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

DIVISION OF
CORPORATION FINANCE

June 8, 2012

Via E-mail
Mr. Donald J. Santel
Chief Executive Officer
601 Gateway Boulevard
Suite 200
South San Francisco, CA 94080

Re: Hyperion Therapeutics, Inc.
Amendment to Registration Statement on Form S-1
Filed May 24, 2012
File No. 333-180694

Dear Mr. Santel:

We have reviewed your 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 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.

FORM S-1/A

Management's Discussion and Analysis of Financial Condition and Results of Operations
Financial Overview
Critical Accounting Policies and Estimates
Stock-Based Compensation, page 57

1. Please refer to your response to comment 24 regarding the use of the income approach to value your stock. You state that you submitted an NDA for Ravicti in December 2011 and expect to commence sales in the first half of 2013. You also anticipate approval from the FDA in October 2012. Please address the following:
   - Tell us the status of your discussions with the FDA regarding approval.
   - Tell us how you determined the significant assumptions used in your income approach considering the uncertainty of receiving regulatory approval and the uncertainty of the amount of sales, if any, your product will generate.
   - Tell us why the Guideline Public Company Method, which uses public companies that are comparable to you to value your stock, is not a more appropriate method of

valuing your stock given the uncertainties in the assumptions used to value your stock under the income approach.

2. We acknowledge the revisions to your disclosures in response to prior comment 26. Please further revise your tabular disclosure of the equity instruments issued since January 1, 2011 to include all grants or equity issuances up until the time of effectiveness of your registration statement. For example, the April 16, 2012 and April 19, 2012 stock option and warrant issuances should be included in the tabular disclosure. Please disclose in footnote 1 an estimate of the number of shares underlying the options or warrants granted assuming an initial public offering. Disclose the estimated fair values of your common stock on the face of your tabular disclosure.

3. When you have determined the estimated IPO price, please update your discussion in this section as appropriate. Please continue to update your discussion of the significant factors contributing to the difference between the fair value as of the date of each grant and the estimated IPO price up until the time of effectiveness of your registration statement. We will continue to evaluate your stock compensation until an IPO price has been set.

Business, page 74
Ravicti for the Treatment of UCD, page 78

4. We note your response to our prior comment 31 and revised disclosure relating to the pivotal study for AMMONUL in which you reference a 25-year, open label, uncontrolled investigator-sponsored study. Please be more specific. As requested previously, please disclose the specific entity or entities that sponsored the research, the location or locations where the study was conducted and the year in which it commenced.

Key Advantages of Ravicti, page 78

5. We note your response to our prior comment 32 and your revised disclosure indicating that blood ammonia is significantly lower after treatment with Ravicti. Please provide additional details, including what percentage lower blood ammonia is following treatment with Ravicti as compared BUPHENYL.

Ravicti Non-Clinical Development, page 84

6. We note your response to our prior comment 35 and the information you have supplementally provided regarding the factors the panel used in concluding that the rat study was not predicative of human risk. We view such information as material to an investor's overall understanding of your products. Accordingly, please summarize in terms understandable to a non-technical, non-scientific investor, the primary reasons the

panel concluded that the results of the rat study indicating seven different tumor types are not predicative of human risk.

Report of Independent Registered Public Accounting Firm, page F-2

7. Your auditors' report covers a period from inception through December 31, 2011, however, the period is not included within the financial statements. Please revise accordingly.

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 Ibolya Ignat at (202) 551-3656 or Mary Mast at (202) 551-3613 if you have questions regarding comments on the financial statements and related matters. Please contact Nandini Acharya at (202) 551-3495, John Krug at (202) 551-3862 or me at (202) 551-3715 with any other questions.

Sincerely,

/s/ Daniel Greenspan for

Jeffrey Riedler
Assistant Director

Via E-mail
cc: Laura A. Berezin, Esq.
Hogan Lovells US LLP
525 University Avenue
Palo Alto, CA 94301