

Mail Stop 6010

August 21, 2007

Gary A. Lyons  
Chief Executive Officer  
Neurocrine Biosciences, Inc.  
12790 El Camino Real  
San Diego, CA 92130

**Re: Neurocrine Biosciences, Inc.  
Definitive Proxy Statement  
Filed April 27, 2007  
File No. 000-22705**

Dear Mr. Lyons:

We have limited our review of your definitive proxy statement to your executive compensation and other related disclosure and have the following comments. Our review of your filing is part of the Division's focused review of executive compensation disclosure.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filings. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call me at the telephone number listed at the end of this letter.

In some comments we have asked you to provide us with additional information so we may better understand your disclosure. Please do so within the time frame set forth below. You should comply with the remaining comments in all future filings, as applicable. Please confirm in writing that you will do so and also explain to us how you intend to comply. Please understand that after our review of all of your responses, we may raise additional comments.

If you disagree with any of these comments, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation.

Compensation Discussion and Analysis, page 15

1. Please refer to Item 402(b) of Regulation S-K and Section II.B. of Release No. 33-8732A and revise your disclosure to provide appropriate information pursuant to the item requirement. For example, it is not clear how you determine the amount for each element to pay and how your decisions regarding each element fits into your overall compensation objectives and how the amounts paid under each element affect amounts paid under the other elements. Refer to Item 402(b)(1)(vi). We do note your disclosure regarding the corporate and personal goals used in determining cash bonus amounts, but, as a general matter, your disclosure does not appear to contain quantitative or qualitative analysis regarding the determination of actual amounts paid under each element, how each element fits into your overall compensation objectives and how the amounts paid under each element affect decisions regarding the amounts paid or awarded under the other elements of your compensation package.

Role of Peer Group, Compensation Surveys and Consultants, page 15

2. Given that you seek to offer a level of compensation to your executive officers that is competitive with the compensation paid by your selected peer group of companies, please specify how each element of compensation you provide to the named executive officers relates to the data you have analyzed from the comparator companies and include a discussion of where you target each element of compensation against the peer companies and where actual payments under each element of compensation actually fell within the targeted parameters. To the extent actual compensation was outside of a targeted range, please discuss why. Refer to Item 402(b)(2)(xiv) of Regulation S-K.

Cash bonuses, page 16; and  
Chief Executive Officer Compensation, page 18

3. You disclose that bonus payments are linked to the attainment of overall corporate goals and individual goals established for each executive officer and you disclose that your CEO compensation is linked to annual and long-term strategic and operational goals. While we note your disclosure that within research and development, the goal with the highest difficulty to achieve was obtaining FDA approval of indiplon, you do not indicate what specific goals were established within the business development, commercial and general administration goals. Please provide adequate discussion and analysis of the quantitative or qualitative aspects of the necessary goals to be achieved in order for your executive officers to earn their incentive compensation. You should disclose the specific quantitative and qualitative aspects of the performance objectives used to determine incentive amounts and how your incentive awards are specifically

structured around such performance goals and individual objectives. To the extent you believe that disclosure of the information would result in competitive harm such that the information could be excluded under Instruction 4 to Item 402(b), please provide us with a detailed explanation supporting your conclusion. To the extent that it is appropriate to omit specific targets or performance objectives, you are required to provide appropriate disclosure pursuant to Instruction 4 to Item 402(b) of Regulation S-K. Refer also to Question 3.04 of the Item 402 of Regulation S-K Interpretations available on our website at [www.sec.gov](http://www.sec.gov). In discussing how difficult or likely it will be for the registrant to achieve the target levels or other factors, you should provide as much detail as necessary without disclosing information that poses a reasonable risk of competitive harm.

Equity Awards, page 17

4. Please expand your Compensation Discussion and Analysis to include a more detailed analysis of how the Compensation Committee determined the actual amounts of the stock option, restricted stock unit awards, and stock bonuses for each named executive officer. Although we note disclosure regarding general policies relating to these forms of compensation, please include disclosure that not only sets forth the actual amounts awarded under these forms of compensation but also provides substantive analysis and insight into how the Compensation Committee determined the actual award amounts. For example, please discuss and analyze how the Compensation Committee determined to award the actual number of shares underlying the stock option and restricted stock awards for your named executive officers, and the rationale for the variances in those awards among such officers.

Summary Compensation Table, page 21

5. Your Compensation Discussion and Analysis should be sufficiently precise to identify material differences in compensation policies with respect to individual named executive officers. Refer to Section II.B.1 of Commission Release No. 33-8732A. For example, we note the disparity between your chief executive officer's compensation and that of the other named executive officers. Please provide a more detailed discussion of how and why your chief executive officer's compensation differs from that of the other named executive officers.

Outstanding Equity Awards Table, page 24

6. Please note that Instruction 2 to Item 402(f)(2) of Regulation S-K requires footnote disclosure of the vesting dates of options, shares of stock and equity

incentive plan awards held at fiscal year-end. Please include the required disclosure.

Related Person Transactions, page 31

7. Provide the information required by Item 404(b) of Regulation S-K. For example, describe your policies and procedures for the review, approval or ratification of any transaction required to be reported under Item 404(a), including, to the extent applicable, the material features described in Item 404(b)(1).

Please respond to our comments by September 21, 2007, or tell us by that time when you will provide us with a response.

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 required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. 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.

When you respond to our comments, please provide, in writing, 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 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.

Neurocrine Biosciences, Inc.

August 21, 2007

Page 5

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in connection with our review of your filing or in response to comments.

Please contact me at (202) 551-3635 with any questions.

Sincerely,

Tim Buchmiller  
Senior Attorney