



DIVISION OF
CORPORATION FINANCE

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

May 25, 2021

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

Re: Miromatrix Medical Inc.
Amendment No. 1 to Draft Registration Statement on Form S-1
Submitted May 6, 2021
CIK No. 0001527096

Dear Mr. Ross:

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

Business

Overview of the Decellularization and Recellularization Processes, page 79

1. We note your response to prior comment 13. Please revise your disclosure in the second paragraph on page 80 to reference whether the studies described in your disclosure were conducted using human organ matrices or animal organ matrices.

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Pursuing an Efficient Regulatory Pathway, page 83

2. We note your revised disclosure in response to prior comment 7. Please revise to indicate whether you have received feedback from FDA staff or other regulators concerning the classification and regulatory pathway. To the extent that you have not received feedback from regulators, please revise your disclosure on page 3 to clarify this point.

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