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May 27, 2016

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

Re: Vertex Pharmaceuticals Incorporated
Form 10-K for the Fiscal Year Ended December 31, 2015
Filed February 16, 2016
File No. 000-19319

Ladies and Gentlemen:

The purpose of this letter is to respond to a comment from the staff (the "Staff") of the Securities and Exchange Commission (the "Commission") to Vertex Pharmaceuticals Incorporated (the "Company") set forth in the Staff's letter to Jeffrey M. Leiden, dated May 13, 2016 (the "Comment Letter"), regarding the Company's Form 10-K for the fiscal year ended December 31, 2015. The comment from the Comment Letter is reproduced below together with the Company's response to the comment.

Notes to Consolidated Financial Statements
B. Collaborative Arrangements
Variable Interest Entities (VIE)
Parion Sciences, Inc., page F-19

Comment 1

Please provide us with your detailed analysis as to the application of ASC 810-10 that resulted in your consolidation of Parion. Include in your response the unredacted agreement with Parion and references to the specific paragraphs of the agreement that result in your consolidation of Parion.

Response 1

In June 2015, the Company entered into a strategic collaboration and license agreement (the "Agreement") with Parion Sciences, Inc., a development stage biopharmaceutical company ("Parion"), to develop investigational ENaC inhibitors, including VX-371 (formerly P-1037) and VX-551 (formerly P-1055), for the potential treatment of cystic fibrosis and all other pulmonary diseases (the "Licensed Assets"). The Company did not acquire an equity interest in Parion and as a result the voting model pursuant to Accounting Standards Codification ("ASC") 810, "Consolidations", did not apply. However the Company concluded that it was required to consolidate Parion's financial statements into the Company's consolidated financial

statements as of and for the year ended December 31, 2015 after application of the variable interest model pursuant to ASC 810. The Company applied the variable interest model and made the following determinations, which collectively resulted in the conclusion to consolidate Parion:

- Parion is a legal entity;
- None of the scope exceptions to consolidation or the variable interest model apply to Parion;
- The Company has a variable interest in Parion;
- Parion is a variable interest entity; and
- The Company is the primary beneficiary of Parion.

Step 1: Is Parion a legal entity?

Pursuant to ASC-810, the variable interest model applies to legal entities as set forth in ASC 810-10-20 (such as corporations, partnerships and limited liability companies), but does not apply to arrangements that are established by contract but are not conducted through a separate legal entity. Parion is a Delaware corporation and is therefore subject to the application of the variable interest model.

Step 2: Do any of the consolidation or variable interest model scope exceptions apply?

The Company determined that none of the scope exceptions set forth in ASC 810-10-15-12 or ASC 810-10-15-17 applied to Parion.

The Company's analysis of the scope exceptions focused on the "business" scope exception set forth in ASC 810-10-15-17(d). The business scope exception provides that the variable interest model does not apply to a "business" (defined pursuant to ASC-805 as an integrated set of activities and assets that are capable of being conducted and managed for the purpose of providing a return in the form of dividends, lower costs, or other economic benefits directly to investors or other owners, members, or participants) unless one or more of the four conditions set forth in ASC 810-10-15-17(d)(1)-(4) exist. The Company determined that Parion qualifies as a "business" because it has both inputs (intellectual property) and processes being applied to the inputs (employees and research and developments activities) that have the ability to create a return (drug compounds that can be developed to produce a return). The out-license of certain of its assets under the Agreement demonstrates that Parion has the potential to generate a return for its investors through the receipt of license fees and through potential milestone and/or royalty payments. However, the Company also determined that two of the four conditions set forth in ASC 810-10-15-17(d)(1)-(4) existed and that the variable interest model therefore applies to Parion.

This conclusion was based on the following:

- The Company considered whether or not it had participated in the design or redesign of Parion (as provided in ASC 810-10-15-17(d)(1)). Although there were no changes to the legal or equity structure of Parion as a result of the Agreement, the Company concluded that the operations of Parion had been significantly revised since (i) the Licensed Assets include Parion's lead investigational ENaC inhibitors and collectively represent Parion's most significant assets (as discussed in more detail below) and (ii) the Company obtained ultimate decision making authority with respect to the research, development and commercialization of the Licensed Assets

(Section 3.6 of the Agreement). Based on the foregoing, Vertex concluded that it had participated in the redesign of Parion.

- The Company considered whether Parion was designed so that substantially all of its activities either involve or are conducted on behalf of the Company and its related parties (as provided in ASC 810-10-15-17(d)(2)). Under the terms of the Agreement, Parion is responsible for conducting certain development activities related to the Licensed Assets (Section 3.2.3 of the Agreement). The Company concluded that due to the significant fair value of the Licensed Assets, as compared to the fair value of assets comprising Parion's other research and development programs, substantially all of Parion's activities either involve or are being conducted on behalf of the Company.

Step 3: Does the Company have a variable interest in Parion?

After determining that none of the scope exceptions applied, the Company evaluated whether or not the Company has a variable interest in Parion. Under ASC 810, an entity is deemed to have a "variable interest" in assets of another entity if the entity has an interest that will absorb portions of a variable interest entity's expected losses or receive portions of the entity's expected residual returns. In addition, ASC 810-10-25-55 sets forth that a variable interest in specified assets of another entity shall be deemed to be a variable interest in such entity as a whole if the fair value of the specified assets is more than half of the fair value of the entity's total assets. The Company determined that (i) it had a variable interest in the Licensed Assets and (ii) the fair value of the Licensed Assets was more than half of the fair value of Parion's total assets, resulting in the Company having a variable interest in Parion as a whole.

The determination that the Company has a variable interest in the Licensed Assets was based upon the Company's receipt of worldwide development and commercialization rights to the Licensed Assets, which include Parion's lead investigational ENaC inhibitors (Section 2.1 of the Agreement) and the Company's option to select additional compounds discovered in Parion's research (Section 2.7 of the Agreement). The Company determined that the value of the development and commercialization rights was directly related to the value of the Licensed Assets and that the Company has a variable interest in the Licensed Assets since it (i) has the right to receive benefits from the Licensed Assets if they are successfully developed under the collaboration, primarily due to its commercialization rights and (ii) is responsible for all costs, subject to certain exceptions, related to the development and commercialization (Section 3.2 of the Agreement) of the Licensed Assets.

The determination that the fair value of the Licensed Assets was more than half of the fair value of Parion's total assets was based on an evaluation of the fair value of the Licensed Assets, as compared to the fair value of the assets comprising Parion's other research and development programs, including P-321, which is being developed by Parion for the treatment of dry eye disease, and Parion's trans-nasal pulmonary aerosol delivery ("tPAD") system, which is being developed by Parion for use in the treatment of cystic fibrosis and COPD. As part of this evaluation, the Company considered information from discussions with Parion's management team regarding the development status of the P-321 and tPAD programs as well as the management team's expectations regarding the timing, future cost and commercial potential for each program. The Company also analyzed the competitive landscape for each of these programs based on current market conditions. As a result of a comprehensive fair value analysis from a market participant perspective, the Company determined

that the fair value of the Licensed Assets represented significantly more than half of the fair value of Parion's total assets.

Step 4: Is Parion a variable interest entity?

After determining that the Company has a variable interest in Parion, the Company evaluated whether Parion qualified as a variable interest entity ("VIE"). ASC 810-10-15-14 defines a VIE to include, among other things, an entity whose at-risk equity holders lack the power through voting or similar rights to direct the entity's activities that most significantly affect its economic performance.

Under the Agreement, the Company has worldwide development and commercialization rights to the Licensed Assets, which includes Parion's lead investigational ENaC inhibitors (Section 2.1 of the Agreement) and the Company has the option to select additional compounds discovered in Parion's research (Section 2.7 of the Agreement). As discussed above, the Company has ultimate decision making authority with respect to the research, development and commercialization of the Licensed Assets (Section 3.6 of the Agreement). In addition, the Company is leading development activities for VX-371 and is responsible for all costs, subject to certain exceptions, related to VX-371 development and commercialization (Section 3.1 of the Agreement). The Company also leads development activities for VX-551, which is in pre-clinical development (Section 3.2 of the Agreement). As a result, the Company concluded that Parion's equity holders lack the power to direct the activities that most significantly impact Parion's economic performance, as the power to direct Parion's most valuable development program is held by the Company. Accordingly, the Company concluded that Parion is a VIE.

Step 5: Is the Company Parion's primary beneficiary?

The final step to the analysis of whether the Company is required to consolidate Parion, is evaluating whether or not the Company is the primary beneficiary of Parion. ASC 810-10-25-38(a) sets forth that a company is the primary beneficiary of a VIE if the company has the (i) power to direct activities of the VIE that most significantly impact the VIE's economic performance and (ii) obligation to absorb losses of or the right to receive benefits of the VIE that could potentially be significant to the VIE.

As previously discussed, the Company determined that it has the power to direct Parion's most significant development program since it (i) has worldwide development and commercialization rights to the Licensed Assets (Section 2.1 of the Agreement), (ii) is leading development activities for VX-371 and is responsible for all costs, subject to certain exceptions, related to its development and commercialization (Section 3.2 of the Agreement) and (iii) has ultimate decision making authority with respect to the research, development and commercialization of the Licensed Assets (Section 3.6 of the Agreement). In addition, the Company has the right to receive benefits from the Licensed Assets if they are successfully developed under the collaboration, primarily due to its commercialization rights, that could potentially be significant to Parion.

ASC 810-25-38(a) further requires that in considering whether an entity is the primary beneficiary of a VIE, it must consider the variable interests of all "related parties" (as defined by ASC 850) and any entities that qualify as "de facto agents" (as defined under the guidance in ASC 810). Based primarily on the fact that there are no agreements between the Company and the stockholders of Parion and that there are no limitations on the ability of a stockholder to sell, transfer or encumber its interests in Parion without the Company's

consent, the Company concluded that there are no other related parties or de facto agents involved in the Agreement and that the Company was the primary beneficially of Parion.

Unredacted Version of Agreement

Based on the Company's conversation with Ms. Bonnie Baynes, Staff Accountant for the Commission, with your permission the Company has not included an unredacted copy of the Agreement with this response letter, which is the subject of a confidential treatment request granted by the Commission on December 17, 2015 (File No. 0-19319-CF#32779).

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 its filings; 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) 961-5171 or Caroline Wishart at (617) 341-6864 if you have any questions or concerns with respect to this matter.

Very truly yours,

/s/ Paul Silva

Paul Silva
Senior Vice President and Corporate Controller (Principal Accounting Officer)