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December 15, 2006

**Via EDGAR and Overnight Courier**

Mr. Jim B. Rosenberg  
Senior Assistant Chief Accountant  
Division of Corporation Finance  
U.S. Securities and Exchange Commission  
100 F Street, N.E.  
Washington, D. C. 20549-6010

Re: **BioCryst Pharmaceuticals, Inc.**  
**Form 10-K for the Fiscal Year Ended December 31, 2005**  
**Filed March 9, 2006**  
**File No. 000-23186**

Dear Mr. Rosenberg:

On behalf of BioCryst Pharmaceuticals, Inc. (the "Company"), please find the responses and the supplemental information requested by the Staff of the Securities and Exchange Commission (the "Staff") in its letter dated November 15, 2006 to Charles E. Bugg, Ph.D., Chairman and Chief Executive Officer of the Company, which the Company received on December 4, 2006 (the "Comment Letter"), with respect to the above-referenced Annual Report on Form 10-K of the Company. The responses and supplemental information provided herein in response to the Comment Letter are based upon conferences with representatives of the Company and other information supplied by its advisors. We have not independently verified the accuracy and completeness of such information.

The full text of the comment contained in the Comment Letter has been reproduced below, followed by the Company's response.

Richard R. Plumridge 303.866.0583 rich.plumridge@hro.com  
1700 Lincoln Street, Suite 4100 Denver, Colorado 80203-4541 tel 303.861.7000 fax 303.866.0200

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Form 10-K for the Fiscal Year Ended December 31, 2005

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, page 34

Overview, Page 34

1. *We note your detailed discussion of the status of each of your significant project in the business section. To further supplement the usefulness of that information, please provide to us in disclosure type format the following information for each of your major research and development projects identified:*

- a) *The costs incurred during each period presented and to date on the project;*
- b) *The nature, timing and estimated costs of the efforts necessary to complete the project;*
- c) *The anticipated completion dates;*
- d) *The risks and uncertainties associated with completing development on schedule, and the consequences to operations, financial position and liquidity if the project is not completed timely; and finally*
- e) *The period in which material net cash inflows from significant projects are expected to commence.*

*To the extent that information requested above is not known or estimable, disclose that fact and the reason why it is not known.*

As requested, the Company hereby supplementally provides the Staff with the information in disclosure type format enclosed herewith as Exhibit A, which details the costs incurred during each of the years ended December 31, 2005, 2004 and 2003 for each major product development program identified in the Business section of the Form 10-K. The enclosed disclosure also sets forth the risks and uncertainties associated with completing development of each program. However, determination of the costs incurred to date are not disclosed, due to the fact that the information is not readily available. To

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disclose such information would require substantial assumptions without adequate basis. Further, based on the Company's current development status of these projects, we would not expect the presentation of historical costs to be important to investors.

The Company hereby advises the Staff that at this time it cannot predict the anticipated completion date of or the period in which material net cash inflows are expected to commence from each project. As described in the enclosed disclosure, completion dates and material net cash inflows from the Company's research and development programs are subject to a number of risks and uncertainties, including the availability of capital, the development progress of existing or potential future partnerships for its drug candidates, the progress and results of the Company's current and proposed clinical trials for its drug candidates and the allocation of resources among programs.

Please note that confidential treatment of the enclosed Exhibit A is requested under the Freedom of Information Act ("FOIA"). Accordingly, we have marked the enclosed Exhibit A with the legend "FOIA Confidential Treatment Requested."

Other

In connection with responding to the Staff's comments, and as requested in the Comment Letter, enclosed with the letter is a 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.
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Mr. Jim B. Rosenberg  
December 15, 2006  
Page 4

If you would like to discuss the responses above or any other matter, please contact the undersigned at (303) 866-1583 or Jennifer D'Alessandro at (303) 866-0635.

Sincerely,

/s/ Richard R. Plumridge

Richard R. Plumridge

cc: Kei Ino  
Jim Atkinson  
Charles E. Bugg, Ph.D.  
Michael A. Darwin