

October 8, 2021

VIA EDGAR AND FEDERAL EXPRESSUnited States Securities and Exchange Commission
Division of Corporation Finance
Office of Life Sciences
Mail Stop 4561
100 F Street, N.E.
Washington, D.C. 20549
Attention: Dillon Hagius and Joe McCann**Re: Aura Biosciences, Inc.
 Amendment No. 1 to Draft Registration Statement on Form S-1
 Submitted September 20, 2021
 CIK No. 0001501796**

Dear Ms. Hagius and Ms. McCann:

This letter is submitted on behalf of Aura Biosciences, 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 the Company’s Draft Registration Statement on Form S-1, originally confidentially submitted on August 10, 2021 and resubmitted on September 20 (the “**Draft Registration Statement**”), as set forth in the Staff’s letter, dated September 27, 2021, addressed to Elisabet de los Pinos, Ph.D. (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 and other updates.

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 the Draft Registration Statement, 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.

Amendment No. 1 to Draft Registration Statement on Form S-1 Submitted September 20, 2021**Prospectus Summary****Our Team and Investors, page 3**

- 1. We note your response to prior comment 3. The identification of past investors appears to suggest that potential investors may consider investments made by these investors as a factor in making their investment decisions without knowing the amount of their investment in total or on a per share basis, their investment strategies or whether these*

investors continue to hold their shares. Additionally, as these shareholders are not subject to the reporting requirements of Section 16, investors will not know when they decide to sell their shares. Therefore, we continue to believe the disclosure is inappropriate for the registration statement. Please revise.

RESPONSE: The Company respectfully advises the Staff that it has revised the disclosure on pages 3, 4 and 97 of the Registration Statement in response to the Staff's comment.

Business

Preliminary design of the pivotal trial, page 119

2. We note your response to comment 8. Based on your amended disclosure that you plan to conduct your Phase 3 trial after the first pivotal study, it appears that the "registry trial" mentioned on this page is not your second pivotal trial. As such, we request that you clarify that this second pivotal trial is not the Phase 3 trial. Additionally, please provide more information about the second pivotal trial, including its primary and secondary endpoints and how, if at all, it differs from the first pivotal trial.

RESPONSE: The Company respectfully advises the Staff that it has revised the disclosure on pages 119 and 120 of the Registration Statement in response to the Staff's comment. The second pivotal trial is a Phase 3 randomized trial and the "registry trial" mentioned on page 119 is a Phase 4 registry trial.

Executive Compensation, page 165

3. We note your response to comment 10. Please confirm that you intend to file the new employment agreement for each of the named executive officers as exhibits or tell us why you are filing a form of agreement.

RESPONSE: The Company respectfully advises the Staff that it plans to file the new employment agreement for each of the named executive officers as Exhibits 10.7, 10.8, 10.9 and 10.10.

Principal Stockholders, page 181

4. We note your response to prior comment 11 that no natural person directly or indirectly exercises sole or shared voting and/or dispositive power with respect to the common stock held by Chiesi Ventures, LP. Given the disclosure that that Chiesi Ventures, Inc., as General Partner of Chiesi Ventures, LP, may be deemed to have voting and investment authority over the shares held by Chiesi Ventures, LP, please disclose the natural person or persons who control Chiesi Ventures, Inc, through its board of directors or otherwise.

RESPONSE: The Company respectfully advises the Staff that it has revised the disclosure on page 184 of the Registration Statement in response to the Staff's comment.

If you should have any questions regarding the enclosed matters, please contact the undersigned at (617) 570-1955.

Sincerely,

/s/ Danielle M. Lauzon

Danielle M. Lauzon, Esq.

Cc: Elisabet de los Pinos, Ph.D., President and Chief Executive Officer, Aura Biosciences, Inc.
Julie Feder, Chief Financial Officer, Aura Biosciences, Inc.
Stephanie A. Richards, Esq., Goodwin Procter LLP