



DIVISION OF
CORPORATION FINANCE
MAIL STOP 3030

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

April 9, 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. 2 to Form S-4
Filed April 2, 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.

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.

Amendment No. 2 to Form S-4 dated April 2, 2009

Notes to Unaudited Pro Forma Combined Financial Statements, page I-6

Note 1 – Basis of Presentation, page I-8

1. We note that you estimated the total purchase price based on the closing price of your common shares on March 24, 2009. We also note that your stock price has

- been very volatile and, therefore, the purchase price could change significantly. In light of your significant volatility, please revise your disclosure to provide a sensitivity analysis for the range of possible outcomes based upon percentage increases and decreases in the recent stock price or tell us why such disclosure is not required.
2. We note that you have allocated the estimated purchase price to the acquired tangible and intangible assets acquired, liabilities assumed based upon their fair values as of December 31, 2008. Please revise your current presentation to disclose amounts recognized as of the acquisition date for each major class of assets acquired and liabilities assumed, rather than “tangible assets” and “assumed liabilities.” We refer you to paragraphs 68(i) and A107 of SFAS 141R.
 3. Please revise to explain the valuation technique(s) and significant inputs used to measure the fair value of the noncontrolling interest. Refer to the guidance in paragraph 68(p) of SFAS 141R.
 4. We note that you have allocated \$21 million of the purchase price to intangible assets that you have described as “developed technology.” Tell us the nature of the developed technology you have acquired and how you determined the estimated fair value assigned. Consider revising future filings to clarify.
 5. We note that the excess of the fair value of the net assets acquired over the purchase price will result in a bargain purchase option of approximately \$17 million. Given the significance, please tell us and revise your discussion to include a discussion of the factors that contributed to a purchase price that resulted in recognition of a significant gain. Refer to the guidance in paragraph 68(o) of SFAS 141R.

* * * * *

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 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 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