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): July 7, 2009

GTx, Inc.

(Exact name of Registrant as specified in its charter)

Delaware	**000-50549**	**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 July 7, 2009, GTx, Inc. issued a press release announcing that it has initiated a second Phase I clinical trial for GTx-758, an oral LH inhibitor for the first line treatment of advanced prostate cancer. A copy of the press release 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 July 7, 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: July 7, 2009

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

Exhibit 99.1

Source:
GTx, Inc.
McDavid Stilwell, 901-523-9700
Director, Corporate Communications & Financial Analysis

GTx-758, an oral LH inhibitor for first line treatment of advanced prostate cancer, advances into second Phase I clinical trial

Memphis, Tenn., July 7, 2009 — GTx, Inc. (Nasdaq: GTXI), today announced the initiation of a Phase I multiple ascending dose clinical trial evaluating GTx-758, an oral LH inhibitor for first line treatment of advanced prostate cancer. A Phase I single ascending dose clinical trial in 96 subjects was successfully completed in June.

In the completed Phase I single ascending dose clinical trial, GTx-758 was well tolerated. GTx-758 demonstrated a pharmacokinetic profile compatible with once daily oral dosing and systemic exposures increasing with dose.

The ongoing Phase I multiple ascending dose clinical trial is an open label, single center study of five dose groups of GTx-758, with ten healthy male subjects per group each receiving doses for 10 days. The study will evaluate the safety, tolerability and pharmacokinetic profile of GTx-758. In addition, testosterone and other hormones will be measured to assess the activity of GTx-758 on hormones secreted by the pituitary, hypothalamus, and adrenal glands.

“In this clinical trial, we expect to establish proof of the ability of GTx-758 to reduce testosterone, which is the endpoint required for primary androgen deprivation therapy clinical trials,” said GTx CEO Mitchell S. Steiner, MD.

GTx expects to complete this Phase I multiple ascending dose clinical trial in the fourth quarter.

About GTx-758

GTx-758 is an oral LH inhibitor which GTx is developing for the treatment of advanced prostate cancer. Preclinical *in vitro* and *in vivo* data suggest GTx-758 rapidly suppresses secretion of LH, thereby inhibiting production of androgens by the testes. GTx believes GTx-758 has the potential to reduce testosterone, a primary growth factor of prostate cancer, without causing bone loss and hot flashes.

Prostate cancer is the second most common type of cancer diagnosed in men in the U.S. An estimated 186,000 new cases of prostate cancer were diagnosed in the U.S. in 2008. Approximately 700,000 men with prostate cancer are being treated with androgen deprivation therapy (ADT) and an estimated 100,000 initiate ADT each year. Annual US sales of drugs for ADT exceeded $1.7 billion in 2008.

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 prevent and treat cancer, fractures and bone loss, muscle loss and other serious medical conditions. GTx has completed a pivotal Phase III clinical trial evaluating

toremifene citrate, a selective estrogen receptor modulator, or SERM, at an 80 mg dose for the prevention of bone fractures and treatment of other estrogen deficiency side effects of androgen deprivation therapy in men with prostate cancer. GTx has applied for marketing approval in the United States for toremifene 80 mg and, if approved, plans to commercialize toremifene 80 mg in the U.S. GTx is also developing toremifene citrate at a 20 mg dose in a Phase III clinical trial for the prevention of prostate cancer in high risk men with high grade prostatic intraepithelial neoplasia, or PIN. GTx and Ipsen have entered into a development and collaboration agreement for toremifene citrate in all indications except breast cancer for Europe and the Commonwealth of Independent States (CIS). 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. GTx and Merck are evaluating multiple SARM product candidates, including Ostarine™ (designated by Merck as MK-2866) and MK-0773 for a variety of musculoskeletal wasting indications including sarcopenia and cancer cachexia. In the second half of 2009, Merck and GTx expect to complete an ongoing Phase II clinical trial evaluating MK-0773 in sarcopenia. GTx is also evaluating GTx-758, an oral luteinizing hormone inhibitor for first line treatment of advanced prostate cancer, in a Phase I multiple ascending dose clinical trial.

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 be 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 quarterly report on Form 10-Q filed May 11, 2009 contains 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.