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

DIVISION OF
CORPORATION FINANCE

May 10, 2011

Mr. David P. Southwell
Chief Financial Officer and Executive Vice President
Human Genome Sciences, Inc.
14200 Shady Grove Road
Rockville, Maryland 20850-7464

Re: Human Genome Sciences, Inc.
Form 10-K for the Year Ended December 31, 2010
Form 10-Q for the Quarter ended March 31, 2011
Schedule 14A filed March 30, 2011
File No. 001-14169

Dear Mr. Southwell:

We have limited our review of your filing to those issues we have addressed in our comments. In our comments, we ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by providing the requested information or by advising us when you will provide the requested response. If you do not believe a comment applies to your facts and circumstances, please tell us why in your response. Please furnish us a letter on EDGAR under the form type label CORRESP that keys your responses to our comments.

After reviewing the information provided, we may raise additional comments and/or request that you amend your filing.

Form 10-K for the fiscal year ended December 31, 2010

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations
Results of Operations
Expenses, page 41

1. In order to help us evaluate your disclosure about your research and development activities, please provide us the following information:
   - Explain to us how you use functional area expenditures to evaluate and prioritize your research and development activities. Also, tell us how you monitor development progress for individual projects.

- As you disclose on page 42 that you do not maintain a formal accounting system that captures or allocates all costs, both direct and indirect, on a per-project basis, provide us a listing by project of the costs you actually track at that level for each of the last three years and reconcile those project costs to the totals presented on your financial statements. If you do not track any costs at the project level, please tell us how you were able to explain that the changes in the various types of research and development expenditures in your yearly operating results comparison relate to specific projects.
- For each project in the table on page 46, identify the significant patents associated with the project and their expiration date.

Notes to Consolidated Financial Statements
(NOTE D) – Collaborations and U.S. Government Agreement
U.S. Government Agreement, page F-19

2. Your agreement with BARDA calls for the delivery of raxibacumab doses to the U.S. Strategic National Stockpile, or SNS, even though FDA approval has yet to be received. On page 19 you disclose that the Complete Response Letter from the FDA indicates that raxibacumab would not be approved in its present form and requested additional studies and data. Although you disclose that you continue to work through the various issues posed by the FDA, please explain to us whether the raxibacumab doses delivered to the SNS are returnable to you for any reason, including failure to obtain FDA approval. In your response, please explain whether you must replace the existing stockpile doses if the formulation changes as a result of the FDA approval process. If the doses already delivered are returnable for any reason, please explain to us how your recognition of revenue for product sales complies with GAAP, in light of the requirements of ASC 605-15-25-1f, 25-2 and 25-3 to have the ability to reasonably estimate returns, and reference for us the authoritative literature you rely upon to support your accounting. If applicable, please also address in your response the "other factors" discussed within SAB 13:A4b. In addition, although you disclose that you shipped raxibacumab to the SNS, it is unclear whether you shipped these doses to BARDA or whether you "shipped in place" the product by segregating it in your warehouses under a bill and hold arrangement. To the extent that you physically possess the product or that you are required to rotate the stock to maintain unexpired product and you rely upon the alternative accounting method prescribed in Interpretive Release No. 33-8642, please provide us proposed revised disclosure to be included in future periodic reports that provides all the disclosures required by Section IV of that Release.

Form 10-Q for the quarterly period ended March 31, 2011

Consolidated Financial Statements
Note 1. Summary of Significant Accounting Policies
Product sales, page 7

3. You disclose in MD&A that the FDA approved BENLYSTA for the treatment of adult patients with active, autoantibody-positive SLE on March 9, 2011 and that you recognized your first product sales in March 2011. In a press release dated March 9, 2011 furnished as an exhibit to Form 8-K on March 10, 2011 you disclose that BENLYSTA is the first new drug for SLE in more than 50 years and you characterize this therapy as novel. Please address the following comments:
   - You disclose that you do not recognize revenue upon product delivery to specialty distributors but instead defer revenue recognition of BENLYSTA product sales until shipped to physicians or their clinics. You also disclose that wholesaler orders are drop-shipped directly to the healthcare providers and that revenue is recognized upon that delivery to the healthcare providers. Please tell us your basis for recognizing product sales of BENLYSTA and reference for us the authoritative literature you rely upon to support your accounting. As your disclosed policy is to accept returns of expired product up to 12 months subsequent to its expiration date, please tell us whether healthcare providers can return product to you directly or through your distribution channel. If so, please demonstrate to us how you are able to make reasonable estimates of product returns, as stipulated in ASC 605-15-25-1f, 25-2 and 25-3, in light of this "novel therapy" being your first commercialized product. If applicable, please also address in your response the "other factors" discussed within SAB 13:A4b.
   - Please demonstrate to us how your selling price is fixed or determinable, as required by SAB 13:A1, in light of this "novel therapy" being your first commercialized product and the various rebates, chargebacks and discounts you anticipated granting and product returns you expect to receive. Please provide us proposed disclosure to be included in MD&A in future periodic reports that discloses:
     - the nature and amount of each accrual at the balance sheet date and the effect that could result from using other reasonably likely assumptions than what you used to arrive at each accrual such as a range of reasonably likely amounts or other type of sensitivity analysis.
     - the factors that you consider in estimating each accrual such as levels of inventory in the distribution channel, estimated remaining shelf life, price changes from competitors and introductions of generics and/or new products.
     - both quantitative and qualitative information considered in the previous bullet point and discusses to what extent information is from external sources (e.g., end-customer prescription demand, third-party market research data comparing wholesaler inventory levels to end-customer demand).
     - a roll forward of the accrual for each estimate for each period presented showing the following:

- Beginning balance,
- Current provision related to sales made in current period,
- Current provision related to sales made in prior periods,
- Actual returns or credits in current period related to sales made in current period,
- Actual returns or credits in current period related to sales made in prior periods, and
- Ending balance.

o In future discussions of results of operations for the period to period revenue comparisons, discusses the amount of and reason for fluctuations for each type of reduction of gross revenue, such as product returns, chargebacks, customer rebates and other discounts and allowances, including the effect that changes in your estimates of these items had on your revenues and operations.

Note 5. Other Financial Information
Inventory, page 18

4. Please provide us proposed revised disclosure to be included in future periodic reports that discloses the amount of BENLYSA-related inventory costs that were charged to research and development expense prior to when you began capitalizing these costs and the amount of any zero-cost inventory on hand at the reporting date. In addition, please provide us proposed revised MD&A disclosure that discusses the impact on the cost of product sales and related gross margin of this zero-cost inventory sold during each period presented.

Management's Discussion and Analysis of Financial Condition and Results of Operations
Critical Accounting Policies and the Use of Estimates
Non-current inventory, page 23

5. You indentify inventory that is not expected to be sold within the next year as a critical accounting policy/estimate, yet you do not appear to discuss why it represents one of your "most difficult, subjective or complex judgments" or the potential impact on results of operations, financial position or cash flows related to reasonably likely changes in those judgments. Please provide us proposed disclosure to be included here or elsewhere in MD&A in future periodic reports to address the following comments:
   - Explain your business purpose for carrying inventory that you do not expect to sell within the next year. Discuss the risks associated with any sole- or limited-sources of supply that you may be attempting to mitigate and the impact on liquidity and cash flows of carrying inventory for more than a year.
   - Disclose the components of non-current inventory between raw materials, work-in-process and finished goods.
   - Disclose how you evaluate non-current inventory for potential impairment. In your disclosure, please address how you estimate product demand and the shelf-life of your product and its raw materials, if different from finished goods. Discuss whether

reasonably possible changes in your estimate of product demand would result in excess or obsolete inventory and, if so, disclose the reasonably possible changes and the resulting impact on inventory reserves.

Definitive Proxy filed March 30, 2011

6. We have not yet reviewed the Part III information that is included in your Form 10-K. We may have further comments after reviewing that information and we will not be able to clear our review of your filing until we have the opportunity to resolve any resulting comments.

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 the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. 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 responding to our comments, please provide a written 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.

You may contact Ibolya Ignat, Staff Accountant, at (202) 551-3656, or Mark Brunhofer, Senior Staff Accountant, at (202) 551-3638 if you have any questions regarding the processing of your response as well as any questions regarding the comments on the financial statements and related matters. You may contact Karen Ubell, Staff Attorney, at (202) 551-3873 or Daniel Greenspan, Branch Chief, at (202) 551-3623 regarding other comments. In this regard, do not hesitate to contact me, at (202) 551-3679.

Sincerely,

Jim B. Rosenberg
Senior Assistant Chief Accountant