

Mail Stop 6010

May 9, 2007

Amit Kumar, Ph.D.
President and Chief Executive Officer
CombiMatrix Corporation
6500 Harbour Heights Parkway
Suite 301
Mukilteo, WA 98275

**Re: CombiMatrix Corporation
Amendment No. 3 to Registration Statement on Form S-1
Filed May 7, 2007
File No. 333-139679**

Dear Dr. Kumar:

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.

General

1. We note your response to prior comment 2. However, Acacia has filed its quarterly report for the period ended March 31, 2007 without a complete copy of the articles of incorporation, as amended. Therefore, we reissue prior comment 2. Also, please tell us when a Form 8-K should have been filed to include such amendment and whether the absence of such a filing affected Acacia's Form S-3 eligibility.

2. We are not taking a position at this time regarding your analysis and conclusions in your response to prior comment 8.

We will not be able to meet our cash requirements, page 9

3. We note that Acacia has been offering and selling shares of its class of Acacia Research-CombiMatrix stock. Given the pending redemption of that stock, the offer and sale of the Acacia Research-CombiMatrix stock is also an ongoing offer of the CombiMatrix shares that will be used to redeem the Acacia Research-CombiMatrix stock. Therefore, please demonstrate that, throughout the duration of the offer and sale of the Acacia Research-CombiMatrix stock, sufficient shares of Combimatrix stock have been registered for the redemption of all shares of the Acacia Research-Combimatrix stock that have been the subject of the offers. Also note that adequate disclosure regarding the CombiMatrix stock must been made as part of the Acacia Research-Combimatrix stock transactions.

Holders of Terminated Options, page 10

4. Please reconcile your disclosure here that the plan administrator interpreted the plan's meaning with your disclosure on page 66 that the board actually amended the plan without the consent of option holders.

Consolidated Financial Statements

5. We see that Acacia Research Corp has filed its quarterly report for the period ended March 31, 2007 and that the filing includes separate financial statements for the Combimatrix Group. Since it appears that financial information is available for Combimatrix as of March 31, 2007, please tell us how you considered Rule 3-12(a) of Regulation S-X with regard to your obligation to provide updated financial statements through March 31, 2007.

Undertakings, page II-3

6. We reissue prior comment 16 as it applies to providing the undertakings in Regulation S-K Item 512(a).

Exhibits

7. Please update exhibits 5.1 and 8.1 as of the effective date of the registration statement.
8. The letters filed as exhibit 99.2 and 99.3 appear to indicate that you are offering your shares to all the option and warrant holders. Please expand your response to

comment 1 of our letter dated March 23, 2007 to demonstrate that you have registered sufficient securities for this purpose.

9. Please tell us how clause 6 on page 2 of exhibit 8.1 is consistent with the disclosure on page 4 of your prospectus that options will survive the redemption.

* * * * *

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

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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 Kristin Lochhead at (202) 551-3664 or Brian Cascio at (202) 551-3676 if you have questions regarding comments on the financial statements and related matters. You may contact Tim Buchmiller at (202) 551-3635 or me at (202) 551-3617 with any other questions.

Sincerely,

Russell Mancuso
Branch Chief

cc: Raymond A. Lee, Esq.
Steven T. Anapoell, Esq.
Dennis J. Rasor, Esq.
(via fax)