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

FORM 8-K

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

Date of Report (Date of earliest event reported): April 27, 2009

GTx, Inc.

(Exact name of Registrant as specified in its charter)

Delaware	**005-79588**	**62-1715807**
(State or other jurisdiction of incorporation or organization)	(Commission File Number)	(I.R.S. Employer Identification No.)

175 Toyota Plaza
7th Floor
Memphis, Tennessee 38103
(901) 523-9700
(Address, including zip code, of Registrant's principal executive offices
Registrant's telephone number, including area code,)

(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

o Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

o Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

o Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

o Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

ITEM 8.01 Other Events.

On April 27, 2009, GTx, Inc. issued a press release announcing additional data from its clinical trial evaluating toremifene 80 mg for the prevention of fractures in men on androgen deprivation therapy showing men on ADT are at a high risk for skeletal fractures, a copy of which is furnished as Exhibit 99.1 to this Current Report.

ITEM 9.01 Financial Statements and Exhibits.

(c) Exhibits

Exhibit Number	Description
99.1	Press Release issued by GTx, Inc. dated April 27, 2009

SIGNATURE

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

GTx, Inc.

Date: April 27, 2009

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

Exhibit 99.1

Contact:
McDavid Stilwell
Director, Corporate Communications
GTx, Inc.
901-523-9700

First ever prospective fracture study in prostate cancer patients on ADT reveals these men are at high risk for skeletal fractures

Data from GTx's Phase III clinical trial evaluating toremifene 80 mg for the prevention of fractures in men with prostate cancer on androgen deprivation therapy presented at 2009 AnnualMeeting of the American Urological Association

CHICAGO — April 27, 2009 — GTx, Inc. (Nasdaq: GTXI) announced today that in a recent Phase III clinical trial of advanced prostate cancer patients being treated with androgen deprivation therapy (ADT), nearly one in four placebo group subjects developed bone fractures or critical bone loss (>7% loss) within two years. This analysis of placebo group data from the Phase III clinical trial evaluating toremifene 80 mg for the prevention of bone fractures in men with prostate cancer on ADT was presented yesterday in an oral presentation at the 2009 Annual Meeting of the American Urological Association in Chicago.

An analysis of placebo group subjects from the clinical trial demonstrates the risk of fracture for men with prostate cancer on ADT. During the two year trial, 9.9% of these men had a nontraumatic fracture (morphometric vertebral fracture or clinical fragility fracture), and nearly one in four, 23.9%, experienced either a nontraumatic fracture or greater than 7% bone loss, a predetermined level of bone loss at which men were considered to be at high risk for fracture and were removed from the study for safety reasons. These data are from the modified intent to treat population: subjects who had a minimum of one dose of study drug or placebo and at least one on study radiograph, n=970.

"The toremifene 80 mg Phase III clinical trial is the first large prospective study evaluating fractures in men with prostate cancer on ADT. The data from this clinical trial underscore that men on ADT are indeed at high risk for skeletal fractures," said Daniel Lin, MD, Associate Professor and Chief of Urologic Oncology, Department of Urology, University of Washington School of Medicine, and a Principal Investigator in the study. "ADT is an important treatment for men with prostate cancer. However, ADT itself over time can cause serious, life threatening side effects, such as fractures. As urologists who use ADT, it is our responsibility to monitor and to treat bone loss in our patients to reduce this high risk of fracture."

About the Study

The two year, double-blind, placebo-controlled, randomized study of 1,389 ADT patients, was conducted at approximately 150 clinical sites in the United States and Mexico. The primary endpoint was new morphometric vertebral fractures measured by dual X-ray absorptiometry (DEXA). Key secondary endpoints included bone mineral density, lipid changes, hot flashes, and gynecomastia.

In the study, toremifene 80 mg treatment demonstrated statistically significant reductions compared to placebo in new morphometric vertebral fractures (the primary endpoint), in all nontraumatic fractures, and in first of either a nontraumatic fracture or greater than 7% bone loss. Toremifene 80 mg treatment compared to placebo also resulted in statistically significant increases in bone mineral density at the lumbar spine, hip, and femur; improvements in lipid profiles including a reduction in LDL, triglycerides and total cholesterol and an increase in HDL; and improvements in breast pain and tenderness.

Toremifene 80 mg was well tolerated. Among the most common adverse events that occurred in over 2 percent of study subjects were joint pain (treated 7.3 percent, placebo 11.8 percent), dizziness (treated 6.3 percent, placebo 5.0 percent), back pain (treated 5.9 percent, placebo 5.2 percent), and extremity pain (treated 5.0 percent, placebo 4.4 percent).

About ADT for Prostate Cancer

ADT, primary treatment for advanced prostate cancer, has improved survival in men with prostate cancer. Approximately 700,000 men with prostate cancer are being treated with ADT and an estimated 100,000 initiate ADT each year.

ADT is accomplished either surgically by removal of the testes, or more commonly by injection with LH releasing hormone (LHRH) agents. ADT works by reducing testosterone to castrate levels. The reduction in testosterone from ADT also results in very low estrogen levels, because estrogen is derived from testosterone in men. Estrogen deficiency side effects associated with ADT include high risk of skeletal fractures, adverse lipid changes, hot flashes, gynecomastia, depression, and memory loss.

Of patients on ADT, up to 77 percent develop significant bone loss, making them susceptible to fracture. Recent studies indicate that the annual risk of fracture in men on ADT is 5% to 8%. Fractures are serious and can reduce survival in men on ADT by more than three years.

About GTx

GTx, Inc., headquartered in Memphis, Tenn., is a biopharmaceutical company dedicated to the discovery, development, and commercialization of small molecules that selectively target hormone pathways to treat cancer, osteoporosis and bone loss, muscle wasting and other serious medical conditions. GTx is developing toremifene citrate, a selective estrogen receptor modulator, or SERM, in two separate clinical programs in men: first, a completed pivotal Phase III clinical trial evaluating toremifene 80 mg for the treatment of serious side effects of androgen deprivation therapy for advanced prostate cancer, and second, an ongoing pivotal Phase III clinical trial evaluating toremifene 20 mg for the prevention of prostate cancer in high risk men with high grade prostatic intraepithelial neoplasia, or PIN. In 2006, GTx and Ipsen Group entered into a development and collaboration agreement for toremifene in all indications except breast cancer for Europe and the Commonwealth of Independent States (CIS). GTx has made application for marketing approval and, if approved, plans to commercialize toremifene 80 mg in the United States. In December 2007, GTx and Merck & Co., Inc. formed a collaboration to discover and develop selective androgen receptor modulators, or SARMs, a new class of drugs with the potential to treat sarcopenia, which is the loss of skeletal muscle mass resulting in reduced physical strength and ability to perform activities of daily living, as well as cancer cachexia (cancer induced muscle loss) and other musculoskeletal wasting conditions. Merck and GTx are evaluating multiple SARM product candidates, including Ostarine™ (designated by Merck as MK-2866) and MK-0773 for sarcopenia in several Phase I and II clinical trials. Merck and GTx are planning additional clinical trials for Ostarine™ for the treatment of cancer cachexia and are evaluating additional muscle wasting indications for SARMs development.

GTx also is conducting a Phase I clinical trial evaluating GTx-758, an oral luteinizing hormone inhibitor, for advanced prostate cancer.

Forward-Looking Information is Subject to Risk and Uncertainty

This press release contains forward-looking statements based upon GTx's current expectations. Forward-looking statements involve risks and uncertainties. GTx's actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of these risks and uncertainties, which include, without limitation, the risks that (i) GTx and its collaboration partners will not be able to commercialize their product candidates if clinical trials do not demonstrate safety and efficacy in humans; (ii) GTx may not able to obtain required regulatory approvals to commercialize product candidates; (iii) clinical trials being conducted by GTx and its collaboration partners may not be completed on schedule, or at all, or may otherwise be suspended or terminated; and (iv) GTx could utilize its available cash resources sooner than it currently expects and may be unable to raise capital when needed, which would force GTx to delay, reduce or eliminate its product development programs or commercialization efforts. You should not place undue reliance on these forward-looking statements, which apply only as of the date of this press release. GTx's annual report on Form 10-K filed March 3, 2009 contain under the heading, "Risk Factors," a more comprehensive description of these and other risks to which GTx is subject. GTx expressly disclaims any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in its expectations with regard thereto or any change in events, conditions or circumstances on which any such statements are based.