



DIVISION OF
CORPORATION FINANCE

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

January 12, 2011

Mr. Julian Heslop
Chief Financial Officer
GlaxoSmithKline plc
980 Great West Road
Brentford, TW8 9GS
England

**Re: GlaxoSmithKline plc
Form 20-F for Fiscal Year Ended December 31, 2009
File No. 001-15170**

Dear Mr. Heslop:

We have reviewed your December 3, 2010 response to our November 9, 2010 comment letter and have the following comment.

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 response to our comment.

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

Research and development, page 15

1. Please refer to prior comment one. We acknowledge the assertions provided in your response. However, we continue to believe that historical cost information for research and development projects is meaningful disclosure for investors. Please disclose this information for each of your key R&D projects for each period presented and to date. In addition, please reconcile the total of your key R&D projects costs to total R&D expenses for each period presented. In this regard, please disclose the amounts charged to expense for each period by therapeutic category, or other reasonable category, for all pipeline projects not considered key.

Mr. Julian Heslop
GlaxoSmithKline plc
January 12, 2011
Page 2

You may contact Frank Wyman, Staff Accountant at (202) 551-3660, or Mark Brunhofer, Accounting Reviewer, at (202) 551-3638 if you have questions regarding this comment. In this regard, do not hesitate to contact me, at (202) 551-3679.

Sincerely,

Jim B. Rosenberg
Senior Assistant Chief Accountant