

Mail Stop 6010

April 30, 2007

Mr. William D. Young
Chief Executive Officer
Monogram Biosciences, Inc.
345 Oyster Point Blvd.
South San Francisco, California 94080

**Re: Monogram Biosciences, Inc.
Registration Statement on Form S-3
Filed on March 9, 2007
File Number 333-141193**

Dear Mr. Young:

We have reviewed your response dated April 11, 2007 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.

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 on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

General

1. Please revise your prospectus to provide the disclosure you provided to us in your response letter dated April 11, 2007 in response to our comments.

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As appropriate, please amend your filing 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 supplemental 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.

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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.

Please contact Sonia Barros at (202) 551-3655 or Suzanne Hayes at (202) 551-3675 with any questions.

Sincerely,

Jeffrey P. Riedler
Assistant Director

cc: Steven M. Przesmicki
Cooley Godward Kronish LLP
4401 Eastgate Mall
San Diego, CA 92121