VERTEX PHARMACEUTICALS INCORPORATED
130 WAVERLY STREET · CAMBRIDGE, MA 02139-4242
TEL. 617.444.6100 · FAX 617.444.7117
http://www.vrtx.com

December 22, 2009

Delivered via EDGAR

Securities and Exchange Commission
Division of Corporation Finance
100 First Street, N.E.
Mail Stop 4720
Washington, DC 20549

Attn: Jim B. Rosenberg, Senior Assistant Chief Accountant
Kei Ino, Staff Accountant
Mark Brunhofer, Senior Staff Accountant
Mike Rosenthall, Staff Attorney
Jennifer Riegel, Staff Attorney

Re: Vertex Pharmaceuticals Incorporated
Form 10-K for the Period Ended December 31, 2008
Form 10-Q for the Quarterly Period Ended March 31, 2009
Definitive Proxy Statement on Schedule 14A filed April 8, 2009
File No. 000-19319

Ladies and Gentlemen:

The purpose of this letter is to respond to the comments provided by the staff (the "Staff") of the Securities and Exchange Commission (the "SEC") to Vertex Pharmaceuticals Incorporated (the "Company") in a letter dated October 23, 2009 to Kenneth S. Boger, Senior Vice President and General Counsel of the Company. This letter supplements the Company's letter to the SEC dated November 18, 2009. The comments from the Comment Letter are reproduced below together with the Company's responses to those comments.

Definitive Proxy Statement on Schedule 14A filed April 8, 2009

Compensation Discussion and Analysis
2008 Compensation Decisions for Performance-Based Elements, page 29

Comment 1:

We note your response to our prior comment 4. However, your response does not appear to address our concerns. To the extent that your four high-level goals are more specifically defined than the disclosure in your document, they should be more specifically described. For example, one of the goals is to "meet or exceed timelines in clinical, regulatory, quality, manufacturing and commercial operations toward a successful launch of telaprevir." If the goals, as communicated to your executives, are more

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specific as to these timelines, these timelines should be described. If you believe that a more specific disclosure of these goals would be competitively harmful, please provide us with an analysis supporting your belief. The analysis should identify the information that you believe would cause competitive harm, describe the competitive harm you are likely to experience if the information is disclosed and explain why this information is not material to investors. We will not be in a position to assess the likelihood of competitive harm if we do not know what the specific goals are. Please be advised that you may request confidential treatment for portions of your response pursuant to Rule 83. Please provide proposed disclosure for your 2010 proxy statement.

Additionally, comment 4 indicated that when information relating to targets and goals is not provided on the basis that disclosure is not material and is likely to cause competitive harm, you must discuss how difficult it will be for the executive or how likely it will be for the company to achieve the undisclosed goals or targets. Your response directs our attention to the disclosure relating to the level of achievement which is not the same as a discussion of the level of difficulty to achieve the stated goals and targets. If you continue to believe that your goals and targets quality for confidential treatment, please discuss the level of difficulty related to the undisclosed goal(s) or target(s).

Response:

The Company does not expect that any of the performance targets material to the board of director's compensation decisions for 2009 performance will involve confidential trade secrets or confidential commercial or financial information, and accordingly, the Company expects to disclose all such material performance targets in its 2010 Proxy Statement. While the Company's board of directors maintains discretion to consider all factors it deems relevant in establishing the Company's performance rating in any year, for 2009 the Company expects that its board of directors will evaluate the Company's performance and progress with respect to each of the following:

· Meet or exceed mission-critical milestones toward a successful launch of telaprevir in 2011; strengthen HCV franchise

· Maintain financial strength

· Build organizational strength

· Demonstrate increase in portfolio value beyond HCV

After 2009 year-end, the Company expects that the board of directors will evaluate the Company's overall performance in each of these areas in light of relevant facts and circumstances, and that the board of directors will weight some areas more heavily than others. In particular, the Company expects that the board of directors will place greater weight on the first two categories (telaprevir/HCV and maintain financial strength).

The Company expects that the board of directors' evaluation in the first area (telaprevir/HCV) will include a review of the company's performance in (a) assuring telaprevir launch and chemistry, manufacturing and controls (CMC) readiness; (b) building the new drug application (NDA) dossier for a timely filing (to support a 2011 launch); (c) ensuring that product inventory will be in place; (d) building a commercial infrastructure; (e) developing a life cycle plan for telaprevir; and (f) securing rights to a STAT-C compound (such as VX-222) and initiating

development of a combination therapy with telaprevir. Similarly, the Company expects that the board of directors will consider factors applicable to each of the other three categories.

While the Company expects the board of directors will assign an overall weight to each category, it expects that the board of directors will reach this decision on the basis of a general facts and circumstances analysis of factors such as those listed above, and will not specifically weight each factor. On the basis of that assessment, the board of directors will assign the Company a performance rating and establish the size of the bonus pool. The Company expects that its 2010 proxy statement will include disclosure of the performance rating, together with detail about each of the factors that were material to the board's assessment.

Since there may be considerable variability from year to year in the types of performance targets considered by the board of directors, it may be that in future years these objectives will involve information that remains confidential beyond the period during which compensation decisions are made. For example, in 2009, the Company has been focused on conducting late-stage clinical trials of its hepatitis C protease inhibitor, telaprevir. For each pharmaceutical drug candidate, the competitive landscape and development pathway, including timelines, are more uncertain in the earlier stages and become clearer as the asset advances through development. By 2009, the potential projected launch in 2011 for telaprevir was well-established and was disclosed. In contrast, in 2008, the nature of likely competition from telaprevir's nearest competitors, both in terms of product profile and time-to-market, was much less clear, and the Company's goals included a confidential contingency plan (including timelines for certain activities) for different possible scenarios, the disclosure of which would have provided an advantage to competitors and competitive harm to the Company. The Company's performance objectives in the future with respect to earlier stage drug candidates may include competitive information of this sort. In addition, once the Company has a commercial product, the board of directors may establish performance objectives that include confidential commercial information such as market share or pricing information. For its Proxy Statement in years beyond 2010, the Company undertakes to omit only those material factors for which it has a reasoned basis to conclude that disclosure would cause competitive harm to the Company, to discuss how difficult it will be to achieve the undisclosed factors, if any, and to supplementally provide both the confidential performance target and a competitive harm analysis to the Staff upon request.

Form 10-Q for the Quarterly Period Ended March 31, 2009

Preliminary Allocation of Assets and Liabilities, page 18

Comment 2:

We acknowledge your response to comment seven (a). Although the nature, timing and estimated costs of the efforts to complete the development of VX-222 and VX-759 are subject to risks and uncertainties, we do not understand why meaningful estimates are not available when it would appear that these costs are a significant component of the cash flow assumptions inherent in your fair value assessment of these projects. Please revise your disclosure to provide the nature, timing and estimated costs to complete these projects as utilized in your fair value assessment.

Response 2:

The Company hereby supplements its response to Comment 2 contained in its November 18, 2009 letter to the SEC as follows:

The Company will augment its disclosure regarding the acquisition of ViroChem in the Company's Annual Report on Form 10-K for the year ending December 31, 2009, to be updated if circumstances dictate, as follows:

> "Projections of the duration and cost of non-clinical studies and clinical trials vary significantly over the life of a project depending on developments in the program over time, but in order to estimate the fair value on the acquisition date we made the following assumptions from the perspective of a market participant regarding the potential timing and costs to develop VX-222 and/or VX-759. We assumed if a drug candidate were successfully developed in the United States it would take approximately five to nine years from the date of the acquisition in order to obtain such approval. In addition, for the valuation, we assumed an estimate of cost from acquisition to launch to develop a drug candidate that was within a range of $400 million to $700 million".

Comment 3

We acknowledge your response to comment seven (c). Please address the following additional comments:

- You indicate that you did not ascribe value to ViroChem's other preclinical programs and other technologies because market participants would be unlikely to ascribe value to them. Please tell us how many other preclinical programs and other technologies you acquired from ViroChem and the associated treatment indications.

- It appears that you based the $7.2 million fair value assigned to the VCH-286 intangible asset based on the development costs incurred through the acquisition date. Please demonstrate to us how the value assigned is consistent with that derived by a market participant and how it complies with the guidance in paragraph 33 of SFAS 141R. Please revise your disclosure accordingly.

Response 3

The Company hereby supplements its response to Comment 3 contained in its November 18, 2009 letter to the SEC as follows:

The "other technologies" that were identified by the Company are patents and patent applications unrelated to the ViroChem drug development projects and candidates that we valued separately. The Company determined that market participants would not ascribe any value to these patents and patent applications because the Company did not identify any commercial potential for the covered subject matter. The determination that there was no commercial potential for the subject matter was based on a variety of reasons including the patents or patent applications related to (i) drug candidates for which development had been terminated as a result of adverse safety or efficacy data and (ii) early research projects that did not result in the identification of a drug candidate.

The Company hereby confirms that in future filings the Company will enhance its overall disclosures by complying with the comments provided by the SEC in the manner set forth in the

responses above, subject in all cases, to any changes with respect to the facts underlying the Company's disclosures.

The Company acknowledges that:

1) the Company is responsible for the adequacy and accuracy of the disclosure in its filings;

2) 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

3) 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.

Please contact me at 617-444-6417 in the event that you have any questions or concerns with respect to this matter. In the event that I am not available, please contact my colleague, Valerie Andrews, at 617-444-6227.

Very truly yours,

/s/ Kenneth S. Boger

Kenneth S. Boger
Senior Vice President and General Counsel