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June 2, 2017

FOIA CONFIDENTIAL TREATMENT REQUEST

The entity requesting confidential treatment is
Mersana Therapeutics, Inc.
840 Memorial Drive
Cambridge, MA 02139
Attn: Eva Jack, Chief Business Officer
Telephone: (617) 715-8233

CERTAIN PORTIONS OF THIS LETTER HAVE BEEN OMITTED FROM THE VERSION FILED VIA EDGAR. CONFIDENTIAL TREATMENT HAS BEEN REQUESTED WITH RESPECT TO THE OMITTED PORTIONS. INFORMATION THAT WAS OMITTED IN THE EDGAR VERSION HAS BEEN NOTED IN THIS LETTER WITH A PLACEHOLDER IDENTIFIED BY THE MARK “[*].”**

VIA EDGAR AND HAND DELIVERY

United States Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Washington, D.C. 20549

Attention: Mary Beth Breslin — Legal
Keira Nakada/ Sharon Blume — Accounting

**RE: Mersana Therapeutics, Inc.
Registration Statement on Form S-1
Filed June 1, 2017
File No. 333-218412
CIK No. 0001442836**

Ladies and Gentlemen:

This letter is being submitted on behalf of Mersana Therapeutics, Inc. (the “Company”) to supplementally provide the Staff (the “Staff”) of the U.S. Securities and Exchange Commission (the “Commission”) with additional information with respect to the above-referenced registration statement (the “Registration Statement”) that was filed with the Commission on June 1, 2017.

To assist the Staff of the Commission in the review of the Registration Statement, the Company advises the Staff that the managing underwriters in the initial public offering (“IPO”) have communicated to the Company that

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they currently expect the proposed price range for the common stock to be between \$[***] to \$[***] per share, before giving effect to a reverse stock split (the “Stock Split”) to be implemented prior to the consummation of the IPO. The anticipated price range for this offering is based on a number of factors, including the prevailing market conditions and estimates of the Company’s business potential, the general condition of the securities market, the recent market prices of, and the demand for, publicly traded common stock of generally comparable companies and preliminary discussions with the underwriters for this offering regarding potential valuations of the Company. The actual *bona fide* price range to be included in a subsequent amendment to the Registration Statement has not yet been determined and remains subject to adjustment based on factors outside of the Company’s control. However, the Company believes that the actual *bona fide* price range will be within this estimated price range. In addition, the actual price range to be included in such amendment will comply with the Staff’s interpretation regarding the parameters of a *bona fide* price range.

We confirm on behalf of the Company that, prior to circulating copies of the preliminary prospectus in connection with the IPO, the Company will file a pre-effective amendment to the Registration Statement that will include all information other than information that may be excluded in reliance upon Rule 430A of Regulation C, and the actual price range to be included in such amendment will comply with the Staff’s interpretation regarding the parameters of a *bona fide* price range.

Grant Date Fair Value Determinations

In response to Comment 5 in the Staff’s letter to the Company dated April 16, 2017, the Company would like to supplementally provide the following information to the Staff regarding recent valuations of the Company’s common shares leading up to the IPO.

August 30, 2016 and September 16, 2016 Option Grants. The Company obtained a third-party valuation of its common stock as of June 14, 2016, which resulted in an estimated fair value of common stock of \$0.91 per share. The valuation was prepared using a hybrid method which probability weighted the IPO and option pricing model (“OPM”) scenarios. This valuation was considered by the board of directors in its determination of the fair value of common stock of \$0.91 per share for 2,263,708 and 150,000 options granted on August 30, 2016 and September 16, 2016, respectively. Among the qualitative factors considered by the board of directors in determining the fair value of the Company’s common stock were the following developments in the Company’s business:

- On June 14, 2016 the Company completed a Series C-1 convertible preferred stock financing at \$2.25 per share. This financing was led by new investors. The difference in value between the common stock and the Series C-1 convertible preferred stock was primarily due to the significant rights and preferences associated with the Series C-1 convertible preferred stock.

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- The Company completed investigational new drug application (“IND”) enabling studies for its lead product candidate, XMT-1522, and was on track to meet its timeline for the filing of the XMT-1522 IND and the Company continued to advance its second product candidate, XMT-1536, towards IND-enabling studies.

The third-party valuation as of June 14, 2016 was prepared contemporaneously with the Series C-1 convertible preferred stock financing. The probability weighting for a scheduled IPO was 40% and the projected IPO timing was December 2017.

December 29, 2016 and January 9, 2017 Option Grants. The Company obtained a third-party valuation of its common stock as of November 28, 2016, which resulted in an estimated fair value of common stock of \$1.11 per share. The valuation was prepared using a hybrid method which probability weighted the IPO and OPM scenarios. This valuation was considered by the board of directors in its determination of the fair value of common stock of \$1.11 per share for 644,000 and 235,000 options granted on December 29, 2016 and January 9, 2017, respectively. Among the qualitative factors considered by the board of directors in determining the fair value of the Company’s common stock were the following developments in the Company’s business:

- The Company continued to advance its lead product candidates and expand its pipeline, including the completion of IND filing and receipt of IND clearance in October 2016 to begin Phase 1 clinical trials for its lead product candidate, XMT-1522, and the continued advancement of its second product candidate, XMT-1536, towards IND-enabling studies.
- The Company received a \$20 million milestone from Takeda in connection with the XMT-1522 IND clearance.
- The third-party valuation as of November 28, 2016, in which the probability weighting for a scheduled IPO was 40% and the projected IPO timing was June 2017.

March 3, 2017 and March 14, 2017 Option Grants. The Company obtained a third-party valuation of its common stock as of January 30, 2017, which was prepared using a hybrid method which probability weighted the IPO and OPM scenarios and resulted in an estimated fair value of common stock of \$1.55 per share. This valuation was considered by the board of directors in its determination of the fair value of common stock of \$1.55 per share for 198,410 and 1,559,000 options granted on March 3, 2017 and March 14, 2017, respectively. Among the qualitative factors considered by the board of directors in determining the fair value of the Company’s common stock were the following developments in the Company’s business:

- The Company completed dosing of two patients in the first cohort of the XMT-1522 Phase 1 clinical trial and the Company completed manufacturing activities and initiated IND-enabling studies related to its second product candidate, XMT-1536.

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- The Company selected investment bankers for the IPO and scheduled an organizational meeting for February 8, 2017.
- The third-party valuation as of January 30, 2017, in which the probability weighting for a scheduled IPO was 50% and the projected IPO timing was June 2017. The increases in the IPO probability assumption and the estimated equity value were the significant factors causing the 40% increase in the estimated fair market value of the Company’s common stock from the December 29, 2016 and January 9, 2017 grants to the March 3, 2017 and March 14, 2017 grants.

The Company has not issued any stock option grants since March 14, 2017.

Estimated Initial Public Offering Price

The estimated price range for this offering was determined with reference to several quantitative and qualitative factors. On May 31, 2017, the Company and the underwriters determined the estimated price range, which is \$[***] to \$[***] per share, before giving effect to the Stock Split. As noted above, the Company’s estimate of the fair value of its common stock was \$1.55 per share, as of March 14, 2017. The estimate of the Company’s fair value of its common stock was based upon considerations including a third-party valuation of the Company’s common stock that applied a hybrid pricing model which probability weighted the IPO and the option pricing model (OPM) scenarios. The Company notes that, as is typical in initial public offerings, the price range for this offering was not derived using a formal determination of fair value, but was determined based upon discussions between the Company and the underwriters. The factors considered in setting the price range for this offering were as follows.

- a fundamental analysis of the business including a discounted cash flow valuation;

- an analysis of the typical valuation ranges seen in recent IPOs for companies in the Company's industry;
- the general condition of the securities market and the recent market prices of, and the demand for, publicly traded common stock of generally comparable companies;
- our belief that the public trading market would remain receptive to clinical-stage biotechnology companies developing therapies for cancer such as the Company; and
- our belief that there would be sufficient demand for the Company's common stock to support an offering of the size contemplated by the Company and the underwriters based on the response to and feedback from the Company's Testing-the-Waters meetings that took place in April and May 2017.

The Company believes that the difference in value reflected between the midpoint of the estimated price range for this offering and the board of directors' determination of the fair value of the Company's common stock on March 14, 2017 was primarily the result of the following subsequent events and circumstances:

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- The Company continued to advance its lead product candidate, including the continued progress on the Company's Phase I clinical trial for XMT-1522. Between March 14, 2017 and June 1, 2017, the Company completed enrollment in the second and third cohorts of the clinical trial.
- The Company continued to advance its lead product candidate and expand its pipeline including (i) the continuation of IND-enabling studies, including GLP toxicity studies, on its second product candidate, XMT-1536, and (ii) the continued identification and evaluation of new targets for future product candidates.
- The estimated price range for this offering is based only upon a scenario in which the Company completes this offering and is not probability weighted, in contrast to the Company's prior valuations of the Company's common stock, which considered multiple potential outcomes and resulted in a lower value of the Company's common stock than the estimated price range for this offering. For the March 14, 2017 grant date, the Company's board of directors' considerations included a third-party valuation in which the probability weighting for a scheduled IPO was 50%.
- The IPO price necessarily assumes that the IPO has occurred and that a public market for the Company's common stock has been created, and, therefore, it excludes any discount for lack of marketability of the Company's common stock, which was taken into account in the Company's determination of the fair value of its common stock. In the third-party valuation considered by the Company's board of directors for the March 14, 2017 grants, the discount for lack of marketability applied to the IPO and OPM scenarios was 9% and 17%, respectively.
- The significant benefits the Company expects to accrue as a result of becoming publicly traded through the IPO, including (i) a substantial increase in the Company's cash position after receiving the net proceeds from the IPO, (ii) becoming fully funded through the completion of proof-of-concept clinical studies for its lead product candidate, XMT-1522, and IND-enabling and clinical studies for its second product candidate, XMT-1536, (iii) an improved ability of the Company to raise equity and debt capital going forward, and at a lower expected cost of capital and with reduced borrowing costs, as a result of being a publicly traded company, and (iv) the expected increased attractiveness of the Company's equity as a currency to raise capital, compensate employees and complete other strategic transactions.
- The Company's currently outstanding convertible preferred stock has substantial economic rights and preferences superior to the Company's common stock. The IPO price assumes the conversion of the Company's convertible preferred stock to common stock upon the completion of this offering and the corresponding elimination of such superior economic rights and preferences.

The Company believes the anticipated price range for this offering is reasonable based on the above-referenced factors. The Company also refers you to the discussion of its general approach of determining fair value of equity awards set forth in the Registration Statement under the heading "Management's discussion

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and analysis of financial condition and results of operations—Critical accounting policies and significant judgments and estimates—Stock-based compensation" for additional background regarding its equity grant valuation methodologies to date.

Because of the financially sensitive nature of the estimated price range, the Company requests confidential treatment under 17 C.F.R. § 200.83 of the contents of this letter and has submitted a separate request for confidential treatment in accordance therewith to the Commission's Office of Freedom and Information Privacy Act Operations. Pursuant to Rule 418 under the Securities Act of 1933, as amended (the "Securities Act"), the information contained in this letter is being provided to the Commission on a confidential supplemental basis only and is not to be filed with or deemed part of the Registration Statement. The Company respectfully requests that the Staff return the unredacted version of this letter to it pursuant to Rule 418 of the Securities Act once the Staff has completed its review. We have provided a self-addressed stamped envelope for this purpose. Kindly acknowledge receipt of this letter by stamping the enclosed copy of this letter and returning it in the envelope provided.

* * * * *

If you have any questions or comments regarding the foregoing, or if there is any additional information that we might provide to assist the Staff's review, please contact the undersigned at (617) 951-7826.

Sincerely,

/s/ Marc A. Rubenstein

Marc A. Rubenstein

cc: Eva M. Jack (Mersana Therapeutics, Inc.)
William J. Michener (Ropes & Gray LLP)