

Via Facsimile and U.S. Mail
Mail Stop 6010

February 24, 2009

H. Thomas Watkins
President and Chief Executive Officer
Human Genome Sciences, Inc.
14200 Shady Grove Road
Rockville, Maryland 20850-7464

Re: Human Genome Sciences, Inc.
Form 10-K for Fiscal Year Ended December 31, 2007
Form 10-Q for the Quarterly Period Ended September 30, 2008
File No. 1-14169

Dear Mr. Watkins:

We have reviewed your January 14, 2009 response to our December 3, 2008 letter and have the following additional comments. Where we ask you to revise disclosure, please provide us information showing 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.

Form 10-K for the Year Ended December 31, 2007

Item 1. Business

Strategic Collaborations, page 7

1. We note your response and revised disclosure for your agreement with Novartis in relation to Albuferon. Please disclose the time period for which Novartis is required to pay royalties under your agreement and disclose the percentage range of royalties that must be paid. In addition, please describe any termination provisions included in your agreement.
2. We note your response and revised disclosure for your agreement with GlaxoSmithKline in relation to LymphoStat-B. Please provide the expiration dates for the patents related to LymphoStat-B as they apply to the term of your

agreement. Also, please describe any termination provisions included in your agreement.

3. We note that the revised disclosure for your agreement with GlaxoSmithKline in relation to ABthrax omits the amounts received to date under your agreement. However, we also note that your disclosure under Exhibit B to your response indicates that you have received approximately \$1.8 million to date under this agreement. Please include this item in your revised disclosure or provide an explanation for why you have omitted this information.
4. We note that Exhibit B to your response letter indicates that your agreement with CoGenesys accounted for 7% of your 2007 revenue. Please disclose the following information about your agreement with CoGenesys for purposes of inclusion in your filing:
 - The amounts paid/received to date;
 - Royalty provisions, including the percentage of royalties, if applicable;
 - Aggregate potential payments;
 - Term and termination provisions; and
 - All other material terms.

In addition, please file this and any related agreements as exhibits to your filing.

5. We note that you have derived a significant portion of your 2007 revenue from your collaboration and license agreement with Transgene. Please provide the following information about this agreement:
 - The amounts paid/received to date;
 - Royalty provisions, including the percentage of royalties, if applicable;
 - Aggregate potential payments;
 - Term and termination provisions; and
 - All other material terms.

In addition, we note that your agreement with Transgene appears to have been filed as an exhibit to your Form 10-K/A, filed on April 3, 1998. As this agreement continues to provide a significant source of revenue to the company, please include this agreement in the exhibits to your filing.

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Please respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a letter that keys your responses to our

H. Thomas Watkins
Human Genome Sciences, Inc.
February 24, 2009
Page 3

comments and provides the requested information. Detailed letters greatly facilitate our review. Please furnish the letter to us via EDGAR under the form type label CORRESP.

Please contact James Peklenk, Staff Accountant, at (202) 551-3661 or Joel Parker, Accounting Branch Chief, at (202) 551-3651 if you have any questions regarding the processing of your response. You may contact Bryan Pitko, Staff Attorney, at (202) 551-3203 or John Krug, Senior Counsel, at (202) 551-3862 with questions on any of the comments. In this regard, do not hesitate to contact me, at (202) 551-3679.

Sincerely,

Jim B. Rosenberg
Senior Assistant Chief
Accountant