UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

FORM S-8

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

MERSANA THERAPEUTICS, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

840 Memorial Drive, Cambridge, MA

(Address of Principal Executive Offices)

04-3562403

(I.R.S. Employer Identification No.)

02139

(Zip Code)

Mersana Therapeutics, Inc. 2017 Stock Incentive Plan Mersana Therapeutics, Inc. 2017 Employee Stock Purchase Plan

(Full title of the plans)

Anna Protopapas President and Chief Executive Officer 840 Memorial Drive Cambridge, MA 02139

(Name and address of agent for service)

(617) 498-0020

(Telephone number, including area code, of agent for service)

Please send copies of all communications to:

Marc A. Rubenstein

Ropes & Gray LLP Prudential Tower 800 Boylston Street Boston, MA 02199-3600 617-951-7000

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer, "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer o Non-accelerated filer o Accelerated filer x Smaller reporting company x Emerging growth company x

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act. x

CALCULATION OF REGISTRATION FEE

Title of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount Registrati Fee	
Mersana Therapeutics, Inc. 2017 Stock Incentive Plan					
- Common Stock, \$0.0001 par value per share	929,378 shares(2)	4.35(4) \$	4,042,794.30	\$ 4	489.99
Mersana Therapeutics, Inc. 2017 Employee Stock					
Purchase Plan — Common Stock, \$0.0001 par					
value per share	232,344 shares(3)	\$ 4.35(4) \$	1,010,696.40	\$ 1	122.50
TOTAL	1,161,722 shares	\$	5,053,490.70	\$ 6	512.48

- (1) Pursuant to Rule 416(a) under the Securities Act of 1933, this Registration Statement also covers such additional shares of Common Stock as may issued to prevent dilution from stock splits, stock dividends and similar transactions.
- (2) Represents 929,378 shares of Common Stock that were automatically added to the shares authorized for issuance under the Mersana Therapeutics, Inc. 2017 Stock Incentive Plan (the "2017 Plan") on January 1, 2019 pursuant to an "evergreen" provision contained in the 2017 Plan. The "evergreen" provision provides that on each January 1st from January 1, 2018 through January 1, 2027, the number of shares of Common Stock available for issuance under the 2017 Plan will automatically increase annually in an amount equal to the lesser of 4% of outstanding shares of the registrant's Common Stock as of the close of business on the immediately preceding December 31st or the number of shares determined by the registrant's board of directors.
- Represents 232,344 shares of Common Stock that were automatically added to the shares authorized for issuance under the Mersana Therapeutics, Inc. 2017 Employee Stock Purchase Plan (the "ESPP") on January 1, 2019 pursuant to an "evergreen" provision contained in the ESPP. The "evergreen" provision provides that on each January 1st from January 1, 2018 through January 1, 2027, the number of shares of Common Stock available for issuance under the ESPP will automatically increase annually in an amount equal to the lesser of 450,000 shares of Common Stock, 1% of outstanding shares of the registrant's Common Stock as of the close of business on the immediately preceding December 31st or the number of shares determined by the registrant's board of directors.
- (4) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(h) based on the average of the high and low prices of the registrant's Common Stock as reported on the Nasdaq Global Select Market on March 7, 2019 to be \$4.69 and \$4.00, respectively.



EXPLANATORY NOTE

This Registration Statement has been filed by Mersana Therapeutics, Inc. (the "Registrant") to register 929,378 additional shares of common stock to be offered pursuant to the Mersana Therapeutics, Inc. 2017 Stock Incentive Plan and 232,344 additional shares of common stock to be offered pursuant to the Mersana Therapeutics, Inc. 2017 Employee Stock Purchase Plan.

This Registration Statement relates to securities of the same class as those that were previously registered by the Registrant on Form S-8 (File No. 333-219388), filed with the Securities and Exchange Commission on July 21, 2017 (the "2017 Registration Statement"). Pursuant to General Instruction E to Form S-8 regarding registration of additional securities, the entire contents of the 2017 Registration Statement are incorporated herein by reference.

PART II INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 8. Exhibits.

Exhibit

No.	Description
4.1	Fifth Amended and Restated Certificate of Incorporation (previously filed as Exhibit 3.1 to the current report Form 8-K filed on July 10, 2017 (File No. 001-38129) and incorporated herein by reference).
4.2	Amended and Restated Bylaws of the Registrant (previously filed as Exhibit 3.2 to the current report Form 8-K filed on July 10, 2017 (File No. 001-38129) and incorporated herein by reference).
4.3	Mersana Therapeutics, Inc. 2017 Stock Incentive Plan (previously filed as Exhibit 10.22 to the registration statement on Form S-1 (File No. 333-218412) and incorporated herein by reference).
4.4	Mersana Therapeutics, Inc. 2017 Employee Stock Purchase Plan (previously filed as Exhibit 10.25 to the registration statement on Form S-1 (File No. 333-218412) and incorporated herein by reference).
5.1	Opinion of Ropes & Gray LLP.
23.1	Consent of Ernst & Young LLP.
23.2	Consent of Ropes & Gray LLP (included in the opinion filed as Exhibit 5.1).
24.1	Powers of Attorney (included on the signature page in Part II).
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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Cambridge, Commonwealth of Massachusetts, on this 8th day of March, 2019.

MERSANA THERAPEUTICS, INC.

By: /s/ Anna Protopapas

Name: Anna Protopapas

Title: President and Chief Executive Officer

POWER OF ATTORNEY

Each person whose signature appears below constitutes and appoints Anna Protopapas, David Spellman and Eva M. Jack, and each of them acting individually, his or her true and lawful attorney-in-fact and agent with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement on Form S-8 to be filed by Mersana Therapeutics, Inc., and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents full power and authority to be done in and about the premises, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their substitutes, may lawfully do or cause to be done by virtue hereof.

* * *

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated:

Signature	Title	Date
/s/ Anna Protopapas Anna Protopapas	President, Chief Executive Officer and Director (Principal Executive Officer)	March 8, 2019
/s/ David A. Spellman David A. Spellman	Chief Financial Officer (Principal Financial Officer)	March 8, 2019
/s/ Wayne Foster Wayne Foster	Vice President of Finance (Principal Accounting Officer)	March 8, 2019
/s/ David Mott David Mott	Chairman of the Board	March 8, 2019
/s/ Lawrence Alleva Lawrence Alleva	Director	March 8, 2019
/s/ Willard H. Dere, M.D. Willard H. Dere, M.D.	Director	March 8, 2019
/s/ Andrew A. F. Hack, M.D., Ph.D. Andrew A.F. Hack, M.D., Ph.D.	Director	March 8, 2019
/s/ Kristen Hege, M.D. Kristen Hege, M.D.	Director	March 8, 2019
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ROPES & GRAY LLP PRUDENTIAL TOWER 800 BOYLSTON STREET BOSTON, MA 02199-3600 WWW.ROPESGRAY.COM

March 8, 2019

Mersana Therapeutics, Inc. 840 Memorial Drive Cambridge, MA 02139

Ladies and Gentlemen:

This opinion letter is furnished to you in connection with the registration statement on Form S-8 (the "Registration Statement"), filed by Mersana Therapeutics, Inc., a Delaware corporation (the "Company"), on the date hereof, with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the "Securities Act"), for the registration of 1,161,722 shares of Common Stock, \$0.0001 par value, of the Company (the "Shares"). The Shares are issuable under the Mersana Therapeutics, Inc. 2017 Stock Incentive Plan and the Mersana Therapeutics, Inc. 2017 Employee Stock Purchase Plan (each, a "Plan," and together, the "Plans").

We are familiar with the actions taken by the Company in connection with the adoption of the Plans. We have examined such certificates, documents and records and have made such investigation of fact and such examination of law as we have deemed appropriate in order to enable us to render the opinions set forth herein. In conducting such investigation, we have relied, without independent verification, upon certificates of officers of the Company, public officials and other appropriate persons.

The opinions expressed below are limited to the Delaware General Corporation Law.

Based upon and subject to the foregoing, we are of the opinion that the Shares have been duly authorized and, when the Shares have been issued and sold in accordance with the terms of the applicable Plan, the Shares will be validly issued, fully paid and nonassessable.

We hereby consent to the filing of this opinion letter as an exhibit to the Registration Statement. In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations thereunder.

Very truly yours,

/s/ Ropes & Gray LLP

Ropes & Gray LLP

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the Mersana Therapeutics, Inc. 2017 Stock Incentive Plan and the Mersana Therapeutics, Inc. 2017 Employee Stock Purchase Plan of our report dated March 8, 2019, with respect to the consolidated financial statements of Mersana Therapeutics, Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2018, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Boston, Massachusetts March 8, 2019