

Via Facsimile and U.S. Mail  
Mail Stop 6010

August 16, 2006

Mr. Robert G. Andersen  
Chief Financial Officer and Vice President of Operations  
Idera Pharmaceuticals, Inc.  
345 Vassar Street  
Cambridge, MA 02139

**Re: Form 10-KSB for the Fiscal Year Ended December 31, 2005  
Filed March 31, 2006  
Form 10-QSB for the Fiscal Quarter Ended June 30, 2006  
Filed August 14, 2006  
File No. 001-31918**

Dear Mr. Andersen:

We have reviewed your filings and have the following comments. We have limited our review to only your financial statements and related disclosures and do not intend to expand our review to other portions of your document. In our comments, we ask you to provide us with information so we may better understand your disclosure.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-KSB for the Fiscal Year Ended December 31, 2005

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

Research and Development Expenses, page 30

1. We acknowledge your table included in the section entitled "Our Product Pipeline" on page 2, as well as the information included in your "Results of Operations" discussion. However, we believe that your disclosures about historical research and development expenses and estimated future expenses related to your major research and development projects could be enhanced for

investors. Please refer to the Division of Corporation Finance “Current Issues and Rulemaking Projects Quarterly Update” under section VIII – Industry Specific Issues – Accounting and Disclosure by Companies Engaged in Research and Development Activities. You can find it at the following website address:  
<http://www.sec.gov/divisions/corpfin/cfcrq032001.htm#secviii>.

Please then provide us with the following information, in a disclosure-type format, for each of your major research and development projects:

- a. The costs incurred during each period presented and to date on the project;
- b. The nature, timing and estimated costs of the efforts necessary to complete the project;
- c. The anticipated completion date;
- d. The risks and uncertainties associated with completing development on schedule and the consequences to your operations, financial position and liquidity if the project is not completed timely; and, finally
- e. The period in which material net cash inflows from your significant projects are expected to commence.

Regarding a., if you do not maintain research and development costs by project, please tell us why management does not maintain and evaluate research and development costs by project. Include other quantitative or qualitative analyses that indicate the amount of the company’s resources being used on these projects.

Regarding b. and c., please provide us with the amount or range of estimated costs and timing to complete the phase in process and each future phase. To the extent that information is not estimable, please tell us the facts and circumstances indicating the uncertainties that preclude you from making a reasonable estimate.

#### Balance Sheets, page F-3

2. Please tell us how you determined that the presentation of a pro forma balance sheet as of December 31, 2005 to reflect your March 24, 2006 private placement transaction is appropriate in your Form 10-K or revise your filing accordingly to remove the pro forma information.

#### Notes to Consolidated Financial Statements

##### (7) Stockholders’ Equity, page F-18

##### (a) Common Stock, page F-18

3. Please clarify, in disclosure-type format, your accounting treatment for the put rights related to your May 5, 1998 common stock issuance. Tell us the specific

accounting guidance you are using. Refer to SFAS No. 150 and any other applicable literature, as appropriate. Please also clarify why you cannot determine at this time how many put rights have terminated and how this impacts your accounting treatment.

(15) Equity Financings, page F-28

4. You disclose that the warrants issued pursuant to your August 2003 private placement transaction may be settled by the holders via a cashless exercise feature. Please provide us with your analysis, in a disclosure-type format, as to whether the warrants issued in your August 2003 private placement transaction qualify as a derivative instrument within the scope of SFAS No. 133, which would necessitate that you account for those warrants at fair market value and record changes in the fair market value within earnings. Additionally, please provide us with an analysis under EITF No. 00-19 that supports your classification of these warrants as an equity instrument.
5. For warrants issued that do not have a cashless exercise feature, please provide us your detailed analysis, in a disclosure-type format, as to how you accounted for the warrants under EITF No. 00-19.

Form 10-Q for the Fiscal Quarter Ended June 30, 2006

(12) Private Financing, page 11

6. Please provide us with your analysis, in a disclosure-type format, as to the basis for your accounting for the warrants issued in your March 24, 2006 transactions under EITF No. 00-19.

(14) Pro Forma Balance Sheet, page 12

7. Please tell us how you determined that the presentation of a pro forma balance sheet as of June 30, 2006 to reflect the July 2006 sale of common stock under the March 24, 2006 financing commitment is appropriate in your Form 10-Q or revise your filing accordingly to remove the pro forma information.

\* \* \* \*

Please provide us the information requested within 10 business days of the date of this letter or tell us when you will provide a response prior to the expiration of the 10-day period. Please furnish a letter with your responses that keys your responses to our comments. Detailed letters greatly facilitate our review. You should file the letter on EDGAR under the form type label CORRESP. Please understand that we may have additional comments after reviewing your responses to our comments.

Mr. Robert G. Andersen  
Idera Pharmaceuticals, Inc.  
August 16, 2006  
Page 4

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that they have provided all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. 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.

In connection with responding to our comments, please provide, in your letter, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

You may contact Amy Bruckner, Staff Accountant, at (202) 551-3657 or Mary Mast, Senior Accountant, at (202) 551-3613 if you have questions regarding comments on the financial statements and related matters. In this regard, please do not hesitate to contact me at (202) 551-3679.

Sincerely,

Jim B. Rosenberg  
Senior Assistant Chief Accountant