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

DIVISION OF
CORPORATION FINANCE

Mail Stop 4720

March 3, 2016

Mark A. Velleca, M.D., Ph.D.
President and Chief Executive Officer
G1 Therapeutics, Inc.
79 T.W. Alexander Drive
4401 Research Commons, Suite 105
Research Triangle Park, NC 27709

Re: G1 Therapeutics, Inc.
Draft Registration Statement on Form S-1
Submitted February 5, 2016
CIK No. 0001560241

Dear Dr. Velleca:

We have reviewed your draft registration statement 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 by providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. 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 the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Prospectus Summary, page 1

G1T28: Our Novel Approach..., page 3

1. Please revise to clarify the basis for your statement that G1T28 is a potential "first-in-class" product, in light of the disclosure on page 36 that there are existing growth factor support treatments as well as other product candidates currently in development for the treatment of patients with small cell lung cancer. Please also expand to describe the basis for your statement that G1T28 is "highly potent." In this regard, we note your statement on page 17 that your Phase 1b/2a clinical trials are not yet complete and that the data may not continue or be repeated or observed in ongoing or future clinical trials.

Preclinical and Clinical Development, page 4

2. We note your statements regarding your Phase 1a and Phase 1b/2a clinical trials of G1T28. Please identify the organization with which you conducted the clinical trials and describe any material agreement you have with the organization.

G1T38: Our Potential Best-in-Class CDK4/6 Inhibitor..., page 6

3. Please expand your disclosure to clarify the basis for your statement that G1T38 is a potential "best-in-class" product in light of its regulatory status compared to that of competing products and treatments. Further, given that G1T38 is in the pre-clinical phase, please tell us why you believe it is appropriate to cite the prescription information and revenues generated by the competing product Ibrance, which has already received approval from the FDA.

Risk Factors, page 13

4. We note your disclosure under "Exclusive Jurisdiction of Certain Actions" on page 141. As your amended and restated certificate of incorporation will contain an exclusive jurisdiction provision, please revise your risk factors section to include a separate risk factor that explains the potential risks to investors.

Use of Proceeds, page 59

5. Please revise your disclosure with respect to both product candidates to indicate the stage of development you expect to achieve using these proceeds. To the extent the proceeds will not be sufficient to complete the clinical trials necessary to support an application for regulatory approval, please also disclose the amount and sources of additional funds that may be needed to complete the trials. Refer to Instruction 3 to Item 504 of Regulation S-K.

Management's Discussion and Analysis of Financial Condition and Results of Operations

Critical Accounting Policies and Significant Judgements and Estimates

Stock Option Award Grants, page 74

6. We may have additional comments on your accounting for equity issuances including stock compensation and beneficial conversion features. Once you have an estimated offering price, please provide us an analysis explaining the reasons for the differences between recent valuations of your common stock leading up to the IPO and the estimated offering price.

Business, page 82

Intellectual Property, page 102

7. We note your statement that "We are the sole owner of all of our patents and currently filed patent applications." However, we note your statements in Note 4 on page F-15 that you have entered into two patent license agreements. If material, please explain how the license agreements impact the ownership of your intellectual property. Please also describe the material terms of the licenses.

General

8. Please confirm that the images included in your draft registration statement are all of the graphic, visual or photographic information you will be including. If you intend to use any additional images, please provide us proofs of such materials. Please note that we may have comments regarding this material.

9. Please supplementally provide us with copies of all written communications, as defined in Rule 405 under the Securities Act, that you, or anyone authorized to do so on your behalf, present to potential investors in reliance on Section 5(d) of the Securities Act, whether or not they retain copies of the communications.

You may contact Rolf Sundwall at (202) 551-3105 or James Rosenberg at (202) 551-3679 if you have questions regarding comments on the financial statements and related matters. Please contact Michael Gershon at (202) 551-6598 or Mary Beth Breslin at (202) 551-3625 with any other questions.

Sincerely,

/s/ Mary Beth Breslin for

Suzanne Hayes
Assistant Director
Office of Healthcare and Insurance

cc: Brian P. Keane, Esq.