



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

Mail Stop 3030

January 6, 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
Registration Statement on Form S-4
Filed December 10, 2008
File No. 333-156035**

Dear Mr. Dhillon:

We have limited our review of your filing to those issues we have addressed in our 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.

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 filing. 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 us at the telephone numbers listed at the end of this letter.

Registration Statement on Form S-4 filed December 10, 2008

General

1. Consideration should be given to the updating requirements of Rule 8-05(b) of Regulation S-X. Updated accountants' consents should be included with any amendment to the filing.

Inovio Biomedical Corporation, page 123

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 141

2. We note your discussions on pages 5 and 72 that the merger will constitute a change in control as defined in certain of your stock option plans and this will result in the acceleration of vesting for all options to purchase shares of Inovio common stock outstanding at the effective date. Please tell us and revise management's discussion and analysis to explain the anticipated impact the acceleration will have on your financial statements, if material.

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

Discontinued Operations, page 179

3. We note the disclosure herein on page 179 that the purchase price of the manufacturing assets of VGX was determined using an independent third party valuation firm. Please revise to clearly disclose the nature and extent of your reliance on the third party for the asset and related purchase price valuation. While you (management) may elect to take full responsibility for valuing the assets, if you disclose you relied on a third party expert for the valuation of these assets, you may need to revise to name the expert and include the consent of the independent valuation firm as an exhibit to the registration statement. Please refer to Securities Act Rule 436 and Question 141.02 of the Compliance and Disclosure Interpretations on Securities Act Sections, which can be found at <http://www.sec.gov/divisions/corpfin/guidance/sasinterp.htm>. Revise or advise.

Liquidity and Capital Resources, page 182

4. Your liquidity discussion does not appear to discuss the impact of your discontinued operations. Please describe how cash flows from discontinued operations are reflected in your cash flows statements, and, if material, quantify those cash flows since they are not separately identified. In addition, you should describe how you expect the absence of cash flows, or absence of negative cash flows, related to the discontinued operations to impact the company's future liquidity and capital resources.

Inovio Biomedical Corporation Financial Statements for the Year Ended December 31, 2007 and 2006, page F-1

Note 16. Inovio AS Acquisition, page F-44

5. We note the disclosure on pages 60 and F-49 that the value assigned to certain patent and intellectual property rights was determined by a valuation specialist in Norway. Please revise to clearly disclose the nature and extent of your reliance on the third party for the asset valuations. As previously noted, while you (management) may take full responsibility for valuing the assets, if you disclose you relied upon a third party expert for the valuation of these assets, you may need to name the expert and include the consent of the independent valuation firm as an exhibit to the registration statement, in compliance with Securities Act Rule 436. Please also refer to Question 141.02 of the Compliance and Disclosure Interpretations on Securities Act Sections, which can be found at <http://www.sec.gov/divisions/corpfin/guidance/sasinterp.htm>. Revise or advise.

VGX Pharmaceuticals Financial Statements for the Year Ended December 31, 2007 and 2006, page F-74

Report of Independent Auditors, page F-75

6. We note that your auditors do not indicate their location on the audit report. Please have your auditors revise their report as appropriate.

Consolidated Statements of Operations, page F-77

7. We note the “losses from equity investment” are reflected as a component of non-operating income. Please tell us why you classify these amounts as non-operating opposed to operating in your statement of operations.
8. We note on page 180 that your research and development expenses include “expansion of the production capacity at the DNA plasmid manufacturing facility, which resulted in unabsorbed labor and overhead.” Please tell us how your definition of research and development expense complies with SFAS 2.

Note 1. Description of the Business and Basis of Presentation, page F-81

Revenue Recognition, page F-83

9. We note that you recorded a significant amount of revenues in 2007, related to product sales; however, your revenue recognition policy does not discuss your revenue recognition policies related to product sales, except to say “the company recognizes revenue upon shipment of product from its facilities.” Please tell us

more about your revenue from product sales and revise your revenue recognition disclosure to clarify.

10. In this regard, we note that you recorded a significant amount of deferred revenue as of December 31, 2007. Please tell us and revise the disclosure to discuss, the nature of your deferred revenue and your related accounting policy.

Note 8. Commitments, page F-94

License Agreements, page F-95

11. We note that you have entered into license agreements and R&D collaboration agreements with several parties that include royalty and milestone payments as part of the terms of the license agreements. Although you disclose the amount and timing of milestone payments for certain agreements, you do not for others. Please revise your disclosure to address our concerns.

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

Note 2. Summary of Significant Accounting Policies, page F-109

Goodwill and Intangible Assets, page F-111

12. We note that you recognized an impairment charge of \$177,768 against the gain on the sale of manufacturing assets to a related party in June 2008 related to the assembled workforce transferred as part of that asset purchase agreement. In addition, we note that you recorded an impairment charge of \$240,808 related to manufacturing contracts that were sold to a related party as part of the asset purchase agreement. Please revise to include the disclosures required by paragraphs 46 and 47 of SFAS 142, as applicable.

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

13. We note your disclosure that the increase in compensation expense was due to the charge related to option re-pricing and acceleration that took place in September 2008. Please tell us and revise your filing to disclose the terms of the re-pricing and acceleration and support that your accounting complied with SFAS 123R.
14. In this regard, we note your disclosure on pages 58 and 187 that the fair value of VGX common stock was determined by an independent valuation firm, Baker Meekins. Please revise to clearly disclose the nature and extent of your reliance on the third party for the common stock valuations. As previously noted, while you (management) may elect to take full responsibility, if you disclose you relied

on a third party expert for the valuation of your stock, you may need to name the expert and include the consent of the independent valuation firm as an exhibit to the registration statement, in compliance with Securities Act Rule 436. Please revise or advise.

Note 3. Discontinued Operations, page F-118

15. We note from your disclosure that you entered into an asset purchase agreement with VGXI, a related company, to divest of assets related to your DNA plasmid manufacturing business. We also note, from your discussion on page F-100, that you recorded a significant amount of property and equipment, intangible assets and goodwill in conjunction with this original acquisition from ADViSYS in February 2007. Please provide us with further clarification for the following: (i) the nature of the business purchased from ADViSYS; (ii) the nature of the business sold to VGXI and (i) the business purpose for selling the business purchased from ADViSYS in 2007.
16. In this regard, we also noted your discussion on page 53, that as a result of the sale of the plasmid manufacturing assets to VGXI, VGX does not have control of certain patents relating to the current manufacturing technology for products used in VGX's pre-clinical and clinical studies. Please explain to us how you have accounted for the patents as part of the sale to VGXI.

Note 9. Commitments, page F-122

17. We note that you are recognizing revenue when reimbursement for incurred expenses is received from the DTRA. We also note, that the costs associated with these research and development agreements are included in research and development expense. Please tell us your consideration of recognizing these grants as an offset to your research and development expense rather than as grant revenues. Please cite the accounting literature that supports your accounting.
18. We note numerous related party transactions discussed in the footnote. 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

Note 1. Basis of Presentation, page I-7

19. We note the disclosure that the purchase price allocation will remain preliminary until Inovio completes a third party valuation of significant tangible and identifiable intangible assets acquired. While you (management) may elect to

- take full responsibility, as previously noted, if you rely on the third party expert for the valuation of these assets, you may need to revise to name the expert and include the consent of the independent valuation firm as an exhibit to the registration statement, in compliance with Securities Act Rule 436. Please revise or advise.
20. We note that approximately \$8.0 million of the purchase price represents purchased in-process technology. Revise the filing to describe the nature and timing of the remaining efforts and related cash requirements necessary to develop the incomplete technology into a commercially viable product. Describe the potential effects on results of operations and financial position if the technology is not successful and timely completed. Finally, describe the current status of the project(s).
 21. We see that the fair value of the Inovio shares used in determining the purchase price was \$0.31 per share and that was based on the average of the closing price of Inovio common stock for the period four days before the December 5, 2008 merger agreement announcement date. Please tell us why you determined this measurement to be appropriate given the guidance provided by paragraph 22 of SFAS 141, which states, in part, that the market price for a reasonable period before and after the date that the terms of the acquisition are agreed to and announced shall be considered in determining the fair value of securities issued. Please advise.
 22. We see that you have included a pro forma adjustment to eliminate the historical goodwill of VGX. Please explain why you have indicated a reference to Note A on the table and how this note provides further explanation with regard to this adjustment.
 23. Please refer to Note (A). Explain the valuation methodology and significant assumptions used to allocate the purchase price to the acquired assets and liabilities, including identifiable intangible assets. Since your purchase price allocation resulted in a decrease from the historical book value of the assets recorded, please tell us how you determined your valuation.
 24. All adjustments should be presented in the form of separate and self-balancing entries. You have combined pro forma adjustments on certain line items. Revise your presentation to separately disclose each of the adjustments, including each separate adjustment to record the assets and liabilities acquired and each separate adjustment to equity. We may have further comments upon review of your revisions.
 25. Please refer to note (B). Revise to explain how you determined the adjustment of \$4,653,948 and reconcile this amount to the fair value in the table in Note 1 that

indicates the fair value of intangible assets, net of the negative goodwill allocation, is \$7,785,000. Also, explain how you have reflected your adjustment to in-process research and development of \$2,171,000 in your pro forma financial statements as indicated in your footnote.

26. Please refer to adjustments (G) and (H). Revise to disclose the expected useful life for the significant assets, including identified intangibles.
27. Please revise to disclose how the pro forma weighted average shares and pro forma basic and diluted earnings per share were determined.

* * * * *

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.

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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.

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 comments on the financial statements and related matters. 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