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

DIVISION OF
CORPORATION FINANCE

September 19, 2012

Via E-mail
Michael W. Bonney
President and Chief Executive Officer
Cubist Pharmaceuticals, Inc.
65 Hayden Avenue
Lexington, MA 02421

Re: Cubist Pharmaceuticals, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2011
Filed February 27, 2012
File No. 000-21379

Dear Mr. Bonney:

We have reviewed your August 24, 2012 response to our July 26, 2012 letter and have the following comments.

Please respond to this letter within 10 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 comment.

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

Management's Discussion and Analysis of Financial Condition and Results of operations
Results of Operations
Research and Development Expense, page 70

1. In order for us to assess your proposed presentation provided in response to prior comment 1, as previously requested, please tell us the amount of R&D costs by year for each late and early stage product candidate described on pages 10 and 11 and reconcile the total for the projects for each year to your total R&D costs disclosed on your statements of income. Also, you state in your response that "internal costs incurred to support R&D activities, including general overhead and expenses related to employees and facilities comprise a significant portion of the Company's aggregate R&D expense; however, the Company cannot reliably quantify internal R&D expenses on a program-by-program basis." Please explain to us why you cannot reliably quantify internal R&D expenses by program and provide other quantitative or qualitative disclosure that indicates the amount of your internal R&D expenses on a program basis or some other

meaningful basis, such as pre-clinical, clinical, late stage or by therapeutic class and include the number of projects in each category.

Consolidated Financial Statements
Notes to Consolidated Financial Statements
G. Inventory, page 129

2. Consistent with your response to prior comment 2, please provide us proposed disclosure to be included in future periodic reports that separately discloses the shelf lives of the raw materials and your finished goods of ENTEREG. Include in your disclosure that the ENTEREG API can be reprocessed at an immaterial cost to the Company with no expected reduction in potency, thereby extending its shelf life, as needed to provide additional support on why you expect sales of this inventory to be over a period of approximately eight years.

Please contact Donald Abbott at (202) 551-3608 or Mark Brunhofer at (202) 551-3638 if you have any questions regarding the comments. In this regard, do not hesitate to contact me at (202) 551-3679.

Sincerely,

/s/ Jim B. Rosenberg

Jim B. Rosenberg
Senior Assistant Chief Accountant