

Mail Stop 4720

July 28, 2009

Sudhir Agrawal, D. Phil.
Chief Executive Officer
Idera Pharmaceuticals, Inc.
167 Sidney Street
Cambridge, Massachusetts 02139

**Re: Idera Pharmaceuticals, Inc.
Form 10-K for the year ended 12/31/2008
Filed March 11, 2009
File No. 001-31918**

Dear Dr. Agrawal:

We have reviewed your filing and have the following comments. Where the comments request you to revise disclosure, the information you provide should show us what the revised disclosure will look like and identify the annual or quarterly filing, as applicable, in which you intend to first include it. If you do not believe that revised disclosure is necessary, explain the reason in your response. After reviewing the information provided, we may raise additional comments and/or request that you amend your filing.

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 comment 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-K filed on March 11, 2009

Item 1. Business, page 1

Collaborative Alliances, page 8

1. Please expand your disclosure regarding your agreements with Merck KGaA, Merck & Co., Inc. and Novartis International Pharmaceutical, Ltd. to disclose a range of royalties (i.e. "low single-digit") that the company will receive under these agreements. Similarly, please expand your disclosure on pages 11 and 12 regarding your agreements with Isis Pharmaceuticals, Inc. and University of Massachusetts Medical Center to disclose for each respective agreement all amounts paid to date, a range of royalties and a range of the

percent of sublicense income to be paid. We note that you have requested confidential treatment for several of these agreements. While confidential treatment for certain information may have been granted in the past, if the confidential treatment request was granted pursuant to a "no review" process, we have the authority to reconsider our action in the future. Please note that we often grant confidential treatment for individual payments but are not willing to grant confidential treatment for aggregate payments or a range of royalties provided under an agreement.

Antisense Technology, page 11

2. You disclose that you are party to four collaboration and license agreements involving the use of your antisense technology and specified indications and six royalty-bearing license agreements under which you have acquired rights to antisense related patents, patent applications, and technology. It appears that you have only filed copies of your agreements with Isis Pharmaceuticals, Inc. and University of Massachusetts Medical Center. Please revise to provide a description of the material terms of each agreement, including, but not limited to, all amounts paid to date, the aggregate potential milestone payments under each agreement, a range of royalties (i.e. "low single-digit"), term and termination provisions and other material obligations/rights under the agreements. In addition, please file copies of the agreements. Alternatively, please provide us with a detailed analysis which supports your conclusion that you are not substantially dependent on these agreements pursuant to Item 601(b)(10)(ii)(B) of Regulation S-K.

Schedule 14A filed on April 30, 2009

Compensation Discussion and Analysis

Overview of Compensation Program and Philosophy, page 15

3. We note that your company, "uses specific target percentiles from survey data" in setting compensation for the named executive officers. Please disclose the target percentiles set for each of your named executive officers based on the Radford Survey you reviewed. Please also clarify whether you compare each named executive officer's total compensation to the target percentile or specific portions of their compensation.

Elements of Compensation, page 16

4. Please file a copy of your employment offer letter with Alice Bexton, your Vice President of Clinical Development.

Overview of Compensation Program and Philosophy, page 15

5. You disclose that your compensation committee considers the achievement of corporate and individual performance goals as one of the factors in determining annual salary increases, annual bonuses, and annual stock option awards granted to your executives. Your Compensation Discussion and Analysis does not disclose these corporate and

individual performance goals that are used to determine your named executive officers' annual salary increases, annual bonuses, and annual stock option awards. Please provide us with draft disclosure for your 2009 proxy statement which provides the following:

- The corporate and individual performance goals;
- Confirmation that you will discuss the achievement of the corporate and individual performance goals; and
- A discussion of how the level of achievement will affect the actual annual salary increases, annual bonuses to be paid and annual stock option awards to be granted.

To the extent that the corporate and individual performance goals are quantified, the discussion in your proxy statement should also be quantified.

* * *

Please respond to these comments within 10 business days or tell us when you will provide us with responses. Please furnish a letter that keys your response to our comments and provide the requested information. Detailed letters greatly facilitate our review. Please furnish your letter on EDGAR under the form type label CORRESP.

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 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 comment on your filing.

Please contact Michael Rosenthal at (202) 551-3674 or me at (202) 551-3715 with any questions.

Sudhir Agrawal, D. Phil.
Idera Pharmaceuticals, Inc.
July 28, 2009
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Sincerely,

Jeffrey P. Riedler
Assistant Director

cc: Louis J. Arcudi, III
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