

Irene Paik  
Ada D. Sarmento  
Office of Healthcare and Insurance  
Division of Corporation Finance  
Securities and Exchange Commission  
100 F Street, N.E.  
Washington, D.C. 20549

**Re: Magenta Therapeutics, Inc.  
Registration Statement on Form S-1  
Filed May 24, 2018  
File No. 333-225178**

Dear Ms. Paik and Ms. Sarmento:

On behalf of our client, Magenta Therapeutics, Inc. (the “**Company**”), we are responding to the comment from the Staff (the “**Staff**”) of the Securities and Exchange Commission (the “**Commission**”) relating to the Company’s Registration Statement on Form S-1 (the “**Registration Statement**”) contained in the Staff’s letter dated June 6, 2018 (the “**Comment Letter**”). In response to the comment set forth in the Comment Letter, the Company has revised the Registration Statement and is publicly filing its Amendment No. 1 to the Registration Statement on Form S-1 (“**Amendment No. 1**”) together with this response letter. Amendment No. 1 also contains certain additional updates and revisions. We are also sending, under separate cover, a copy of Amendment No. 1 (including exhibits) and four marked copies of Amendment No. 1 showing the changes to the Registration Statement publicly filed on May 24, 2018.

Set forth below is the Company’s response to the Staff’s comment in the Comment Letter. The response and information below are based on information provided to us by the Company. For convenience, the Staff’s comment is repeated below in italics, followed by the Company’s response to the comment as well as a summary of the responsive actions taken. We have included page numbers to refer to the location in Amendment No. 1 submitted herewith where the revised language addressing a particular comment appears. Capitalized terms used but not defined herein are used herein as defined in Amendment No. 1.

Registration Statement on Form S-1

Prospectus Summary

Our Current Programs, page 4

1. *We note your response to our prior comment 1. While we do not object to the presentation of your most advanced discovery programs as a graphic in the Business section or the narrative discussion of such programs following the graphic in the Prospectus Summary, we believe that presenting these programs as a prominent graphic on page 4, in the forepart of the prospectus, is not appropriate given that product*

*candidates have yet to be identified and these programs remain in the discovery phase. Please revise to remove this graphic from page 4.*

Response to Comment No. 1: The Company acknowledges the Staff's comment and respectfully advises the Staff that the Company has removed its preclinical development programs graphic on page 4 of Amendment No. 1.

Should you have any further comments or questions with regard to the foregoing, please contact the undersigned at 617-570-1447.

Sincerely,

/s/ William D. Collins  
William D. Collins

Enclosures

cc: Jason Gardner, *Magenta Therapeutics, Inc.*  
Zoran Zdraveski, *Magenta Therapeutics, Inc.*  
Mitchell S. Bloom, *Goodwin Procter LLP*  
Deanna L. Kirkpatrick, *Davis Polk & Wardwell LLP*