



DIVISION OF
CORPORATION FINANCE

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

January 10, 2011

Mitchell S. Steiner
Chief Executive Officer, Vice Chairman and Director
GTx, Inc.
175 Toyota Plaza, 7th Floor
Memphis, Tennessee 38103

Re: GTx, Inc.
Form 10-K
Filed March 15, 2010
File No. 000-50549

Dear Mr. Steiner:

We have reviewed your response letter and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by amending your filing, by providing the requested information or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

Form 10-K, filed March 15, 2010

1. We note your response to prior comment 1 and your proposed disclosure which states a range of royalties of a "low double-digit" in regard to the Orion agreement. Please revise your proposed disclosure to include a range of royalty rates not to exceed ten percent. Your current proposed disclosure of a "low double-digit royalty" is not specific enough to clarify that the range does not exceed ten percent.

Intellectual Property, page 19

2. We note your response to prior comments 2 and 3. To the extent that foreign patents and patent applications in Europe, Asia and other jurisdictions are material to your business, please provide draft disclosure to be included in your 2010 Form 10-K stating the countries in which these foreign patents are issued and where other patent applications are pending.

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Please contact Johnny Gharib at (202) 551-3170 or Jennifer Riegel at (202) 551-3575 with any questions.

Sincerely,

Jeffrey Riedler
Assistant Director