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March 1, 2010

VIA EDGAR, FACSIMILE AND FEDERAL EXPRESS

Mr. Jeffrey P. Riedler, Assistant Director  
Division of Corporation Finance  
United States Securities and Exchange Commission  
100 F Street NE  
Washington, DC 20549

**Re: Sangamo BioSciences, Inc.**  
**Form 10-K for the Fiscal Year Ended December 31, 2008**  
**Filed on March 3, 2009**  
**Supplemental Comment Received February 23, 2010**  
**File Number: 000-30171**

Ladies and Gentlemen:

On behalf of our client, Sangamo BioSciences, Inc. (the "Company" or "Sangamo"), we are responding to the supplemental comment from the staff (the "Staff") of the Securities and Exchange Commission ("SEC") in a letter dated February 23, 2010 (the "Comment Letter") with respect to Sangamo's Annual Report Form 10-K for the fiscal year ended December 31, 2008. The Staff's supplemental comment is repeated below and followed by the Company's response.

- 1. We note your response to comment 1 of our letter dated December 22, 2009 and the accompanying proposed disclosure. With respect to each of the Genentech and OMT agreements, please revise your disclosure to provide the total milestone payments that you could receive for each product that may be developed by Genentech and OMT, respectively, that utilizes technology licensed from Sangamo. Although it is not possible to determine or estimate the aggregate development and commercial milestones under these agreements, as there is no there is no limit to the number of products Genentech and OMT may develop, the aggregate milestones that would apply to each individual product developed are ascertainable.*

In response to the Staff's comments regarding expanded disclosure about the terms of the Research and License Agreement, dated April 27, 2007, with Genentech, Inc. ("Genentech"), the Second Research and License Agreement, dated February 27, 2008, with Genentech, and the License Agreement, dated April 2, 2008, with Open Monoclonal Technology, Inc. ("OMT"), the Company intends to revise its disclosure regarding these agreements in its Form 10-K for the fiscal year ended December 31, 2009.

With respect to the agreements with Genentech, we propose to revise the disclosure under the subheading "Pharmaceutical Protein Production" substantially as follows:

*Genentech Agreements*

In April 2007, we entered into a research and license agreement with Genentech, Inc. pursuant to which we provide Genentech with access to our proprietary ZFN technology for use in mammalian cell-based protein pharmaceutical production. Under the research and license agreement, we developed and delivered to Genentech ZFNs capable of making certain targeted modifications to the genome of an identified Genentech cell line to generate cell lines with novel characteristics for protein pharmaceuticals. In the research and license agreement, we granted Genentech a non-exclusive, worldwide, sublicensable right to use our ZFNs to generate cell lines with novel characteristics for protein pharmaceutical production purposes and to generate the same targeted modifications in the Genentech cell lines using our ZFN technology or any other technology that is covered by our ZFN-related intellectual property. Under the research and license agreement, to date Genentech has paid us a total of \$1.2 million, which consists of an up-front fee, technology access fees and milestone payments for the achievement of research-based milestones. Genentech has continuing obligations to pay us an annual technology access fee and, for each product developed by Genentech containing a protein expressed by the modified cell line created using our ZFN technology, aggregate milestone payments of up to \$5,400,000 upon achievement of specified milestones relating to the development and commercialization of such products. We have retained the sole right, at our discretion, to enforce alleged infringements on our ZFN intellectual property; provided, however, that if we fail to abate such alleged infringements involving modifications to the genome of the identified Genentech cell line within a specified period of time, Genentech has the right to reduce the amount of the milestone payments until we abate such infringement or until there is a final determination regarding the infringement. The research and license agreement continues until the later of ten years or expiration of the last valid patent claim covering the products containing a protein expressed by the modified cell line generated using our ZFN technology or any other technology that is covered by our ZFN-related intellectual property. In addition, Genentech may terminate the research and license agreement upon thirty days written notice. Either party may terminate the agreement upon a material breach by the other party.

In February 2008, we entered into a second research and license agreement with Genentech, which expanded the relationship established in the April 2007 research and license agreement by increasing the number of potential targets in the genome of the identified Genentech cell line against which Genentech may use or apply our ZFN technology in mammalian cell-based protein pharmaceutical production. With respect to each potential target identified by Genentech, Genentech will pay us an up-front fee, an annual on-going technology access fee, and milestone payments upon achievement of specified milestones relating to the construction and delivery of ZFNs. In addition, for each product developed by Genentech containing a protein expressed by a modified cell line using our ZFN technology, Genentech will make aggregate milestone payments of up to \$5,400,000 upon the achievement of specified milestones relating to the development and commercialization of such products. Under the second license and research agreement, to date Genentech has paid us \$275,000 for an up-front

fee, annual technology access fees and the achievement of research-based milestones. We have retained the sole right, at our discretion, to enforce alleged infringements on our ZFP intellectual property; provided, however, that if we fail to abate such alleged infringements involving the modifications to the genome of the identified Genentech cell line relating to the second research and license agreement within a specified period of time, Genentech has the right to reduce the amount of the milestone payments until we abate such infringement or until there is a final determination regarding the infringement. The second research and license agreement continues until the later of ten years or expiration of the last valid patent claim covering the products containing a protein expressed by the modified cell line generated using our ZFN technology or any other technology that is covered by our ZFN-related intellectual property. In addition, Genentech may terminate at any time any research plan or license relating to a designated target. Either party may terminate the agreement upon a material breach by the other party.

In addition, pursuant to a license agreement between Sangamo and Sigma-Aldrich Corporation (“Sigma”), effective as of July 10, 2007, Sigma has the exclusive right to offer certain services to Genentech involving Sangamo’s ZFN technology that are covered under the second research and license agreement. Notwithstanding such exclusive right, Sigma has agreed to permit Sangamo to directly offer the ZFN-related services to Genentech under the second research and license agreement, and in exchange we have and will continue to share certain payments made to us under the second research and license agreement.

With respect to the agreement with OMT, the disclosure under the subheading “Transgenic Animals” will be substantially as follows:

*Open Monoclonal Technologies, Inc.*

In April 2008, we entered into a license agreement with Open Monoclonal Technology, Inc. (“OMT”), pursuant to which we granted a royalty-bearing, non-exclusive, sublicensable worldwide license to OMT for the commercial use of a transgenic animal generated using our ZFP technology. In addition, we have agreed not to transfer ZFPs to third parties for commercial uses similar to OMT’s intended use under the Agreement. In consideration of the license and rights granted to OMT, OMT paid us an upfront license fee, and will pay us for each product created or developed through use of Sangamo’s ZFP technology aggregate milestone payments of up to \$850,000 upon the achievement of certain specified clinical development milestones, a small percentage royalty on sales of any product developed using Sangamo’s ZFP technology and a low single-digit percentage of share of payments received by OMT from sublicensees. For any given OMT Product, OMT has the right to buy out its future royalty payment obligations under the license agreement by paying a lump sum fee to us. To date, OMT has paid us \$250,000 under the license agreement. We have retained the sole right, at our discretion, to take appropriate actions against persons infringing on our transgenic animal related intellectual property. The license agreement shall continue in effect until neither OMT nor we have any further payment obligations. OMT may terminate the license agreement at any time. Either party may terminate the agreement upon a material breach by the other party.

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In connection with the Company's response to the Staff's comments, the Company hereby acknowledges that:

- The Company is responsible for the adequacy and accuracy of the disclosure in the filings;
- Staff comments or changes to disclosure in response to Staff comments in the filings reviewed by the Staff do not foreclose the Commission from taking any action with respect to the filing; and
- The Company may not assert Staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Sangamo respectfully requests the Staff's assistance in completing the review as soon as possible. Please advise us if we can provide any further information or assistance to facilitate your review. Please direct any further comments or questions regarding this letter to the undersigned at (415) 442-1091.

Sincerely,

/s/ Scott D. Karchmer

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Scott D. Karchmer

cc: Michael Rosenthal  
Staff Attorney  
Division of Corporation Finance  
Securities and Exchange Commission

Edward O. Lanphier II  
Chief Executive Officer  
Sangamo BioSciences, Inc

H. Ward Wolff  
Chief Financial Officer  
Sangamo BioSciences, Inc.