

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

May 25, 2017

Anna Protopapas President and Chief Executive Officer Mersana Therapeutics, Inc. 840 Memorial Drive Cambridge, MA 02139

Re: Mersana Therapeutics, Inc.

Amendment No. 2 to Draft Registration Statement on Form S-1

Submitted May 16, 2017 CIK No. 0001442836

Dear Ms. Protopapas:

We have reviewed your amended draft registration statement and have the following comment.

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 comment applies 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 this comment and your amended draft registration statement or filed registration statement, we may have additional comments. Unless we note otherwise, our references to prior comments are to comments in our May 8, 2017 letter.

DRS/A filed 05/12/2017

Prospectus Summary Overview, page 1

1. We note your response to prior comment 1. We do not object to the inclusion of the undisclosed product candidate programs in the graphic in the Business section or the narrative discussion following the graphic in the Summary; however, we continue to believe that including these programs in the prominent graphic on page 1, in the forepart of the prospectus, is not appropriate given that these candidates are undisclosed, remain in the discovery phase, and may never reach the preclinical development stage or any of the clinical stages. The graphic suggests that these undisclosed, discovery-phase programs

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will eventually progress through the stages of development that are reflected in the graphic. Please revise to remove these from the graphic on page 1. See Item 503(a) of Regulation S-K and Securities Act Rule 421(d)(3). Alternatively, to the extent you continue to believe that including these programs in the graphic is appropriate given their materiality to your business, you should identify and describe each of these candidates in the appropriate section of your prospectus.

You may contact Keira Nakada at 202-551-3659 or Sharon Blume at 202-551-3474 if you have questions regarding comments on the financial statements and related matters. Please contact Mary Beth Breslin at 202-551-3625 with any other questions.

Division of Corporation Finance Office of Healthcare and Insurance

cc: Marc A. Rubenstein