November 22, 2010

Via EDGAR and FedEx

Ms. Tabatha Akins
Mr. Jim B. Rosenberg
United States Securities and Exchange Commission
Division of Corporation Finance
450 Fifth Street, N.W.
Washington, D.C. 20549

Re: Neurocrine Biosciences, Inc.
Form 10-K for Fiscal Year Ended December 31, 2009
Filed February 8, 2010
Form 10-Q for the Quarterly Period Ended June 30, 2010
Filed July 29, 2010
Definitive Schedule 14A
Filed April 21, 2010
File No. 000-22705

Ladies and Gentlemen:

This letter is being transmitted by Neurocrine Biosciences, Inc. (the "***Company***") in response to comments received from the staff (the "***Staff***") of the Securities and Exchange Commission (the "***SEC***"), by supplemental letter dated November 1, 2010 (the "***Supplemental Letter***"), with respect to the Company's (i) Annual Report on Form 10-K for the fiscal year ended December 31, 2009 (the "***10-K***"), (ii) Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2010 and (iii) Definitive Proxy Statement on Schedule 14A filed on April 21, 2010 (the "***Proxy Statement***"). The Supplemental Letter from the Staff was received in response to the Company's letter dated September 9, 2010 responding to comments from the Staff by letter dated August 27, 2010. The text of the Staff's comments in the Supplemental Letter has been included in this letter in italics for your convenience, and we have numbered the paragraphs below to correspond to the numbering of the Supplemental Letter.

Form 10-K for Fiscal Year Ended December 31, 2009

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

Results of Operations of Years Ended December 31, 2009, 2008, and 2007, page 37

1. *Refer to your comment two. Based on your response and your disclosure on page 55 of your Form 10-K, you classify administrative expenses and allocations of corporate costs as research and development expense. Please tell us how these expenses/costs qualify as research and development expenses, and provide us proposed revisions to your disclosure here and in the notes to the financial statements as to their nature.*

Response: The Company acknowledges the Staff's comment and respectfully submits that the administrative expenses and corporate costs disclosed on page 55 of the 10-K consist of salaries, payroll taxes, employee benefits and equity compensation charges for Company employees engaging in research and development efforts, certain of which are captured as corporate and administrative expenses and subsequently allocated to research and development.

To address the Staff's comment, the Company commits that, to the extent applicable, it will provide the text in substantially the form below in its future filings with the SEC.

> "Research and development expense consists primarily of salaries, payroll taxes, employee benefits, and equity compensation charges, for those individuals involved in ongoing research and development efforts; as well as scientific contractor fees, preclinical and clinical trial costs, research and development facilities costs, laboratory supply costs, and depreciation of scientific equipment."

Notes to Consolidated Financial Statements

Note 1. Organization and Summary of Significant Accounting Policies Restructuring, page 55

2. *Refer to comment three. Please note that the guidance cited in SAB Topic 5.P.3 focuses on presenting restructuring charges as operating activities as opposed to non-operating based on the historical presentation of the activity. Further, it remains unclear how severance costs qualify as planned search or critical investigation aimed at discovery of new knowledge or the translation of research findings or other knowledge into a plan or design for a new product or process. Please confirm to us that you will remove these costs from research and development expense in future filings.*

Response: The Company acknowledges the Staff's comment and commits that, to the extent applicable, it will remove the restructuring charges identified in the Staff's comment from research and development expenses in its future filings with the SEC.

Form 10-Q for the Period Ended June 30, 2010

Item 1. Financial Statements

Notes to the Condensed Consolidated Financial Statements

11. Significant Collaborative Research and Development Agreements page 11

3. *Refer to comment four. It remains unclear what your obligations are under the collaboration agreements. Please provide us draft disclosure to be included in future filings of your obligations under the agreements including those related to joint committees, development plans and research programs. In addition, please include in the draft disclosure the estimated terms of the collaborative development period and the collaborative research period.*

Response: The Company acknowledges the Staff's comment and proposes to provide text in substantially the form below in its future filings with the SEC, where applicable.

"In June 2010, the Company announced an exclusive worldwide collaboration with Abbott International Luxembourg S.à r.l. (Abbott) to develop and commercialize elagolix and all next-generation gonadotropin-releasing hormone (GnRH) antagonists (collectively GnRH Compounds) for women's and men's health. Under the terms of the Company's agreement with Abbott, the Company and Abbott will work jointly to advance GnRH Compounds towards commercialization. Abbott made an upfront payment of $75 million and agreed to make additional development, regulatory and commercial milestone payments of up to approximately $530 million. Under the terms of the agreement, Abbott is responsible for all third-party development, marketing and commercialization costs. The Company will receive funding for certain internal collaboration expenses which includes reimbursement from Abbott for internal and external expenses related to the GnRH Compounds, which reimbursement includes up to approximately $24 million in personnel funding through the end of 2012. The Company will be entitled to a percentage of worldwide sales of GnRH Compounds for the longer of 10 years or the life of the related patent rights. Under the terms of the Company's agreement with Abbott, the collaboration effort between the parties to advance GnRH Compounds towards commercialization is governed by a joint development committee with representatives from both the Company and Abbott; provided, however, that final decision making authority rests with Abbott. Abbott may terminate the collaboration at its discretion upon 180 days' written notice to the Company. In such event, the Company would be entitled to specified payments for ongoing clinical development and related activities and all GnRH Compound product rights would revert to the Company. The Company's participation in the joint development committee has been determined to be a substantive deliverable under the contract, and therefore, the upfront payment has been deferred and is being recognized over the estimated term of the joint development committee which is expected to be through the end of 2012. As of June 30, 2010, the Company had recorded revenues of $2.4 million in amortization of up-front license fees and $1.2 million in sponsored development. In addition, at June 30, 2010 the Company had $72.6 million of deferred revenue related to the Abbott agreement.

Also in June 2010, the Company announced a worldwide collaboration with Boehringer Ingelheim International GmbH (Boehringer Ingelheim) to research, develop and commercialize small molecule GPR119 agonists for the treatment of Type II diabetes and other indications. Under the terms of the Company's agreement with Boehringer Ingelheim, the

Company and Boehringer Ingelheim will work jointly to identify and advance GPR119 agonist candidates into pre-clinical development. Boehringer Ingelheim will then be responsible for the global development and commercialization of potential GPR119 agonist products. The Company will receive a $10 million upfront payment, research funding to support discovery efforts and is eligible to receive up to approximately $225 million in development, regulatory and commercial milestone payments. The Company will be entitled to a percentage of any future worldwide sales of GPR119 agonists. Under the terms of the Company's agreement with Boehringer Ingelheim, the collaboration effort between the parties to identify and advance GPR119 agonist candidates into pre-clinical development is governed by a steering committee with representatives from both the Company and Boehringer Ingelheim; provided, however, that final decision making authority rests with Boehringer Ingelheim. Boehringer Ingelheim may terminate the agreement at its discretion upon prior written notice to the Company. In such event, the Company may be entitled to specified payments and product rights would revert to the Company. The Company's participation in the steering committee has been determined to be a substantive deliverable under the contract, and therefore, the upfront payment has been deferred and is being recognized over the estimated term of the steering committee which is expected to be through June 2012. As of June 30, 2010, the Company had recorded revenues of $0.2 million in amortization of up-front license fees and $0.1 million in sponsored research. At June 30, 2010, the Company had $9.8 million of deferred license fees that will be amortized over the remaining term of the collaborative research period of the agreement.

Revenues under collaborative agreements and grants are recognized as research costs are incurred over the period specified in the related agreement or as the services are performed. These agreements are on a best-efforts basis, do not require scientific achievement as a performance obligation and provide for payment to be made when costs are incurred or the services are performed. All fees are nonrefundable to the collaborators. Upfront, nonrefundable payments for license fees, grants, and advance payments for sponsored research revenues received in excess of amounts earned are classified as deferred revenue and recognized as income over the contract or development period. Estimating the duration of the development period includes continual assessment of development stages and regulatory requirements. Milestone payments are recognized as revenue upon achievement of pre-defined scientific events, which require substantive effort, and for which achievement of the milestone was not readily assured at the inception of the agreement."

Definitive Proxy Statement on Schedule 14A

Compensation Discussion and Analysis Equity Awards, page 31

4. *We note your response to our prior comment five. While the Board ultimately decided not to make equity awards in 2009, disclosure is nonetheless required if the Board established performance goals at the beginning of the performance period that it intended to use to make determinations of equity awards at the conclusion of the period. This is consistent with your disclosure of the performance goals and Board evaluation of that performance related to cash bonuses awards on pages 29 and 30 of the proxy statement. We note in that case as well the Board determined not to award annual bonuses, yet you have included a discussion of the goals, level of achievement and the Boards' evaluation of performance. Therefore, please provide us with draft disclosure for an amendment that discloses any goals and objectives, both company-wide and individual, that you established at the beginning of the performance period to be used in the determination of equity awards for 2009, together with the Board's assessment of each officer's performance.*

   Response: The Company acknowledges the Staff's comment and advises the Staff that the Company's Board of Directors (the "***Board***") and the Compensation Committee of the Board (the "***Compensation Committee***") do not pre-establish performance goals for a particular performance period, the achievement of which would determine the extent to which equity awards would be granted at the end of such period. Instead, as stated on page 31 of the Proxy Statement, the Board and Compensation Committee grant equity awards to the Company's executive officers based on various subjective factors in existence at the time of grant, including factors such as the individual performance of the Company's executive officers, the Company's performance generally, the anticipated contribution of the Company's executive officers to the attainment of the Company's long-term strategic performance goals, and the Company's desire to retain and motivate its executive officers.

   As further stated on page 31 of the Proxy Statement, "[i]t has been our practice to make equity-based awards to our executives on an annual basis….The Committee typically reviews Company and executive performance during the first quarter of each year to determine the amount and types of awards to be granted." In 2009, the Board approved no equity awards to the Company's executive officers. A discussion of the Company's determination to grant no equity awards to the Company's executive officers for 2009, including the subjective factors relied upon to make such determination, was provided in the Proxy Statement on page 33 under the heading "Cash Bonuses and Equity Awards."

   Notwithstanding the foregoing, the Company commits that, to the extent applicable, it will provide disclosure responsive to the Staff's comment in future filings with the SEC.

***

The Company further acknowledges that:

- the Company is responsible for the adequacy and accuracy of the disclosure in the filings;
- Staff comments or changes to disclosure in response to Staff comments do not foreclose the SEC from taking any action with respect to the filings; and
- the Company may not assert Staff comments as a defense in any proceeding initiated by the SEC or any person under the federal securities laws of the United States.

Please contact me at (858) 617-7600 with any questions or further comments regarding the Company's responses to the Staff's comments.

Sincerely,

/s/ Margaret Valeur-Jensen

Margaret Valeur-Jensen, J.D., Ph.D.
Executive Vice President, General
Counsel and Corporate Secretary

cc: Jason L. Kent, Esq. of Cooley LLP