYPE OF REPORTING PERSON (See Instructions) OO		

1	NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)	
	Oracle Investment Management, Inc. Employees' Retirement Plan	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Connecticut	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	5	SOLE VOTING POWER 0
	6	SHARED VOTING POWER 15,000
	7	SOLE DISPOSITIVE POWER 0
	8	SHARED DISPOSITIVE POWER 15,000
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 15,000	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (See Instructions)	<input type="checkbox"/>
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 0.02%	
12	TYPE OF REPORTING PERSON (See Instructions) EP	

1	NAME OF REPORTING PERSONS I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY) The Feinberg Family Foundation
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (See Instructions) (a) <input type="checkbox"/> (b) <input type="checkbox"/>
3	SEC USE ONLY
4	CITIZENSHIP OR PLACE OF ORGANIZATION Connecticut
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH:	5 SOLE VOTING POWER 0
	6 SHARED VOTING POWER 3,500
	7 SOLE DISPOSITIVE POWER 0
	8 SHARED DISPOSITIVE POWER 3,500
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 3,500
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (See Instructions) <input type="checkbox"/>
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 0.01%
12	TYPE OF REPORTING PERSON (See Instructions) OO

This Amendment No. 6 to Schedule 13G (this "Amendment No. 6") is being filed with respect to the Common Stock, par value \$0.001 ("Common Stock") of GTx, Inc., a Delaware corporation (the "Company"), to amend the Schedule 13G filed on February 9, 2005, as previously amended by Amendment No. 1, filed on February 7, 2006, by Amendment No. 2, filed on February 15, 2008, by Amendment No. 3, filed on May 20, 2009, by Amendment No. 4, filed on February 2, 2010, and by Amendment No. 5 filed on February 8, 2011 (as so amended, the "Schedule 13G"), in accordance with the annual amendment requirements. Capitalized terms used but not defined herein have the meaning ascribed thereto in the Schedule 13G.

Item 2(a): Name of Person Filing:

Item 2(a) of the Schedule 13G is hereby amended and restated as follows:

This statement is filed by:

- (i) Mr. Larry N. Feinberg ("Mr. Feinberg"), who (A) serves as the senior managing member of Oracle Associates (as defined herein), (B) is the sole shareholder and president of the Manager, which serves as the investment manager and has investment discretion over the securities held by certain investment funds and/or managed accounts (together with the Domestic Funds (as defined herein), the "Funds") and the Retirement Plan, and (C) is the trustee of the Foundation (as defined herein) and has the sole power to direct the voting and disposition of shares in the Foundation. Mr. Feinberg may be deemed to indirectly beneficially own shares of Common Stock, by virtue of the foregoing relationships, directly owned by the Funds, the Retirement Plan and the Foundation;
 - (ii) Oracle Partners, L.P., a Delaware limited partnership ("Oracle Partners"), with respect to shares of Common Stock directly owned by it;
 - (iii) Oracle Associates, LLC, a Delaware limited liability company ("Oracle Associates"), which serves as the general partner of certain investment funds and/or managed accounts (the "Domestic Funds"), with respect to shares of Common Stock directly owned by the Domestic Funds;
 - (iv) Oracle Investment Management, Inc., a Delaware corporation (the "Manager") which serves as investment manager to Offshore Limited, Ten Fund and the Retirement Plan.
 - (v) Oracle Institutional Partners, LP, a Delaware limited partnership ("Institutional Partners");
 - (vi) Oracle Offshore Limited, a Cayman Islands exempted company ("Offshore Limited");
 - (vii) Oracle Investment Management, Inc. Employees' Retirement Plan, an employee benefit plan organized in Connecticut (the "Retirement Plan"); and
 - (viii) The Feinberg Family Foundation, a foundation organized in Connecticut (the "Foundation").
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The foregoing persons are hereinafter sometimes collectively referred to as the "Reporting Persons." Any disclosures herein with respect to persons other than the Reporting Persons are made on information and belief after making inquiry to the appropriate party.

Item 2(b): Address of Principal Business Office or, if None, Residence:

Item 2(b) of the Schedule 13G is hereby amended and restated as follows:

The address of the principal business office of the Reporting Persons is 200 Greenwich Avenue, 3rd Floor, Greenwich, Connecticut 06830.

Item 2(c): Citizenship:

Item 2(c) of the Schedule 13G is hereby amended and restated as follows:

Mr. Feinberg is a citizen of the United States of America. Oracle Partners, Oracle Associates, Institutional Partners and the Manager are organized under the laws of the state of Delaware. Offshore Limited and Ten Fund are organized under the laws of the Cayman Islands. The Retirement Plan and the Foundation are organized under the laws of the state of Connecticut.

Item 4: Ownership:

Item 4 of the Schedule 13G is hereby amended and restated as follows:

The percentages used herein and in the rest of this Amendment No. 6 are calculated based upon a total of 62,790,223 shares of Common Stock, which number is based on 62,790,223 shares of Common Stock issued and outstanding as of November 3, 2011, as reported in the Issuer's Quarterly Report on Form 10-Q filed on November 4, 2011.

The beneficial ownership of the Reporting Persons is set forth below. This filing and any future amendments hereto shall not be considered an admission that any Reporting Person is a beneficial owner of shares beneficially owned by any other Reporting Person named herein.

A. Larry Feinberg

- (a) Amount beneficially owned: 3,633,302
- (b) Percent of class: 5.79%
- (c) Number of shares as to which such person has:
 - (i) Sole power to vote or direct the vote: 0
 - (ii) Shared power to vote or direct the vote: 3,633,302
 - (iii) Sole power to dispose or direct the disposition: 0
 - (iv) Shared power to dispose or direct the disposition: 3,633,302

B. Oracle Associates, LLC

- (a) Amount beneficially owned: 2,094,107
 - (b) Percent of class: 3.34%
-

- (c) Number of shares as to which such person has:
 - (i) Sole power to vote or direct the vote: 0
 - (ii) Shared power to vote or direct the vote: 2,094,107
 - (iii) Sole power to dispose or direct the disposition: 0
 - (iv) Shared power to dispose or direct the disposition: 2,094,107

 - C. Oracle Investment Management, Inc.
 - (a) Amount beneficially owned: 1,535,695
 - (b) Percent of class: 2.45%
 - (c) Number of shares as to which such person has:
 - (i) Sole power to vote or direct the vote: 0
 - (ii) Shared power to vote or direct the vote: 1,535,695
 - (iii) Sole power to dispose or direct the disposition: 0
 - (iv) Shared power to dispose or direct the disposition: 1,535,695

 - D. Oracle Partners, LP
 - (a) Amount beneficially owned: 1,826,607
 - (b) Percent of class: 2.91%
 - (c) Number of shares as to which such person has:
 - (i) Sole power to vote or direct the vote: 0
 - (ii) Shared power to vote or direct the vote: 1,826,607
 - (iii) Sole power to dispose or direct the disposition: 0
 - (iv) Shared power to dispose or direct the disposition: 1,826,607

 - E. Oracle Institutional Partners, LP
 - (a) Amount beneficially owned: 267,500
 - (b) Percent of class: 0.43%
 - (c) Number of shares as to which such person has:
 - (i) Sole power to vote or direct the vote: 0
 - (ii) Shared power to vote or direct the vote: 267,500
 - (iii) Sole power to dispose or direct the disposition: 0
 - (iv) Shared power to dispose or direct the disposition: 267,500

 - F. Oracle Offshore Limited
 - (a) Amount beneficially owned: 31,698
 - (b) Percent of class: 0.05%
 - (c) Number of shares as to which such person has:
 - (i) Sole power to vote or direct the vote: 0
 - (ii) Shared power to vote or direct the vote: 31,698
 - (iii) Sole power to dispose or direct the disposition: 0
 - (iv) Shared power to dispose or direct the disposition: 31,698

 - G. Oracle Investment Management, Inc. Employees' Retirement Plan
 - (a) Amount beneficially owned: 15,000
 - (b) Percent of class: 0.02%
 - (c) Number of shares as to which such person has:
-

- (i) Sole power to vote or direct the vote: 0
- (ii) Shared power to vote or direct the vote: 15,000
- (iii) Sole power to dispose or direct the disposition: 0
- (iv) Shared power to dispose or direct the disposition: 15,000

H. The Feinberg Family Foundation

- (a) Amount beneficially owned: 3,500
- (b) Percent of class: 0.01%
- (c) Number of shares as to which such person has:
 - (i) Sole power to vote or direct the vote: 0
 - (ii) Shared power to vote or direct the vote: 3,500
 - (iii) Sole power to dispose or direct the disposition: 0
 - (iv) Shared power to dispose or direct the disposition: 3,500

Item 10: Certification:

Each of the Reporting Persons hereby makes the following certification:

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

[THE REMAINDER OF THIS PAGE LEFT INTENTIONALLY BLANK]

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.

Dated: February 6, 2012

/s/ Larry Feinberg

Larry Feinberg, Individually

ORACLE ASSOCIATES, LLC

By: /s/ Larry Feinberg

Larry Feinberg, Managing Member

ORACLE INVESTMENT MANAGEMENT, INC

By: /s/ Larry Feinberg

Larry Feinberg, President

ORACLE PARTNERS, LP

By: ORACLE ASSOCIATES, LLC, its general partner

By: /s/ Larry Feinberg

Larry Feinberg, Managing Member

ORACLE INSTITUTIONAL PARTNERS, LP

By: ORACLE ASSOCIATES, LLC, its general partner

By: /s/ Larry Feinberg

Larry Feinberg, Managing Member

ORACLE OFFSHORE LIMITED

By: /s/ Larry Feinberg

Larry Feinberg, Director

ORACLE INVESTMENT MANAGEMENT, INC.
EMPLOYEES' RETIREMENT PLAN

By: /s/ Aileen Wiate
Aileen Wiate, Trustee

THE FEINBERG FAMILY FOUNDATION

By: /s/ Larry Feinberg
Larry Feinberg, Trustee

[SIGNATURE PAGE TO
AMENDMENT NO. 6 TO
SCHEDULE 13G WITH RESPECT TO GTx, Inc.]

Exhibit Index

- 99.1 Joint Filing Agreement, dated February 6, 2012, by and among, Oracle Associates, LLC, Oracle Partners, LP, Larry Feinberg, Oracle Institutional Partners, LP, Oracle Offshore Limited, Oracle Investment Management, Inc., Oracle Investment Management, Inc. Employees' Retirement Plan, and The Feinberg Family Foundation..
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Exhibit 99.1

JOINT FILING AGREEMENT

The undersigned hereby agree that this Schedule 13G (as so amended, the "Schedule 13G") with respect to the common stock of GTx, Inc. is, and any additional amendment thereto signed by each of the undersigned shall be, filed on behalf of each undersigned pursuant to and in accordance with the provisions of 13d-1(k) under the Securities Exchange Act of 1934, as amended, and that all subsequent amendments to the Schedule 13G shall be filed on behalf of each of the undersigned without the necessity of filing additional joint filing agreements. The undersigned acknowledge that each shall be responsible for the timely filing of such amendments, and for the completeness and accuracy of the information concerning it contained therein, but shall not be responsible for the completeness and accuracy of the information concerning the other, except to the extent that it knows or has reason to believe that such information is inaccurate.

DATED: February 6, 2012

/s/ Larry Feinberg

Larry Feinberg, Individually

ORACLE ASSOCIATES, LLC

By: /s/ Larry Feinberg

Larry Feinberg, Managing Member

ORACLE INVESTMENT MANAGEMENT, INC

By: /s/ Larry Feinberg

Larry Feinberg, President

ORACLE PARTNERS, LP

By: ORACLE ASSOCIATES, LLC, its general partner

By: /s/ Larry Feinberg

Larry Feinberg, Managing Member

ORACLE INSTITUTIONAL PARTNERS, LP

By: ORACLE ASSOCIATES, LLC, its general partner

By: /s/ Larry Feinberg

Larry Feinberg, Managing Member

ORACLE OFFSHORE LIMITED

By: /s/ Larry Feinberg

Larry Feinberg, Director

ORACLE INVESTMENT MANAGEMENT, INC. EMPLOYEES'
RETIREMENT PLAN

By: /s/ Aileen Wiate

Aileen Wiate, Trustee

THE FEINBERG FAMILY FOUNDATION

By: /s/ Larry Feinberg

Larry Feinberg, Trustee
