Kristen Fortney, Ph.D. Chief Executive Officer BioAge Labs, Inc. 1445A South 50th Street Richmond, California 94804 Re: BioAge Labs, Inc. Amendment No. 2 to Draft Registration Statement on Form S-1  $\,$ Submitted August 5, 2024 CIK No. 0001709941 Dear Kristen Fortney Ph.D.: We have reviewed your amended draft registration statement and have the following comment. Please respond to this letter by providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. If you do not believe this comment applies to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response. After reviewing the information you provide in response to this letter and your amended draft registration statement or filed registration statement, we may have additional comments. Unless we note otherwise, any references to prior comments are to comments in our July 18, 2024 letter. Amendment No. 2 to Draft Registration Statement on Form S-1 Business Indication expansion opportunities, page 143 We note your response to comment 3 and re-issue in part. Please disclose 1. who conducted the third-party cross-over trial, whether it was preclinical or clinical, and specify the thirdparty preclinical literature. August 9, 2024 Page 2 Please contact Eric Atallah at 202-551-3663 or Vanessa Robertson at 202-551-3649 if you have questions regarding comments on the financial statements and related matters. Please contact Jimmy McNamara at 202-551-7349 or Joshua Gorsky at 202-551-7836 with any other questions.

> Sincerely, Division of Office of Life

Corporation Finance

Sciences cc: Julia Forbess