



DIVISION OF  
CORPORATION FINANCE

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

April 16, 2017

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

**Re: Mersana Therapeutics, Inc.  
Draft Registration Statement on Form S-1  
Submitted March 17, 2017  
CIK No. 0001442836**

Dear Ms. Protopapas:

We have reviewed your 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.

Draft Registration Statement on Form S-1 submitted March 17, 2017

Prospectus Summary  
Overview, page 1

1. We note your statements here and in the Business section that your proprietary technology enables you to design product candidates to have improved efficacy, safety and tolerability relative to existing products, and that in preclinical models, your candidates demonstrated "a significant increase in efficacy" compared to traditional ADCs or demonstrated efficacy where alternative ADCs have shown weak or no efficacy. We further note the statement on page 3 that you have established that XMT-1522 has an "acceptable safety profile." Please revise your disclosure to eliminate any

suggestion that your candidates have been or will ultimately be determined to be safe or effective or to have demonstrated efficacy for purposes of granting marketing approval by the FDA or comparable agency, including comparisons to the current standard of care.

2. Please revise your table here and in the Business section to remove the programs that are in the discovery phase. Because you have not identified a product candidate for these programs, it is premature to include them in a product pipeline table.
3. Please include a column for each of Phase 2 and Phase 3 in your product pipeline table.

Implications of being an emerging growth company, page 5

4. Please supplementally provide us with copies of all written communications, as defined in Rule 405 under the Securities Act, that you, or anyone authorized to do so on your behalf, present to potential investors in reliance on Section 5(d) of the Securities Act, whether or not they retain copies of the communications.

Management's Discussion and Analysis of Financial Condition and Results of Operations  
Critical Accounting Policies and Estimates  
Stock-Based Compensation  
Determination of Fair Value of Common Stock on Grant Dates, page 72

5. Once you have an estimated offering price or range, please explain to us how you determined the fair value of the common stock underlying your equity issuances and the reasons for any differences between the recent valuations of your common stock leading up to the IPO and the estimated offering price. For example, explain the reasons for the 40% increase in your common stock fair value from December 29, 2016 to March 3, 2017. This information will help facilitate our review of your accounting for equity issuances including stock compensation and beneficial conversion features.

Business  
XMT-1536: our NaPi2b-targeted ADC  
Unmet need and epidemiology, page 96

6. Please expand your disclosure to describe how the development and commercialization of XMT-1536 may be impacted by the potential need for a companion diagnostic test. Include risk factor disclosure, if appropriate.

Strategic Partnerships, page 99

7. Please expand to disclose the royalty terms of the agreements described in this section.

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Page 3

Executive and Director Compensation  
Director Compensation, page 130

8. We note that you have entered into employment agreements with Ms. Jack and Mr. Kaufman, as referenced in Exhibits 10.17 and 10.20, respectively. Please disclose the material terms of these agreements within the prospectus.

Notes to Consolidated Financial Statements

3. Collaboration Agreements, page F-17

9. Please describe each material milestone and quantify related contingent consideration. Refer to ASC 605-28-50.
10. You disclose the Company is accounting for the Post-Phase 1 Development activities under the XMT-1522 Agreement in accordance with ASC 808, Collaborative Arrangements. Please disclose the income statement classification and amounts attributable to transactions arising from this arrangement between participants for each period an income statement is presented. Refer to ASC 808-10-50-1d.

7. Convertible Preferred Stock  
Conversion, page F-17

11. Please describe the dilutive events that will trigger the conversion price to adjust and how the conversion price will be adjusted.

General

12. Please provide us proofs of all graphics, visual, or photographic information you will provide in the printed prospectus prior to its use, for example in a preliminary prospectus. Please note that we may have comments regarding this material.

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 Josh Samples at 202-551-3199 or Mary Beth Breslin at 202-551-3625 with any other questions.

Division of Corporation Finance  
Office of Healthcare and  
Insurance

cc: Marc A. Rubenstein