

May 25, 2018

**VIA EDGAR AND FEDERAL EXPRESS**

United States Securities and Exchange Commission  
Division of Corporation Finance  
Mail Stop 4720  
100 F Street, N.E.  
Washington, D.C. 20549  
Attention: Dorrie Yale

**Re: AVROBIO, Inc.  
Amendment No. 1 to Draft Registration Statement on Form S-1  
Submitted May 11, 2018  
CIK No. 0001681087**

Dear Ms. Yale:

This letter is submitted on behalf of AVROBIO, Inc. (the “**Company**”) in response to the comments of the staff of the Division of Corporation Finance (the “**Staff**”) of the U.S. Securities and Exchange Commission (the “**Commission**”) with respect to Amendment No. 1 to the Draft Registration Statement on Form S-1 confidentially submitted on May 11, 2018 (“**Amendment No. 1**”), as set forth in your letter dated May 23, 2018 addressed to Geoffrey MacKay, President and Chief Executive Officer of the Company (the “**Comment Letter**”). The Company is concurrently publicly filing its Registration Statement on Form S-1 (the “**Registration Statement**”), which includes changes to reflect responses to the Staff’s comments.

For reference purposes, the text of the Comment Letter has been reproduced herein with responses below each numbered comment. For your convenience, we have italicized the reproduced Staff comments from the Comment Letter. Unless otherwise indicated, page references in the descriptions of the Staff’s comments refer to Amendment No. 1, and page references in the responses refer to the Registration Statement. All capitalized terms used and not otherwise defined herein shall have the meanings set forth in the Registration Statement.

The responses provided herein are based upon information provided to Goodwin Procter LLP by the Company. In addition to submitting this letter via EDGAR, we are sending via Federal Express four (4) copies of each of this letter and Amendment No. 1 (marked to show changes from Amendment No. 1).

Amendment No. 1 to Draft Registration Statement on Form S-1 Submitted on May 11, 2018

Prospectus Summary, page 1

*COMMENT NO. 1: We acknowledge your revised disclosures in response to prior comment 1. However, please further revise your disclosure to remove the statement that lasting benefits have been observed in ongoing clinical trials of third parties. If you wish to keep the statement in the Business section, please expand your disclosure to specifically discuss results from those third party trials.*

RESPONSE: The Company respectfully advises the Staff that it has revised its disclosures on pages 1, 87 and 91 in response to the Staff’s comment.

COMMENT NO. 2: Please expand your revised disclosure in the second paragraph of this section to explain the term “clinically significant.”

RESPONSE: The Company respectfully advises the Staff that it has revised its disclosures on page 87 in response to the Staff’s comment.

If you should have any questions concerning the enclosed matters, please contact the undersigned at (617) 570-1483.

Sincerely,

/s/ James Xu

---

James Xu, Esq.

Goodwin Procter LLP

cc: Geoff MacKay, *AVROBIO, Inc.*  
Katina Dorton, *AVROBIO, Inc.*  
Arthur R. McGivern, Esq., *Goodwin Procter LLP*