

BoXcel Therapeutics, Inc.  
780 East Main Street  
Branford, CT 06405

February 23, 2018

Suzanne Hayes  
Assistant Director  
Office of Healthcare and Insurance  
Division of Corporation Finance  
Securities and Exchange Commission  
100 F. Street, NE  
Washington, DC 20549

**Re: BioXcel Therapeutics, Inc.  
Registration Statement on Form S-1  
Filed January 26, 2018  
CIK No. 0001720893**

Dear Ms. Hayes:

This letter sets forth the responses of BioXcel Therapeutics, Inc., a Delaware corporation (the “**Company**” or “**we**”), to the comments received from the Staff of the Division of Corporation Finance (the “**Staff**”) of the Securities and Exchange Commission (the “**Commission**”) by letter dated February 23, 2018 (“**Comment Letter**”) concerning the Company’s registration statement on Form S-1. In conjunction with this letter, the Company is submitting an amended draft registration statement on Form S-1 (the “**Registration Statement**”) to the Commission. For convenient reference, we have set forth below in bold each of the Staff’s comments set forth in the Comment Letter and have set forth our responses to the numbering of the comments and the headings used in the Comment Letter.

Registration Statement on Form S-1

Risk Factors

Our failure to find third party collaborators, page 39

1. We note your disclosure that you have a collaboration research agreement with Nektar Therapeutics, Inc. Please file this agreement as an exhibit or tell us why you believe that you are not required to pursuant to Item 601(b)(10) of Regulation S-K. Please also disclose the following in the Business section with respect to this agreement:
  - Each parties’ rights and obligations;
  - Termination provisions;
  - Duration of agreement and royalty term;
  - Investment features or share purchases; and
  - Payment provisions, including total up front or execution payments received or paid, aggregate amounts paid or received to date, aggregate future milestone payments to be paid or received, royalty rates, and profit or revenue sharing provisions.

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Response

The Company acknowledges the Staff’s comment and advises the Staff that it has revised page 119 of the Registration Statement in accordance with the Staff’s comment and has filed the collaboration research agreement as exhibit 10.13 to the Registration Statement.

Employment Arrangements, page 146

2. We note your disclosure that Dr. O’Neill currently has a consulting agreement with the company. Please file this agreement as an exhibit or tell us why you believe that you are not required to pursuant to Item 601(b)(10) of Regulation S-K and disclose the material terms of this agreement in this section.

Response

The Company acknowledges the Staff’s comment and advises the Staff that it has revised page 151 of the Registration Statement in accordance with the Staff’s comment and has filed the strategic advisor agreement and the first amendment to the strategic advisor agreement as exhibits 10.14 and 10.15 to the Registration Statement.

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If you have any further comments and/or questions, please contact the undersigned at (203) 643-8060 or Stephen A. Cohen, Esq. at Sheppard, Mullin, Richter & Hampton LLP at (212) 653-8166.

Very truly yours,

/s/ Vimal Mehta  
Vimal Mehta  
Chief Executive Officer

cc: Jeffrey J. Fessler, Sheppard, Mullin, Richter & Hampton LLP  
Stephen A. Cohen, Sheppard, Mullin, Richter & Hampton LLP