

Via Facsimile and U.S. Mail
Mail Stop 6010

December 3, 2008

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 filings and have the following comments. In our comments, we ask you to provide us with information to better understand your disclosure. Where a comment requests you to revise disclosure, the information you provide should show us what the revised disclosure will look like and identify the annual or quarterly filings, 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 filings.

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 filings. 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-K for the Year Ended December 31, 2007

Item 1. Business

Strategic Collaborations, page 7

1. For each agreement, disclose the following information, as applicable:
 - The amounts paid/received to date;

- Revenue sharing and/or royalty provisions;
- Aggregate potential payments;
- Minimum purchase agreements;
- Term and termination provisions; and
- All other material terms.

If there are any written agreements, please file them as exhibits. Alternatively, provide us with an analysis supporting your determination that you are not substantially dependent on the agreement.

Form 10-Q for the Quarterly Period Ended September 30, 2008

Item 1. Financial Statements

Notes To Consolidated Financial Statements

Note 5. Collaboration Agreements, License Agreement and U.S. Government Agreement

Collaboration Agreements with GSK, page 10

2. Please disclose how you determined the fair value of, and accounted for, the reacquisition of the rights of the TRAIL receptor antibodies from GSK in return for the reduction in royalty payments due to you if Syncria is commercialized.

CoGenesys Agreement, page 11

3. Please provide us the basis for your accounting recognition for the gain of \$32.518 million on the sale of your equity investment in CoGenesys. Include references to the supporting authoritative literature used to reach your conclusion. Please also disclose any continuing involvement you have in the entity sold.

Note 9. Fair Value of Financial Instruments, page 13

4. In regards to the fair value of your investments please disclose the following:
 - a) The criteria you used to determine whether the market for a financial instrument is active or inactive (i.e., illiquid); and
 - b) Which financial instruments are affected by the lack of market liquidity (i.e. inactivity), how the lack of liquidity impacted the valuation technique you used, and how you factored illiquidity into your fair value determination of those financial instruments. For example, to the extent you used a discounted cash flow approach to determine the fair value of a financial instrument, such as auction rate securities, loans held for sale, or mortgage-backed securities backed by subprime or Alt-A collateral, consider discussing the specific

change in the discount rate or any other analysis you performed to account for the lack of liquidity and discuss how and why you changed your assumptions from prior periods.

5. Describe in more detail the techniques and disclose the assumptions used to determine the fair value of investments. If you use brokers or pricing services to assist you in determining fair values, consider explaining the extent to which, and how, the information is obtained and used in developing the fair value measurements in the consolidated financial statements. The nature and form of this information may vary depending on the facts and circumstances, but may include the following:
 - a) The nature and amount of assets you valued using broker quotes or prices you obtained from pricing services, along with the classification in the fair value hierarchy;
 - b) The number of quotes or prices you generally obtained per instrument, and if you obtained multiple quotes or prices, how you determined the ultimate value you used in your financial statements;
 - c) Whether, and if so, how and why, you adjusted quotes or prices you obtained from brokers and pricing services;
 - d) The extent to which the brokers or pricing services are gathering observable market information as opposed to using unobservable inputs and/or proprietary models in making valuation judgments and determinations;
 - e) Whether the broker quotes are binding or non-binding; and
 - f) The procedures you performed to validate the prices you obtained to ensure the fair value determination is consistent with SFAS 157, Fair Value Measurements, and to ensure that you properly classified your assets and liabilities in the fair value hierarchy.

* * * *

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

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filings to be certain that the filings include 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.

H. Thomas Watkins
Human Genome Sciences, Inc.
December 3, 2008
Page 4

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 filings;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filings; 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 filings or in response to our comments on your filings.

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 as well as any questions regarding comments on the financial statements and related matters. 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 other comments. In this regard, do not hesitate to contact me, at (202) 551-3679.

Sincerely,

Jim B. Rosenberg
Senior Assistant Chief
Accountant