



DIVISION OF
CORPORATION FINANCE

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

May 16, 2018

Jason Gardner
President and Chief Executive Officer
Magenta Therapeutics, Inc.
50 Hampshire Street
Cambridge, Massachusetts 02139

Re: Magenta Therapeutics, Inc.
Amendment No. 1 to Draft Registration Statement on Form S-1
Submitted May 8, 2018
CIK No. 0001690585

Dear Dr. Gardner:

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

Prospectus Summary

Our Current Program Pipeline, page 4

1. We note your response to our prior comment 4. Please remove C100, C200, C300, E478 and G100 from the pipeline table. We do not object to a discussion of each program below the table, but research and discovery activities that precede the identification of a product candidate are too remote to be highlighted in the pipeline table.

Jason Gardner
Magenta Therapeutics, Inc.
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Business

Clinical history of MGTA-456

Initial first-in-human studies: double blood cord transplant, page 123

2. We note your statement on page 124 that infusion of MGTA-456 showed a "favorable safety profile" overall. This is a conclusion that is within the FDA's authority. Please remove this statement.

Principal Stockholders, page 189

3. Please revise your disclosure to identify the natural person or persons who have voting and investment control of the shares held by the entities affiliated with Casdin Partners, LP.

You may contact Vanessa Robertson at 202-551-3649 or Sharon Blume at 202-551-3474 if you have questions regarding comments on the financial statements and related matters. Please contact Irene Paik at 202-551-6553 or Ada D. Sarmiento at 202-551-3798 with any other questions.

Division of Corporation Finance
Office of Healthcare & Insurance

cc: William D. Collins - Goodwin Procter