

UNITED STATES SECURITIES AND EXCHANGE COMMISSION WASHINGTON, D.C. 20549

September 11, 2023

Pete O'Heeron Chief Executive Officer FibroBiologics Inc. 455 E. Medical Center Blvd. Suite 300 Houston, TX 77598

Re: FibroBiologics Inc.

Amendment No. 1 to Draft Registration Statement on Form S-1 Submitted August 16, 2023

CIK No. 0001958777

Dear Pete O'Heeron:

We have reviewed your amended draft registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

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 our comments apply 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 these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Amendment No. 1 to Draft Registration Statement on Form S-1 Submitted August 16, 2023

Cover Page

1. Please revise the second paragraph to disclose whether the Series B and B-1 automatically convert to common shares on a 1:1 basis or at a different conversion rate.

Our Current Pipeline, page 3

2. We note your response to prior comment 6. Please clarify development status in the pipeline table by aligning each column header with a respective column. In this regard, we note that it is unclear whether the current table depicts you as having completed Phase 1 trials for CybroCell or whether it depicts you as only having completed Preclinical work.

Pete O'Heeron FibroBiologics Inc. September 11, 2023 Page 2

<u>Management's Discussion and Analysis of Financial Condition and Results of Operations</u> <u>Critical Accounting Estimates</u>

Stock-Based Compensation, page 76

3. We have read your response to prior comment 26. Please expand your disclosure to state that the estimates used to determine stock-based compensation expense will not be necessary to determine the fair value of new awards once the underlying shares begin trading.

Our Solution, page 82

4. We note your revised disclosure in response to prior comment 12. Please revise to identify the safety and efficacy endpoints for the planned Phase 1/2 trial for CybroCell. If the endpoints have not been established then please revise to disclose this point and discuss the steps that you will need to conduct in order to establish the endpoints.

Principal and Registered Stockholders, page 114

5. Please revise the disclosure on page 114 to explain how many of the common shares outstanding are attributable to the automatic conversion of each of the following: (i) the Series B Preferred, (ii) the non-voting common and (iii) the Series A Preferred. Also, tell us whether SpinalCyte LLC/FibroGenesis is a principal and/or Registered Stockholder.

Financial Statements

Note 7- Share Purchase Agreement, page F-11

6. We have read your response to prior comment 25 as it pertains to your share purchase agreement. You state that the purchase agreement represents a derivative but that the fair value prior to public listing is \$0. You also indicated that the commitment fee represents a payment to the purchaser rather than an issuance cost and will be recorded as a reduction to additional paid-in capital when it becomes probable upon a public listing. Further, we note your disclosure, under this heading, that the commitment fee of 2% of the aggregate limit is due no later than one year after a public listing even if no drawdowns are taken. Given your current offering, please tell us how you considered the probability of a public listing in estimating the fair value of your derivative and related commitment fee as of December 31, 2022 and June 30, 2023. In addition, please explain your consideration of filing the share purchase agreement as an exhibit to your next amendment.

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You may contact Angela Connell at 22-551-3426 or Tracie Mariner at 202-551-3744 if you have questions regarding comments on the financial statements and related matters. Please contact Cindy Polynice at 202-551-8707 or Joe McCann at 202-551-6262 with any other questions.

Sincerely,

Division of Corporation Finance Office of Life Sciences

cc: Kelvin Kesse, Esq.