



UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

Mail Stop 3030

February 3, 2009

Avtar Dhillon, M.D.  
Chief Executive Officer and President  
Inovio Biomedical Corporation  
11491 Sorrento Valley Road  
San Diego, California 92121

**Re: Inovio Biomedical Corporation  
Amendment No. 1 to Form S-4  
Filed January 23, 2009  
File No. 333-156035**

Dear Mr. Dhillon:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, 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. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Amendment No. 1 to Form S-4 dated January 23, 2009

General

1. Please refer to prior comment 1. We note you are aware of the updating requirements of Rule 8-05(b) of Regulation S-X and will update the registration statement to include update financial statement if not effective on or before February 17, 2009.

2. In this regard, please update your financial statements to reflect the adoption of the recently issued FASB pronouncements, SFAS 141(R) and SFAS 160, which were effective beginning after December 31, 2008 (i.e. January 1, 2009 for calendar year-end companies).

VGX Pharmaceuticals, Inc., page 164

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 172

Results of Operations for the Nine Months Ended September 30, 2008 Compared to the Nine Months Ended September 30, 2007, page 176

Liquidity and Capital Resources, page 182

3. Please refer to prior comment 11. We note the revised disclosure regarding the several license agreements that VGX has entered into with various third parties. If any of these agreements have had or are expected to have a material impact on your results of operations or liquidity, Management Discussion and Analysis should describe and quantify the known or expected impact the agreement will have on your financial statements. Please revise or advise.

VGX Pharmaceuticals Financial Statements for the Period Ended September 30, 2008, page F-104

Note 3. Discontinued Operations, page F-88

4. We note that VGX sold their DNA plasmid manufacturing business to their affiliate, VGXI, Inc., a wholly-owned subsidiary of VGX International, in June 2008 and treated the sale as discontinued operations under SFAS 144. Please explain why you believe that the component qualifies for discontinued operations reporting under paragraph 42 of SFAS 144. In your response, please address the fact that (i) VGX owns approximately 30% of VGX International, the parent of VGXI, Inc. and will continue to account for their interest under the equity method; (ii) VGX entered into a license agreement with VGXI, whereby VGX will receive various milestone and royalty payments based on a percentage of sales; and (iii) in December 2008 VGX participated in a secondary offering of VGXI, which is due to close in the first quarter 2009. Note that any significant continuing involvement in the operations of the component after the disposal transaction would preclude discontinued operations reporting. Refer to the guidance in paragraph 42 of SFAS 144 and EITF 03-13 in your response.

Stock-Based Compensation – VGX Pharmaceuticals, page F-113

5. Please refer to prior comment 13. While we see that you have revised to disclose the terms of the re-pricing on page 188, please also revise to discuss in the footnotes to the financial statements, especially in light of the significant compensation expense recorded during the third quarter of fiscal 2008, or tell us why you such disclosure is not required.

Note 9. Commitments, page F-122

6. We note in response to our comment 17, you cite that recognizing grants as revenue, and not as an offset to research and development, is “supported by the provisions of SAB No. 104.” Please explain why SAB 104 supports your accounting. For example, provide us with more details of the contract with DTRA, including the nature of the amounts paid to VGX under the agreement. Clarify if the amounts are intended to be reimbursements for expenses (regardless of when the amounts were remitted). Also, tell us who determines the nature of the research and development and if you are providing any service to DTRA.
7. Please refer to prior comment 18. Significant related party transactions should be disclosed on the face of the financial statements, pursuant to Rule 4-08(k) of Regulation S-X. Revise or tell us why such disclosure is not necessary.

Unaudited Pro Forma condensed Combined Financial Statements, page I-1

8. Please update the purchase price allocation and related disclosures to reflect any preliminary valuations or other studies available as of the most recent practicable date. We note your revised disclosure that “amount preliminary allocated...may change significantly.” We assume that you are not currently aware of any probable material allocations or adjustments, not reflected herein, that are likely to be recorded. Revise disclosure to clarify.

Note 1. Basis of Presentation, page I-7

9. Please revise to reflect the adoption of SFAS 141(R) and SFAS 160, which applies prospectively to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after December 15, 2008.

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As appropriate, please amend your registration statement in response to these comments. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your

responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

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 Act of 1933 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.

Notwithstanding our comments, in the event the company requests acceleration of the effective date of the pending registration statement, it should furnish a letter, at the time of such request, acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

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 our comments on your filing.

We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

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You may contact at Julie Sherman at (202) 551-3254 or Angela Crane, Accounting Branch Chief, at (202) 551-3158 if you have questions regarding these comments. Please contact Celia Soehner at (202) 551-3463 with any other questions.

Sincerely,

Peggy Fisher  
Assistant Director

cc (via facsimile): Shoshannah Katz, Esq. – K&L Gates LLP