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

DIVISION OF
CORPORATION FINANCE

September 25, 2014

Via E-mail
David P. Southwell
President and Chief Executive Officer
Inotek Pharmaceuticals Corporation
131 Hartwell Avenue, Suite 105
Lexington, MA 02421

**Re: Inotek Pharmaceuticals Corporation**
**Confidential Draft Registration Statement on Form S-1**
**Submitted August 29, 2014**
**CIK No. 0001281895**

Dear Mr. Southwell:

We have reviewed your confidential 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 confidential 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 confidential draft registration statement or filed registration statement, we may have additional comments.

General

1. Please submit all outstanding exhibits as soon as practicable. We may have further comments upon examination of these exhibits.

2. Please confirm that the graphics included in your registration statement are the only graphics you will use in your prospectus. If those are not the only graphics, please provide any additional graphics prior to their use for our review.

3. 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. Similarly, please supplementally provide us with any research reports about you that are published or

distributed in reliance upon Section 2(a)(3) of the Securities Act of 1933 added by Section 105(a) of the Jumpstart Our Business Startups Act by any broker or dealer that is participating or will participate in your offering.

Risk Factors
If product liability lawsuits are successfully brought against us…," page 43

4. Please quantify the amount of your product liability insurance in this risk factor.

Industry and Market Data, page 54

5. We note your statement that your internal research has not been verified by any independent sources. It is not appropriate to directly or indirectly disclaim liability for information in your registration statement. Accordingly, please revise your disclosure to remove any statement indicating that you have no independently verified information presented in the prospectus.

Use of Proceeds, page 55

6. Please clarify in the first and second bullet whether you expect the application of funds from the offering to enable you to complete the trials in question, including the two separate planned Phase 3 trials for trabodenoson monotherapy and the Phase 2 trial for your FDC product. Otherwise, please disclose what the application of these proceeds will allow you to accomplish as to each partially funded trial.

Management's Discussion and Analysis of Financial Condition and Results of Operations
Financial Overview
Research and Development Expenses, page 64

7. Please revise your disclosure for the research and development expenses by type of activity to break out expenses for trabodenoson by trabodenoson monotherapy and trabodenoson with latanoprost. In addition, please provide inception to date research and development expenses for each key project.

Contractual Obligations and Commitments, page 71

8. Please revise your disclosure to include the interest related to the notes payable in the contractual obligations and commitments table.

Business
Product Pipeline, page 87

9. The graph on this page indicates that trabodenoson plus latanoprost is currently in Phase 2, however, your disclosure elsewhere suggests you did not conduct Phase 1 for this

specific treatment. Please tell us why Phase 1 trials were not conducted. If you were able to rely on safety and tolerability data from your completed Phase 1 trial of trabodenoson as a monotherapy in order to advance trabodenoson plus latanoprost directly into Phase 2 without the need for separate Phase 1 trials, please add clarifying disclosure to this effect.

Trabodenoson, page 95

10. We note your disclosure at page 97 with respect to the FDA requirements for long-term dosing data and a long-term safety studies for both trabodenoson monotherapy and the FDC of trabodenoson and latanoprost. In your response, please explain to us in greater detail why you expect the FDA will require long-term safety trials for both of your primary product candidates.

Fixed-Dose Combination of Trabodenoson and Latanoprost, page 96

11. We note you have an IND on file for trabodenoson on which you plan to rely for Phase 2 trials for trabodenoson in conjunction with latanoprost. In your response, please tell us the date the IND was filed and for what indication.

If you intend to respond to these comments with an amended draft registration statement, please submit it and any associated correspondence in accordance with the guidance we provide in the Division's October 11, 2012 announcement on the SEC website at http://www.sec.gov/divisions/corpfin/cfannouncements/drsfilingprocedures101512.htm.

Please keep in mind that we may publicly post filing review correspondence in accordance with our December 1, 2011 policy (http://www.sec.gov/divisions/corpfin/cfannouncements/edgarcorrespondence.htm). If you intend to use Rule 83 (17 CFR 200.83) to request confidential treatment of information in the correspondence you submit on EDGAR, please properly mark that information in each of your confidential submissions to us so we do not repeat or refer to that information in our comment letters to you.

You may contact Scott Wuenschell at (202) 551-3705 or Joel Parker at (202) 551-3651 if you have questions regarding comments on the financial statements and related matters. Please contact Austin Stephenson at (202) 551-3192, Bryan Pitko at (202) 551-3203, or me at (202) 551-3715 with any other questions.

Sincerely,

/s/ *Bryan J. Pitko* for

Jeffrey P. Riedler
Assistant Director

cc: Via E-mail
Mitchell S. Bloom, Esq.
Goodwin Procter LLP