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October 13, 2023

VIA EDGAR AND OVERNIGHT COURIER

Office of Life Sciences
Division of Corporation Finance
Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549
Attention: Cindy Polynice
Joe McCann
Tracie Mariner
Angela Connell

Re: FibroBiologics, Inc.
Amendment No. 1 to Draft Registration Statement on Form S-1
Submitted August 16, 2023
CIK No. 0001958777

Ladies and Gentlemen:

This letter is submitted on behalf of FibroBiologics, Inc. (the "Company") in response to comments of the staff (the "Staff") of the U.S. Securities and Exchange Commission (the "Commission") with respect to the Company's Amendment No. 1 to Draft Registration Statement on Form S-1 confidentially submitted on August 16, 2023 (the "Draft Registration Statement"), as set forth in the Staff's letter dated September 11, 2023 (the "Comment Letter").

Set forth below are the Company's responses to the Staff's comments in the Comment Letter. For reference purposes, the text of the Staff's comments are reproduced in bold below, followed by the Company's response to the comment. The numbered paragraphs below correspond to the numbered comments in the Comment Letter.

Additionally, the Company is concurrently confidentially submitting Amendment No. 2 to the Draft Registration Statement ("Amendment No. 2"), which reflects revisions in response to the Comment Letter and certain other updates. For the convenience of the Staff, we are also sending, by overnight courier, copies of this letter and copies of Amendment No. 2, marked to show changes to the Draft Registration Statement as originally confidentially submitted.

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.

Company Response: In response to the Staff's comment, the Company has revised the referenced disclosure on the cover page of Amendment No. 2 to disclose that Series B Preferred Stock and the Series B-1 Preferred Stock will automatically convert, without the payment of additional consideration by or to the holder thereof, into shares of common stock on a one-for-one basis upon the Direct Listing (as defined in Amendment No. 2).

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.

Company Response: In response to the Staff's comment, the Company has revised the pipeline chart on pages 3 and 79 of Amendment No. 2, by aligning each column header with its respective column, to clarify the present status for each of its product candidates set forth therein.

Management's Discussion and Analysis of Financial Condition and Results of Operations

Critical Accounting Estimates

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.

Company Response: In response to the Staff's comment, the Company has expanded its disclosure in Amendment No. 2 to state that the estimated fair value of its common stock 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

Company Response: In response to the Staff's comment, the Company has revised the referenced disclosure in Amendment No. 2 to identify the safety and efficacy endpoints for the planned Phase 1/2 trial for CybroCell.

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.

Company Response: In response to the Staff's comment, the Company has revised the referenced disclosure in Amendment No. 2 to explain how many of the shares of common stock that will be outstanding upon the Direct Listing for principal and Registered Stockholders (as defined in Amendment No. 2) are attributable to the automatic conversion of (i) the non-voting common stock, (ii) the Series B Preferred Stock, and (iii) the Series B-1 Preferred Stock.

The Series A Preferred Stock, all of which are held by SpinalCyte LLC/FibroGenesis, will be automatically eliminated/cancelled, without the payment of additional consideration by or to the holder thereof, upon the Direct Listing, in accordance with the terms of the ROFN Agreement (as defined in Amendment No. 2). Other than the Series A Preferred Stock, all of which will be eliminated/cancelled as aforesaid, SpinalCyte LLC/FibroGenesis does not own any other shares of the Company's capital stock. The Company has revised the disclosure under the section titled "Principal and Registered Stockholders" to state the foregoing.

Financial Statements

Note 7- Share Subscription 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.

Company Response:

The derivative resulting from the Share Purchase Agreement (as defined in Amendment No. 2) is effectively a put option to issue shares at a 10% discount. In determining a fair value of \$0 for this derivative, the Company considered that (i) no shares have been sold and there is no obligation to sell shares in the future under this agreement so the upfront transaction price associated with the Share Purchase Agreement is \$0 and equal to the fair value of the derivative and (ii) the derivative may reasonably be determined to have \$0 fair value because a discount would likely be required by a market participant to purchase a large number of shares in the future.

The Company considered the probability of the commitment fee as part of its accounting for the Share Purchase Agreement but does not consider public listing to be "probable" until it occurs due to the uncertainty that remains even after a registration statement has been filed. This conclusion is consistent with the guidance found in Section 3.3.3.1 of PWC Viewpoint on Stock-Based Compensation, which states "[b]ecause an initial public offering is not probable until it occurs (i.e., until the offering closes), liability accounting would begin on the date of the initial public offering."

The Company has obtained the requisite consent and has included the Share Purchase Agreement as an Exhibit to Amendment No. 2.

Remainder of page intentionally blank. Signature page follows.

Should the Staff have additional questions or comments regarding this submission, please do not hesitate to contact the undersigned at (713) 651-5557 or brian.fenske@nortonrosefulbright.com.

Sincerely,

NORTON ROSE FULBRIGHT US LLP

/s/ Brian P. Fenske

Brian P. Fenske

Enclosure cc: Pete O'Heeron, Chief Executive Officer Mark Andersen, Chief Financial Officer **FibroBiologics, Inc.**

Kelvin Kesse Norton Rose Fulbright US LLP