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

DIVISION OF
CORPORATION FINANCE

August 7, 2013

Via E-mail
Lewis T. Williams, M.D., Ph.D.
President and Chief Executive Officer
Five Prime Therapeutics, Inc.
Two Corporate Drive
South San Francisco, CA 94080

Re: Five Prime Therapeutics, Inc.
Registration Statement on Form S-1
Filed July 26, 2013
File No. 333-190194

Dear Dr. Williams:

We have reviewed your registration statement filed July 26, 2013 and your response to our comments to your confidential draft registration statement submitted on June 14, 2013 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 amending your registration statement and providing the requested information. 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 registration statement and the information you provide in response to these comments, we may have additional comments.

Management's Discussion and Analysis of Financial Condition and Results of Operations
Critical Accounting Policies and Use of Estimates
Stock-Based Compensation, page 47

1. We acknowledge your response to our prior comment ten. As we continue to gain a better understanding regarding your determination of the fair market value of your common stock at each valuation date, please address the following:
   - In your response you stated that you included other companies with differing therapeutic focus to create an appropriate sample size for the valuations. Tell us what you mean by "appropriate sample size" and how many of these "other companies" represent the total of the total companies used in each of your valuations.

- Further, you state in your response that it would not be possible to further refine the peer groups based on working capital, liquidity or other factors as it would result in too few peer group companies for the valuation analysis. Tell us what you mean by "too few" and how this affected the number of peer groups selected for each valuation period, for instance, the May 31, 2012 valuation date under the IPO and sale value approach.
- Tell us why you did not make any adjustments to the enterprise value of the peer group companies to reflect the fact that the company was at an earlier stage of development than a majority of the companies included in the peer groups.
- You state on page 51 that for the June 2011 valuation, given that the market multiple approach, the IPO value approach, and the sales value approach provide relevant estimates of fair value, which did not differ significantly, you applied equal weighting to each of these approaches to determine an initial enterprise value. Please clarify if this was the case for the May 31, 2012 valuation, or clarify in the filing how you used a combination of the methods described to determine enterprise value. Also, your response indicates that you used the PWERM to determine the enterprise value for your April and June 2013 valuations. As this method is normally used to allocate the enterprise value between common and preferred stock, please revise the filing to clarify how the enterprise value of the company as a whole was determined for the valuations.
- Regarding your April 15, 2013 valuation, tell us why it was appropriate to exclude companies with unusually low pre-money valuations and clarify to us what "unusually low" means.
- Regarding the staying private scenario for the April 15, 2013 and June 30, 2013 valuations, tell us how using companies with a product candidate in or near Phase 3 clinical development is relevant to your valuation, notwithstanding that you expect to have a product candidate in or near Phase 3 clinical development by the end of 2015.

2. Please note the following once your IPO price has been determined:
    - Please revise your disclosure to present the intrinsic value of outstanding vested and unvested options as of the most recent balance sheet date based on the estimated IPO price.
    - Please provide quantitative and qualitative disclosures explaining the difference between the estimated offering price and the fair value of each equity issuance.
    - Confirm that no additional equity issuances were made subsequent to the latest balance sheet or provide additional disclosure in that regard.
    - We may have additional comments on your accounting for stock compensation and related disclosure once you have disclosed an estimated offering price.

Business
Product Pipeline
FP-1039, page 75

3. We note your response to our prior comment 14 and your disclosure regarding an IND you filed with the FDA for a Phase 1 trial of FP-1039. We also note a press release on your website dated June 4, 2012, regarding an IND submitted by GSK-HGS for Phase 1b trials. Please disclose all material information regarding the IND filed by GSK-HGS in your discussion of Phase 1b trials on page 75.

4. We note your response to our prior comment 15 and your disclosure on pages 75, 78, and 80 regarding your intention to develop companion diagnostics for your product candidates through third parties. Please expand disclosure in the risk factor on page 16 to state that while you plan to rely on third parties for development of companion diagnostics, you currently have no agreements in place with any such third parties relating to any of your product candidates.

Novel Technologies to Produce and Screen the Library in High Throughput, page 82

5. We note your response to our prior comment 19 and re-issue the comment in part. Specifically, we note your belief that the patents covering your proprietary screening technologies are immaterial. Please clarify whether the in-licensing agreements you mention in your response relate only to these patents. If any in-licensing agreements cover more than just these patents, provide us with your analysis as to why you are not substantially dependent on these in-licensing agreements, especially given the importance of your protein production and screening program to your continuing operations.

Collaborations, pages 83-87

6. We note your responses to our prior comments 20 and 21. For the following collaboration agreements, please disclose the expiration date of the relevant patent that is tied to the expiration of the royalty term: the FP-1039 License and Collaboration with GSK-HGS; the GSK US Muscle Diseases Collaboration; the GSK UK Respiratory Diseases Collaboration; the UCB Fibrosis and CNS Collaboration; and the License Agreement with Galaxy.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Act of 1933 and all applicable Securities Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement please provide a written statement from the company acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;

- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and

- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

You may contact Sasha Parikh at (202) 551-3627 or Mary Mast at (202) 551-3613 if you have questions regarding comments on the financial statements and related matters. Please contact Austin Stephenson at (202) 551-3192 or me at (202) 551-3715 with any other questions.

Sincerely,

/s/ Jeffrey P. Riedler

Jeffrey P. Riedler
Assistant Director

cc: Via E-mail
Jaime Chase, Esq.
Hogan Lovells US LLP