



DIVISION OF
CORPORATION FINANCE

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

December 5, 2013

Via E-mail

Richard Chin, M.D.
President and Chief Executive Officer
Kindred Biosciences, Inc.
1499 Bayshore Highway, Suite 226
Burlingame, California 94010

**Re: Kindred Biosciences, Inc.
Amendment No. 3 to Registration Statement on Form S-1
Filed December 2, 2013
File No. 333-192242**

Dear Dr. Chin:

We have reviewed your registration statement and have the following comment.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comment applies to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to this comment, we may have additional comments.

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1. We note your response to our prior comment 17 from our letter dated October 29, 2013 and your representation on page 80 that the USDA regulates the manufacture of pet biologics. We also note that there is a memorandum of understanding between the Animal and Plant Health Inspection Service and the Food and Drug Administration regarding the procedures for resolving jurisdictional issues concerning the regulation of certain animal products as biologics under the Virus-Serum-Toxin Act or as drugs under the Federal Food, Drug, and Cosmetic Act. Please amend your disclosure to explain that your biologics may be regulated by the FDA, and how your development plans for your biologic product candidates may be impacted if the FDA is the appropriate regulatory authority. Alternatively, please expand your disclosure to include any communications with the FDA or reasoning that leads you to believe that your biologic will necessarily not be regulated by the FDA.

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 the information the Securities Act of 1933 and

all applicable Securities Act rules require. 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 you request acceleration of the effective date of the pending registration statement please provide a written statement from the company 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.

Please refer to Rules 460 and 461 regarding requests for acceleration. 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. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

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You may contact Vanessa Robertson at (202) 551-3649 or Jim Rosenberg at (202) 551-3679 if you have questions regarding comments on the financial statements and related matters. Please contact Matthew Jones at (202) 551-3786, John Krug at (202) 551-3862 or me at (202) 551-3715 with any other questions.

Sincerely,

/s/ Daniel Greenspan for

Jeffrey P. Riedler
Assistant Director

cc: Via E-mail
Sanford J. Hillsberg, Esq.
TroyGould PC
1801 Century Park East, 16th Floor
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