

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

June 21, 2021

Jeff Ross Chief Executive Officer Miromatrix Medical Inc. 10399 West 70th Street Eden Prairie, MN 55344

> Re: Miromatrix Medical Inc. Amendment No. 3 to Registration Statement on Form S-1 Filed June 17, 2021 File No. 333-256649

Dear Mr. Ross:

We have reviewed your amended 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 amending your registration statement and providing the requested information. 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 any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments. Unless we note otherwise, our references to prior comments are to comments in our June 14, 2021 letter.

Form S-1 amended June 17, 2021

Capitalization, page 58

1. We note your response to comment 1. Please also provide similar pro forma information for the year ended December 31, 2020. Refer to Rule 11-02(c)(2) of Regulation S-X.

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Dilution, page 60

2. You disclose that the pro forma net tangible book value as of March 31, 2021 was approximately \$15.4 million after giving effect to the automatic conversion of your preferred stock outstanding into an aggregate of 11,439,536 shares of common stock immediately prior to the completion of this offering. It appears that this pro forma net tangible book value amount is also giving effect to the \$20 million Private Placement which took place in May 2021 consistent with the pro forma balance sheet disclosures provided on page 12. Please advise or revise your disclosures as necessary to clarify all of the transactions being given effect to in the pro forma net tangible book value amount.

You may contact Nudrat Salik at 202-551-3692 or Brian Cascio at 202-551-3676 if you have questions regarding comments on the financial statements and related matters. Please contact Alan Campbell at 202-551-4224 or Joe McCann at 202-551-6262 with any other questions.

Sincerely,

Division of Corporation Finance Office of Life Sciences

cc: Jonathan Zimmerman