

Via Facsimile and U.S. Mail
Mail Stop 4720

August 19, 2009

Mr. Glenn P. Sblendorio
Executive Vice President and Chief Financial Officer
The Medicines Company
8 Sylvan Way
Parsippany, NJ 07054

**Re: The Medicines Company
Form 10-K for the Fiscal Year Ended December 31, 2008
File Number: 000-31191**

Dear Mr. Sblendorio:

We have reviewed your July 6, 2009 response to our June 12, 2009 letter 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. Please 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 the above filing.

Form 10-K for the fiscal year ended December 31, 2008

Item 1. Business
Sales, page 13

1. We note your response to our prior comment 1 and advise you that we will not be in a position to clear this comment until the Integrated Commercialization Solutions, Inc. agreement has been filed. Also, please revise your proposed disclosure to quantify the termination fee referenced in the last sentence of your proposed disclosure.

License Agreements, page 16

2. We note your response to our prior comment 2 and ask that you provide us with draft disclosure for your 2009 Form 10-K showing us how you intend to describe and quantify the amounts paid to date, the aggregate potential milestone payments and the royalty provisions of your license agreement with AstraZeneca.

Annual Cash Bonus Plan, page 29

3. We note your response to our prior comments 3, 4 and 5 and we reissue each comment. In order for us to clear your comments relating to your 2008 disclosure, we would like to see your proposed disclosure for 2009. To the extent that you are concerned about the release of our correspondence, you may request confidential treatment pursuant to Rule 83. In evaluating executive compensation disclosure we consider each element of the company's compensation policies and practices material to the total mix of information needed to inform investors of the process undertaken by the compensation committee and chief executive officer in making compensation decisions. We also note your belief that the requested information is confidential commercial and financial information that would cause competitive harm to your company if disclosed. We are generally only willing to grant confidential treatment for performance goals if you can demonstrate how the disclosure of these goals will allow your competitors to discover information about break even points, cost structures relating to specific products or similarly sensitive information. In these instances, you must submit a detailed analysis, identifying the competitively harmful information and demonstrating how the information could be harmful to your company. To avoid the disclosure of the sensitive information in the analysis when our comment letters are released publicly, you should submit a confidential treatment request pursuant to Rule 83.

4. We note your response to our prior comment 3 and the last bullet point on page 4 of your response letter which states that "in determining the bonus and, in particular, the portion of the bonus attributed to corporate goals, the compensation committee, in addition to evaluating these six goals, also reviewed and gave credit for the overall performance of the Company in 2008 and our achievement of additional accomplishments not contemplated by the six goals, thus moving away from the formulaic approach of the plan to a more discretionary and flexible determination and rendering each original goal even less material in the overall mix and process." This discretionary component of the committee's process was not disclosed in your 2008 Compensation Discussion and Analysis. In providing draft disclosure to be included in your 2009 proxy statement in response to comment 3 above, please include a description of this discretionary authority and indicate how such discretion will be exercised by the committee in determining annual cash bonuses. Additionally, confirm that you will discuss the factors considered by the committee in future proxy statements when the committee exercises its discretion in determining bonus payments.

5. We note your response to our prior comment 8 and the following statement included in your proposed disclosure: “The compensation committee attributes approximately...39% of the company bonus factor to the other corporate goals achieved or partially achieved...” Please revise your proposed disclosure to quantify the percentage of the company bonus factor attributed to each of the five “other corporate goals” referenced in this sentence.

Management’s Discussion and Analysis of Financial Condition and Results of Operations
Application of Critical Accounting Estimates
Income Taxes, page 54

6. Please refer to your response to prior comment 11. Consistent with your response, revise your disclosure to discuss the positive and negative evidence considered and evaluated by management in concluding that that a portion of your deferred tax assets are more likely than not to be realizable. The disclosure should also address why you believe the impact of the Curacyte and Nycomed transactions should not be reflected in your earnings history.

Consolidated Financial Statements
Notes to Consolidated Financial Statements
Note 9. Intangible Assets, page F-24

7. Refer to your response to prior comment 12. Please revise your disclosure to clarify your accounting policy for amortizing the Angiox intangible assets over the expected economic benefit period, i.e. amortization based on the ratio of annual forecasted revenue to total forecasted revenue from the sale of Angiox through the end of its patent life.

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

Glenn P. Sblendorio
The Medicines Company
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Please contact Dana Hartz, Staff Accountant, at (202) 551-3648 or Don Abbott, Review Accountant, at (202) 551-3608 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 Laura Crotty, Staff Attorney, at (202) 551-3563 or Suzanne Hayes, Legal Branch Chief, at (202) 551-3675 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