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

FORM 10-Q

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended September 30, 2019
OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

Commission file number 001-38129

Mersana Therapeutics, Inc.
(Exact name of registrant as specified in its charter)

Delaware	**04-3562403**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

840 Memorial Drive Cambridge, MA 02139
(Address of principal executive offices)
(Zip Code)

(617) 498-0020
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading symbol(s)	Name of each exchange on which registered
Common Stock, $0.0001 par value	MRSN	The Nasdaq Global Select Market

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15 (d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, 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	☐	Accelerated filer
Non-accelerated filer	☐	Smaller reporting company
		Emerging growth company

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 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No .

There were 47,883,522 shares of Common Stock ($0.0001 par value per share) outstanding as of November 4, 2019.

Unless otherwise stated or the context requires otherwise, all references to "us," "our," "we," the "Company" and similar designations in this Quarterly Report on Form 10-Q refer to Mersana Therapeutics, Inc. and its consolidated subsidiary, Mersana Securities Corp.

FORWARD-LOOKING STATEMENTS

This Quarterly Report on Form 10-Q contains forward-looking statements. Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based on our current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, our clinical results and other future conditions. The words "anticipate," "believe," "estimate," "expect," "goal," "intend," "may," "seek," "plan," "predict," "project," "target," "potential," "will," "would," "possible," "could," "should," "continue," "contemplate" or the negative of these terms or other similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

These forward-looking statements may include, among other things, statements about:

- the initiation, cost, timing, progress and results of our current and future research and development activities, preclinical studies and clinical trials;
- the potential benefits of strategic partnership agreements and our ability to enter into selective strategic partnership arrangements;
- the timing of, and our ability to obtain and maintain, regulatory approvals for our product candidates;
- our ability to quickly and efficiently identify and develop additional product candidates;
- our ability to advance any product candidate into, and successfully complete, clinical trials;
- our intellectual property position, including with respect to our trade secrets; and
- our estimates regarding expenses, future revenues, capital requirements, the sufficiency of our current and expected cash resources and our need for additional financing.

We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this Quarterly Report on Form 10-Q, particularly in the "Risk Factors" section, that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

The forward-looking statements contained herein represent our views as of the date of this Quarterly Report on Form 10-Q. We anticipate that subsequent events and developments may cause our views to change. However, we disclaim any obligation to update these forward-looking statements, except to the extent required by applicable law. You should, therefore, not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this Quarterly Report on Form 10-Q.

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PART I – FINANCIAL INFORMATION

Item 1. Financial Statements

Mersana Therapeutics, Inc.
Condensed Consolidated Balance Sheets
(in thousands, except share and per share data)
(unaudited)

	September 30, 2019	December 31, 2018
Assets		
Current assets:		
Cash and cash equivalents	$ 58,196	$ 59,634
Short-term marketable securities	53,806	10,497
Accounts receivable	298	459
Prepaid expenses and other current assets	2,397	3,715
Total current assets	114,697	74,305
Property and equipment, net	2,446	2,694
Operating lease right-of-use assets	3,059	—
Other assets	1,453	1,503
Total assets	$ 121,655	$ 78,502
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 7,304	$ 10,727
Accrued expenses	8,037	12,375
Deferred revenue	4,646	46,196
Operating lease liabilities	2,145	—
Short-term debt	167	—
Other liabilities	85	127
Total current liabilities	22,384	69,425
Operating lease liabilities	1,257	—
Long-term debt, net	4,670	—
Other liabilities	299	282
Total liabilities	28,610	69,707
Commitments (Note 11)		
Stockholders' equity		
Preferred stock, $0.0001 par value; 25,000,000 shares authorized; 0 shares issued and outstanding at September 30, 2019 and December 31, 2018, respectively	—	—
Common stock, $0.0001 par value; 175,000,000 shares authorized; 47,882,897 and 23,234,472 shares issued and outstanding at September 30, 2019 and December 31, 2018, respectively	5	3
Additional paid-in capital	269,140	172,966
Accumulated other comprehensive income (loss)	28	(8)
Accumulated deficit	(176,128)	(164,166)
Total stockholders' equity	93,045	8,795
Total liabilities and stockholders' equity	$ 121,655	$ 78,502

The accompanying notes are an integral part of these condensed consolidated financial statements.

Mersana Therapeutics, Inc.
Condensed Consolidated Statements of Operations and Comprehensive Loss
(in thousands, except share and per share data)
(unaudited)

	Three months ended September 30,		Nine months ended September 30,	
	2019	2018	2019	2018
Collaboration revenue	$ 844	$ 2,151	$ 42,081	$ 9,405
Operating expenses:				
Research and development	13,701	15,180	42,610	40,098
General and administrative	4,436	4,380	13,072	12,181
Total operating expenses	18,137	19,560	55,682	52,279
Other income (expense):				
Interest income	608	340	1,785	1,049
Interest expense	(107)	—	(146)	—
Total other income (expense), net	501	340	1,639	1,049
Net loss	(16,792)	(17,069)	(11,962)	(41,825)
Other comprehensive loss:				
Unrealized gain on marketable securities	17	48	36	107
Comprehensive loss	$ (16,775)	$ (17,021)	$ (11,926)	$ (41,718)
Net loss attributable to common stockholders — basic and diluted	$ (16,792)	$ (17,069)	$ (11,962)	$ (41,825)
Net loss per share attributable to common stockholders — basic and diluted	$ (0.35)	$ (0.74)	$ (0.28)	$ (1.82)
Weighted-average number of shares of common stock used in net loss per share attributable to common stockholders — basic and diluted	47,833,607	23,152,019	42,011,340	22,979,516

The accompanying notes are an integral part of these condensed consolidated financial statements.

Mersana Therapeutics, Inc.
Condensed Consolidated Statements of Stockholders' Equity
(in thousands, except share data)
(unaudited)

	Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Stockholders' Equity
	Shares	Amount				
Balance at December 31, 2017	22,765,017	$ 3	$ 168,018	$ (149)	$ (97,878)	$ 69,994
Cumulative effect adjustment for adoption of ASC 606	—	—	—	—	(2,031)	(2,031)
Exercise of stock options	104,945	—	255	—	—	255
Stock-based compensation expense	—	—	745	—	—	745
Other comprehensive loss	—	—	—	(13)	—	(13)
Net loss	—	—	—	—	(12,403)	(12,403)
Balance at March 31, 2018	22,869,962	3	169,018	(162)	(112,312)	56,547
Exercise of stock options	247,776	—	470	—	—	470
Stock-based compensation expense	—	—	958	—	—	958
Other comprehensive income	—	—	—	72	—	72
Net loss	—	—	—	—	(12,354)	(12,354)
Balance at June 30, 2018	23,117,738	3	170,446	(90)	(124,666)	45,693
Exercise of stock options	43,137	—	128	—	—	128
Stock-based compensation expense	—	—	1,053	—	—	1,053
Other comprehensive income	—	—	—	48	—	48
Net loss	—	—	—	—	(17,069)	(17,069)
Balance at September 30, 2018	23,160,875	3	171,627	(42)	(141,735)	29,853
Exercise of stock options	31,411	—	65	—	—	65
Purchase of common stock under ESPP	42,186	—	146	—	—	146
Stock-based compensation expense	—	—	1,128	—	—	1,128
Other comprehensive income	—	—	—	34	—	34
Net loss	—	—	—	—	(22,431)	(22,431)
Balance at December 31, 2018	23,234,472	3	172,966	(8)	(164,166)	8,795
Exercise of stock options	12,192	—	42	—	—	42
Issuance of common stock under public offering, net of issuance costs of $5,587	24,437,500	2	92,160	—	—	92,162
Stock-based compensation expense	—	—	1,164	—	—	1,164
Other comprehensive income	—	—	—	8	—	8
Net income	—	—	—	—	21,901	21,901
Balance at March 31, 2019	47,684,164	5	266,332	—	(142,265)	124,072
Exercise of stock options	32,693	—	58	—	—	58
Purchase of common stock under ESPP	82,281	—	283	—	—	283
Stock-based compensation expense	—	—	1,161	—	—	1,161
Other comprehensive income	—	—	—	11	—	11
Net loss	—	—	—	—	(17,071)	(17,071)
Balance at June 30, 2019	47,799,138	5	267,834	11	(159,336)	108,514
Exercise of stock options and warrants	83,759	—	21	—	—	21
Stock-based compensation expense	—	—	1,285	—	—	1,285
Other comprehensive income	—	—	—	17	—	17
Net loss	—	—	—	—	(16,792)	(16,792)
Balance at September 30, 2019	47,882,897	$ 5	$ 269,140	$ 28	$ (176,128)	$ 93,045

The accompanying notes are an integral part of these condensed consolidated financial statements.

Mersana Therapeutics, Inc.
Condensed Consolidated Statements of Cash Flows
(in thousands)
(unaudited)

	Nine months ended September 30,	
	2019	**2018**
Cash flows from operating activities		
Net loss	$ (11,962)	$ (41,825)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation	963	907
Loss on disposal of fixed assets	—	20
Net amortization of premiums and discounts on investments	(87)	(288)
Stock-based compensation	3,610	2,756
Non-cash rent expense	—	77
Non-cash interest expense	65	—
Changes in operating assets and liabilities:		
Accounts receivable	161	198
Prepaid expenses and other current assets	1,318	(1,379)
Other assets	—	(1,433)
Accounts payable	(3,102)	3,619
Accrued expenses	(4,518)	3,568
Operating lease assets and liabilities	(66)	—
Deferred revenue	(41,550)	(5,532)
Net cash used in operating activities	(55,168)	(39,312)
Cash flows from investing activities		
Maturities of marketable securities	10,500	74,565
Purchase of marketable securities	(53,688)	—
Purchase of property and equipment	(605)	(1,093)
Net cash provided by (used in) investing activities	(43,793)	73,472
Cash flows from financing activities		
Net proceeds from public offering of common stock	92,162	—
Proceeds from exercise of stock options	121	853
Proceeds from purchases of common stock under ESPP	283	—
Proceeds from issuance of debt, net of issuance costs	4,965	—
Payments under capital lease obligations	(58)	—
Net cash provided by financing activities	97,473	853
Increase (decrease) in cash, cash equivalents and restricted cash	(1,488)	35,013
Cash, cash equivalents and restricted cash, beginning of period	60,005	26,962
Cash, cash equivalents and restricted cash, end of period	$ 58,517	$ 61,975
Supplemental disclosures of non-cash activities:		
Purchases of property and equipment in accounts payable and accrued expenses	$ —	$ 75
Debt financing costs in accrued expenses	$ 180	$ —
Cash paid for interest	$ 64	$ —
Property and equipment acquired under finance leases	$ 429	$ —
Adjustment to accumulated deficit and deferred revenue upon adoption of Topic 606	$ —	$ 2,031

The accompanying notes are an integral part of these condensed consolidated financial statements.

Mersana Therapeutics, Inc.
Notes to condensed consolidated financial statements
(in thousands, except share and per share data)
(unaudited)

1. Nature of business and basis of presentation

Mersana Therapeutics, Inc. is a clinical stage biopharmaceutical company located in Cambridge, Massachusetts. The Company is focused on developing antibody drug conjugates (ADCs) that offer a clinically meaningful benefit for cancer patients with significant unmet need. The Company has leveraged over 20 years of industry learning in the ADC field to develop proprietary technologies that enable it to design ADCs to have improved efficacy, safety and tolerability relative to existing ADC therapies. The Company's novel platform, Dolaflexin, has been used to generate proprietary ADC product candidates to address patient populations that are not currently amenable to treatment with traditional ADC-based therapies. The Company's lead product candidate, XMT-1536, is a first-in-class, wholly-owned Dolaflexin ADC targeting NaPi2b, an antigen broadly expressed in ovarian cancer and non-small cell lung cancer (NSCLC) adenocarcinoma. In August 2019, the Company announced the dosing of the first patient in the expansion portion of the Phase 1 study of XMT-1536. The expansion cohorts will assess the efficacy, safety and tolerability of XMT-1536 at 36 mg/m^2 every four weeks in patients with platinum-resistant ovarian cancer and non-small cell lung cancer (NSCLC) adenocarcinoma. The Company has not yet determined a maximum tolerated dose, and it plans to continue the dose escalation portion of the study in parallel.

In January 2019, following a strategic evaluation by the Company of the competitive environment for HER2-targeted therapies, the Company and its former partner, Takeda Pharmaceutical Company Limited, or Takeda, decided to discontinue the development of XMT-1522, which was then being studied in the dose escalation portion of a Phase 1 clinical trial. The Company's collaboration agreements with Takeda were terminated during the first quarter of 2019.

The Company is subject to risks common to companies in the biotechnology industry, including but not limited to, the need for additional capital, risks of failure of preclinical studies and clinical trials, the need to obtain marketing approval and reimbursement for any drug product candidate that it may identify and develop, the need to successfully commercialize and gain market acceptance of its product candidates, dependence on key personnel, protection of proprietary technology, compliance with government regulations, development of technological innovations by competitors, reliance on third party manufacturers and the ability to transition from pilot-scale production to large-scale manufacturing of products.

The Company has incurred cumulative net losses since inception. For the nine months ended September 30, 2019, the net loss was $11,962, compared to $41,825 in the nine months ended September 30, 2018. The difference year over year is primarily attributable to $39,965 in revenue that was recognized in the first quarter of 2019 as a result of the discontinuation of the partnership with Takeda in the first quarter of 2019. The Company did not recognize any revenue related to the collaboration agreements with Takeda in the second or third quarter of 2019 and does not expect to have any further revenue related to these agreements.

Cash used in operations was $55,168 for the nine months ended September 30, 2019 and $39,312 for the nine months ended September 30, 2018. The Company expects to continue to incur operating losses and negative operating cash flows for the foreseeable future. As of September 30, 2019, the Company had an accumulated deficit of $176,128. The future success of the Company is dependent on its ability to identify and develop its product candidates and ultimately upon its ability to attain profitable operations. The Company has devoted substantially all of its financial resources and efforts to research and development and general and administrative expense to support such research and development. The Company's net losses may fluctuate significantly from quarter to quarter and year to year. Net losses and negative operating cash flows have had, and will continue to have, an adverse effect on the Company's stockholders' equity and working capital. The Company believes that its cash, cash equivalents, and marketable securities, as of September 30, 2019, will enable it to fund its operating plan through at least mid-2021. Management's belief with respect to its ability to fund operations is based on estimates that are subject to risks and uncertainties. If actual results are different from management's estimates, the Company may need to seek additional funding.

The Company's unaudited condensed consolidated financial statements have been prepared in accordance with accounting principles generally accepted in the United States (U.S. GAAP) and the rules and regulations of the Securities and Exchange Commission (SEC). Any reference in these notes to applicable guidance is meant to refer to the authoritative United States generally accepted accounting principles as found in the Accounting Standards Codification

Mersana Therapeutics, Inc.
Notes to condensed consolidated financial statements (continued)
(in thousands, except share and per share data)
(unaudited)

(ASC) and Accounting Standards Updates (ASU) of the Financial Accounting Standards Board (FASB). Certain information and footnote disclosures normally included in financial statements prepared in accordance with U.S. GAAP have been condensed or omitted from this report, as is permitted by such rules and regulations. Accordingly, these financial statements should be read in conjunction with the audited financial statements as of and for the year ended December 31, 2018 and the notes thereto, included in the Company's Annual Report on Form 10-K for the year ended December 31, 2018 filed with the SEC on March 8, 2019.

The unaudited condensed consolidated financial statements have been prepared on the same basis as the audited financial statements. In the opinion of the Company's management, the accompanying unaudited condensed consolidated financial statements contain all adjustments that are necessary to present fairly the Company's financial position as of September 30, 2019, the results of its operations for the three and nine months ended September 30, 2019 and 2018, a statement of stockholders' equity for the nine months ended September 30, 2019 and 2018 and cash flows for the nine months ended September 30, 2019 and 2018. Such adjustments are of a normal and recurring nature, other than the adjustments associated with the adoption of ASC 842, *Leases* (ASC 842). The results for the three and nine months ended September 30, 2019 are not necessarily indicative of the results for the year ending December 31, 2019, or for any future period.

Effective January 1, 2019, the Company adopted the requirements of ASC 842 using the modified retrospective method as discussed below in Note 2: Summary of Significant Accounting Policies.

2. Summary of Significant Accounting Policies

Principles of Consolidation

The accompanying unaudited condensed consolidated financial statements include those of the Company and its subsidiary, Mersana Securities Corp. All intercompany balances and transactions have been eliminated.

Use of Estimates

The preparation of the Company's unaudited condensed consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, equity, revenue, expenses and related disclosure of contingent assets and liabilities at the date of the financial statements and reported amounts of revenue and expenses during the reporting period. On an ongoing basis, the Company's management evaluates its estimates, which include, but are not limited to, management's judgments with respect to the performance obligations and estimated selling prices within its revenue arrangements, accrued expenses, valuation of stock-based awards and income taxes. Actual results could differ from those estimates.

Segment Information

Operating segments are defined as components of an enterprise about which separate discrete information is available for evaluation by the chief operating decision-maker in deciding how to allocate resources and assess performance. The Company operates and manages its business as a single operating segment, which is the business of discovering and developing ADCs.

Summary of Accounting Policies

The significant accounting policies used in preparation of these condensed consolidated financial statements for the three and nine months ended September 30, 2019 are consistent with those discussed in Note 2 to the consolidated financial statements in the Company's 2018 Annual Report on Form 10-K, except as noted below with respect to the Company's lease accounting policies and as disclosed within the "Recently Issued Accounting Pronouncements" section below.

Mersana Therapeutics, Inc.
Notes to condensed consolidated financial statements (continued)
(in thousands, except share and per share data)
(unaudited)

Fair Value Measurements

Fair value is defined as the price that would be received upon sale of an asset or paid to transfer a liability between market participants at measurement dates. ASC Topic 820 *Fair Value Measurement* (ASC 820) establishes a three-level valuation hierarchy for instruments measured at fair value. The hierarchy is based on the transparency of inputs to the valuation of an asset or liability as of the measurement date. The three levels are defined as follows:

Level 1—Inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities in active markets.

Level 2—Inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, and inputs that are observable for the asset or liability, either directly or indirectly, for substantially the full term of the financial instrument.

Level 3—Inputs to the valuation methodology are unobservable and significant to the fair value measurement.

Cash and Cash Equivalents

The Company considers all highly liquid investments with an original maturity, or a remaining maturity at the time of purchase, of three months or less to be cash equivalents. The Company invests excess cash primarily in money market funds, commercial paper and government agency securities, which are highly liquid and have strong credit ratings. These investments are subject to minimal credit and market risks. Cash and cash equivalents are stated at cost, which approximates market value.

The following amounts were presented as cash, cash equivalents and restricted cash:

	Nine months ended September 30, 2019		Nine months ended September 30, 2018	
	Beginning of period	End of period	Beginning of period	End of period
Cash and cash equivalents	$ 59,634	$ 58,196	$ 26,591	$ 61,604
Restricted cash included in other assets, noncurrent	371	321	371	371
Total cash, cash equivalents and restricted cash per statement of cash flows	$ 60,005	$ 58,517	$ 26,962	$ 61,975

Marketable Securities

Short-term marketable securities consist of investments with maturities greater than three months and less than one year from the balance sheet date. Long-term marketable securities consist of investments with maturities greater than one year that are not expected to be used to fund current operations. The Company classifies all of its marketable securities as available-for-sale. Accordingly, these investments are recorded at fair value. Amortization and accretion of discounts and premiums are recorded as interest income within other income. Unrealized gains and losses on available-for-sale debt securities are included in other comprehensive income (loss) as a component of stockholders' equity until realized. Realized gains and losses and declines in value judged to be other than temporary are included as a component of other income (expense), net, based on the specific identification method. When determining whether a decline in value is other than temporary, the Company considers various factors, including whether the Company has the intent to sell the security, and whether it is more likely than not that the Company will be required to sell the security prior to recovery of its amortized cost basis. Fair value is determined based on quoted market prices.

Mersana Therapeutics, Inc.
Notes to condensed consolidated financial statements (continued)
(in thousands, except share and per share data)
(unaudited)

Other Assets

The Company recorded other assets of $1,453 and $1,503 as of September 30, 2019 and December 31, 2018, respectively, comprised of restricted cash of $321 and $371, respectively, held as security deposits for a standby letter of credit and $1,132 at the end of each period held by a service provider.

Net Loss per Share

Basic net loss per common share is calculated by dividing the net loss attributable to common stockholders by the weighted-average number of common shares outstanding during the period, without consideration for potentially dilutive securities. Diluted net loss per share is computed by dividing the net loss attributable to common stockholders by the weighted-average number of common shares and potentially dilutive securities outstanding for the period determined using the treasury stock and if-converted methods.

For purposes of the diluted net loss per share calculation, convertible preferred stock, warrants to purchase common stock and options to purchase common stock are considered to be potentially dilutive securities, but are excluded from the calculation of diluted net loss per share because their effect would be anti-dilutive and therefore, basic and diluted net loss per share were the same for all periods presented.

The following table sets forth the outstanding potentially dilutive securities that have been excluded from the calculation of diluted net loss per share because to include them would be anti-dilutive (in common stock equivalent shares):

	Three and nine months ended September 30,	
	2019	2018
Warrants	39,474	110,365
Restricted stock units	447,336	—
Stock options	4,718,597	3,661,962
	5,205,407	3,772,327

Leases

Consistent with ASC 842, the Company determines if an arrangement is a lease at inception. Operating leases are included in right-of-use lease assets (ROU assets), current portion of lease obligations and long-term lease obligations on the Company's consolidated balance sheets. Assets subject to finance leases are included in property and equipment, and the related lease obligation is included in other current liabilities and other long-term liabilities on the Company's consolidated balance sheets. Lease assets are tested for impairment in the same manner as long-lived assets used in operations. Lease expense for operating leases is recognized on a straight-line basis over the lease term as an operating expense while expense for financing leases is recognized as depreciation expense and interest expense using the effective interest method. The Company has elected the short-term lease recognition exemption for short-term leases, which allows the Company not to recognize lease liabilities and ROU assets on the consolidated balance sheets for leases with an original term of twelve months or less.

ROU assets represent the Company's right to use an underlying asset for the lease term, and lease obligations represent the Company's obligation to make lease payments arising from the lease. Operating lease liabilities and their corresponding ROU assets are initially recorded based on the present value of lease payments over the expected remaining lease term. When determining the lease term, the Company includes options to extend or terminate the lease when it is reasonably certain that the option will be exercised. Certain adjustments to the ROU asset may be required for items such as incentives received. The interest rate implicit in lease contracts is typically not readily determinable. As a result, the Company utilizes its incremental borrowing rate to discount lease payments. The incremental borrowing rate reflects the fixed rate at which the Company could borrow, on a collateralized basis, the amount of the lease payments in the same currency, for a similar term, in a similar economic environment. Prospectively, the Company will adjust the

Mersana Therapeutics, Inc.
Notes to condensed consolidated financial statements (continued)
(in thousands, except share and per share data)
(unaudited)

ROU assets for straight-line rent expense, or any incentives received and remeasure the lease liability at the net present value using the same incremental borrowing rate that was in effect as of the lease commencement or transition date.

The Company has lease agreements with lease and non-lease components, which are generally accounted for separately.

Recently Issued Accounting Pronouncements

In February 2016, the FASB issued ASU No. 2016-02,*Leases* (ASC 842), which replaced the guidance in ASC 840,*Leases*. The updated standard aims to increase transparency and comparability among organizations by requiring lessees to recognize lease assets and lease liabilities on the balance sheet and requiring disclosure of key information about leasing arrangements. This standard is effective for the Company in the fiscal year beginning after December 15, 2018. The Company adopted the new standard effective January 1, 2019 using the modified retrospective method as of the beginning of the period of adoption. The Company has elected the package of practical expedients permitted in ASC Topic 842. Accordingly, the Company accounted for its existing operating leases as operating leases under the new guidance, without reassessing (a) whether the contracts contain a lease under ASC Topic 842, (b) whether classification of the operating leases would be different in accordance with ASC Topic 842, or (c) whether the unamortized initial direct costs would have met the definition of initial direct costs in ASC Topic 842 at lease commencement. The Company also elected not to include leases with an initial term of twelve months or less in the recognized ROU asset and lease liabilities. As a result of the adoption of the new lease accounting guidance, the Company recognized on January 1, 2019 (a) an operating lease liability of $4,778, and (b) an operating ROU asset of $4,369 which represents the lease liability of $4,778 adjusted for deferred rent of $409. This standard had a material impact on the Company's balance sheets but had no impact on the Company's results of operations and cash flows from operations. The most significant impact was the recognition of ROU assets and lease obligations for operating leases.

In June 2018, the FASB issued ASU No. 2018-07,*Improvements to Nonemployee Share-Based Payment Accounting.* This guidance simplifies the accounting for share-based payments to non-employees by aligning it with the accounting for share-based payments to employees, with certain exceptions. This guidance is effective for annual reporting periods beginning after December 15, 2018, including interim periods within those annual reporting periods, and early adoption is permitted. The guidance per ASU 2018-07 is to be adopted by using a modified retrospective approach with the cumulative effect of initially applying the new standard at the date of initial application. The Company adopted the new standard effective January 1, 2019. The adoption of this standard did not have a material impact on the Company's consolidated financial statements.

In November 2018, the FASB issued ASU No. 2018-18,*Collaborative Arrangements (Topic 808):Clarifying the Interaction between Topic 808 and Topic 606*. The main provisions of ASU 2018-18 include: (i) clarifying that certain transactions between collaborative arrangement participants should be accounted for as revenue when the collaborative arrangement participant is a customer in the context of a unit of account and (ii) precluding the presentation of transactions with collaborative arrangement participants that are not directly related to sales to third parties together with revenue. This guidance will be effective for annual reporting periods beginning after December 15, 2019, including interim periods within those annual reporting periods, and early adoption is permitted. The guidance per ASU 2018-18 is to be adopted retrospectively to the date of initial application of Topic 606. The Company is currently evaluating the potential impact that ASU No. 2018-18 may have on its financial position and results of operations.

In June 2016, the FASB issued ASU 2016-13,*Financial Instruments-Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments*, which requires that financial assets measured at amortized cost be presented at the net amount expected to be collected. Currently, U.S. GAAP delays recognition of the full amount of credit losses until the loss is probable of occurring. Under this ASU, the income statement will reflect an entity's current estimate of all expected credit losses. The measurement of expected credit losses will be based upon historical experience, current conditions, and reasonable and supportable forecasts that affect the collectability of the reported amount. Credit losses relating to available-for-sale debt securities will be recorded through an allowance for credit losses rather than as a direct write-down of the security. This ASU is effective for annual periods beginning after December 15, 2019, including

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interim periods within those annual reporting periods, and early adoption is permitted. The Company is currently evaluating the potential impact that ASU 2016-13 may have on its financial position and results of operations.

3. Collaboration agreements

Merck KGaA

In June 2014, the Company entered into a Collaboration and Commercial License Agreement with Merck KGaA (the Merck KGaA Agreement). Upon the execution of the agreement, Merck KGaA paid the Company a nonrefundable technology access fee of $12,000 for the right to develop ADCs directed to six exclusive targets over a specified period of time. No additional fees are due when a target is designated and the commercial license to the target is granted. Merck KGaA will be responsible for the product development and marketing of any products resulting from this collaboration. All six targets were designated prior to 2018. The Company is eligible to receive milestones under the Merck KGaA Agreement. The next potential milestone payment is a development milestone of $500 on Merck KGaA's designation of a preclinical development candidate for any target. Revenue for the milestone is fully constrained until it is certain the milestone would be achieved.

Under the terms of the Merck KGaA Agreement, the Company and Merck KGaA develop research plans to evaluate Merck KGaA's antibodies as ADCs incorporating the Company's technology. The Company receives fees for its efforts under the research plans. The goal of the research plans is to provide Merck KGaA with sufficient information to formally nominate a development candidate and begin IND-enabling studies or cease development on the designated target.

In May 2018, the Company entered into a Supply Agreement with Merck KGaA (the Merck KGaA Supply Agreement). Under the terms of the agreement, the Company will provide Merck KGaA with materials that could be used for IND-enabling studies and clinical trials. The Company receives fees and reimbursement for its efforts under the Merck KGaA Supply Agreement.

Accounting Analysis

The Company identified the following performance obligations under the agreement: (i) exclusive license and research services for six designated targets, (ii) rights to future technological improvements and (iii) participation of project team leaders and providing joint research committee services.

The Company recognizes revenue related to the exclusive license and the research and development services over the estimated period of the research and development services using a proportional performance model. The Company measures proportional performance based on the costs incurred relative to the total costs expected to be incurred as the Company will satisfy the performance obligations as the research and development services are performed. To the extent that the Company receives fees for the research and development services as they are performed, these amounts are recorded as deferred revenue. Revenue related to future technological improvements and joint research committee services will be recognized ratably over the respective performance periods (which in the case of the joint research committee services approximates the time and cost incurred each quarter), which are 10 and five years, respectively. The Company continues to reassess the estimated remaining term at each subsequent reporting period. As of December 31, 2018, the total transaction price for the Merck KGaA Agreement was $22,070, which represents the amount of consideration the Company is expected to receive for the transfer of goods and services to Merck KGaA. For each of the three and nine months ended September 30, 2019, the Company decreased the fees expected to be received for research and development activities by $570 to $6,500, resulting in a revised total transaction price for the Merck KGaA Agreement of $21,500 as of September 30, 2019.

For the three months ended September 30, 2019 and 2018 and the nine months ended September 30, 2019 and 2018, the Company recorded collaboration revenue of $800, $1,482, $836 and $2,426, respectively, related to its efforts under the Merck KGaA Agreement. During the three and nine months ended September 30, 2019, the Company recognized

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collaboration revenue and corresponding research and development expense of $34 and $1,255, respectively, related to the Merck KGaA Supply Agreement. Included in accounts receivable as of September 30, 2019 and December 31, 2018 were $262 and $450, respectively, related to the Merck KGaA Supply Agreement.

As of September 30, 2019, the Company had $4,646 in deferred revenue related to the Merck KGaA Agreement and Merck KGaA Supply Agreement that will be recognized in accordance with the proportional performance method.

Takeda XMT-1522 Strategic Partnership

In January 2016, the Company entered into a Development Collaboration and Commercial License Agreement with Takeda through its wholly owned subsidiary, Millennium Pharmaceuticals, Inc. for the development and commercialization of XMT-1522 (the XMT-1522 Agreement). Under the XMT-1522 Agreement, Takeda was granted the exclusive right to commercialize XMT-1522 outside of the United States and Canada. Under the XMT-1522 Agreement, the Company was responsible for conducting certain Phase 1 development activities for XMT-1522, including the ongoing Phase 1 clinical trial, at its own expense. The parties agreed to collaborate on the further development of XMT-1522 in accordance with a global development plan (Post-Phase 1 Development). On January 2, 2019, the Company received notice from Takeda stating that Takeda was exercising its right to terminate the XMT-1522 Agreement upon 30 days' prior written notice. The XMT-1522 Agreement terminated in accordance with its provisions, and the Company and Takeda wound down activities related to the XMT-1522 Agreement as of March 31, 2019.

Under the XMT-1522 Agreement, the Company and Takeda shared equally all Post-Phase 1 Development costs through the date of termination and for a period of 30 days after the effective termination date. For the applicable period within the three months ended March 31, 2019, the Company was billed $200 by Takeda, representing the Company's share of Post-Phase 1 Development costs incurred by Takeda. This amount has been reflected as research and development costs in the consolidated statement of operations.

Takeda strategic research and development partnership

In March 2014, the Company entered into a Research Collaboration and Commercial License Agreement with Takeda through Takeda's wholly owned subsidiary, Millennium Pharmaceuticals, Inc. (the 2014 Agreement). The 2014 Agreement was amended in January 2015 and amended and restated in January 2016 (the 2016 Restated Agreement). The agreements provided Takeda with the right to develop ADCs directed to a total of seven exclusive targets, designated by Takeda, over a specified period of time. On January 2, 2019, the Company received notice from Takeda stating that Takeda was exercising its right to terminate the 2016 Restated Agreement upon 45 days' prior written notice. The 2016 Restated Agreement terminated in accordance with its provisions, and the Company and Takeda wound down activities related to the 2016 Restated Agreement as of March 31, 2019.

During the applicable period within the three months ended March 31, 2019, the Company billed Takeda $195 related to ASC 808 costs.

Accounting Analysis

The Company concluded that the termination of the XMT-1522 Agreement and the 2016 Restated Agreement resulted in the completion of all of its remaining performance obligations. As a result, $39,965 of previously deferred revenue related to the Takeda agreements as of December 31, 2018 was recognized as revenue during the three months ended March 31, 2019. The Company did not recognize any revenue related to the XMT-1522 Agreement or the 2016 Restated Agreement in the second quarter and will not have any further revenue related to these agreements.

Included in accounts receivable as of September 30, 2019 and December 31, 2018 was $26 and $9, respectively, related to the Takeda agreements. Included in accounts payable as of September 30, 2019 and December 31, 2018 was $2,754 and $2,749, respectively, related to the Takeda agreements.

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Summary of Contract Assets and Liabilities

The following table presents changes in the balances of our contract assets and liabilities during the nine months ended September 30, 2019 and 2018:

	Balance at Beginning of Period	Additions	Deductions	Balance at End of Period
Nine months ended September 30, 2019				
Contract assets	$ —	$ —	$ —	$ —
Contract liabilities:				
Deferred revenue	$ 46,196	$ —	$ 41,550	$ 4,646

	Balance at Beginning of Period	Additions	Deductions	Balance at End of Period
Nine months ended September 30, 2018				
Contract assets	$ —	$ —	$ —	$ —
Contract liabilities:				
Deferred revenue	$ 52,439	$ 2,373	$ 7,906	$ 46,906

During the three months ended September 30, 2019 and 2018 and the nine months ended September 30, 2019 and 2018, the Company recognized the following revenues as a result of changes in the contract asset and the contract liability balances in the respective periods:

	Three months ended September 30,		Nine months ended September 30,	
	2019	2018	2019	2018
Revenue recognized in the period from:				
Amounts included in the contract liability at the beginning of the period	$ 834	$ 1,760	$ 41,550	$ 7,515
Performance obligations satisfied in previous periods	$ —	$ —	$ —	$ —

Other Revenue

The Company has provided limited services for a collaboration partner, Asana BioSciences. For the three months ended September 30, 2019 and 2018 and nine months ended September 30, 2019 and 2018, the Company recognized revenue of $10, $587, $25 and $782, respectively, related to these services. In addition, during the nine months ended September 30, 2018, the Company recognized revenue of $1,500 related to a milestone achieved upon the completion of a GLP toxicology study by Asana BioSciences. The Company did not recognize any revenue related to milestones in the three and nine months ended September 30, 2019. The next potential milestone the Company is eligible to receive is $2,500 upon dosing the fifth patient in a Phase 1 clinical trial by Asana BioSciences. As of September 30, 2019, the Company considers this next milestone to be fully constrained as there is considerable judgment involved in determining whether it is probable that a significant revenue reversal would occur. As part of its evaluation of the constraint, the Company considered numerous factors, including the fact that achievement of the milestone is outside the control of the Company and there is a high level of uncertainty in achieving this milestone, as this would require initiation of clinical trials by the collaboration partner. The Company reevaluates the probability of achievement of a milestone subject to constraint at each reporting period and as uncertain events are resolved or other changes in circumstances occur.

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4. Fair value measurements

The following table presents information about the Company's assets and liabilities regularly measured and carried at a fair value and indicates the level within fair value hierarchy of the valuation techniques utilized to determine such value as of September 30, 2019 and December 31, 2018:

	Fair Value	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
September 30, 2019				
Marketable securities:				
Commercial paper	$ 14,871	$ —	$ 14,871	$ —
Corporate bonds	12,010	—	12,010	—
U.S. Treasuries	26,925	—	26,925	—
	$ 53,806	$ —	$ 53,806	$ —

	Fair Value	Quoted Prices in Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
December 31, 2018				
Marketable securities:				
U.S. Treasuries	$ 10,497	$ 10,497	$ —	$ —
	$ 10,497	$ 10,497	$ —	$ —

The carrying amounts of accounts payable and accrued expenses approximate their fair values due to their short-term maturities. There were no changes in valuation techniques or transfers between fair value measurement levels during the nine months ended September 30, 2019 and 2018. As of September 30, 2019, and December 31, 2018, cash and cash equivalents were comprised of cash and money market funds.

There were no changes in valuation techniques or transfers between fair value measurement levels during the nine months ended September 30, 2019 and 2018.

Cash and Cash Equivalents

The carrying amounts of accounts payable and accrued expenses approximate their fair values due to their short-term maturities. As of September 30, 2019, and December 31, 2018, cash and cash equivalents were comprised of cash and money market funds.

Marketable Securities

Marketable securities classified as Level 2 within the valuation hierarchy generally consist of U.S. treasury securities, corporate bonds and commercial paper. The Company estimates the fair values of these marketable securities by taking into consideration valuations obtained from third-party pricing sources. These inputs include market pricing based on real-time trade data for the same or similar securities, issuer credit spreads, benchmark yields and other observable inputs. The Company validates the prices provided by its third-party pricing sources by obtaining market values from other pricing sources and analyzing pricing data in certain instances. As of September 30, 2019, the carrying value of the Company’s outstanding borrowing under the Credit Facility approximates fair value (a Level 2 fair value measurement), reflecting interest rates currently available to the Company. The Credit Facility is discussed more detail in Note 7, “Debt”.

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5. Marketable securities

The following table summarizes marketable securities held at September 30, 2019 and December 31, 2018:

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
September 30, 2019				
Commercial paper	$ 14,871	$ —	$ —	$ 14,871
Corporate bonds	11,984	26	—	12,010
U.S. Treasuries	26,923	2	—	26,925
	$ 53,778	$ 28	$ —	$ 53,806

	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
December 31, 2018				
U.S. Treasuries	$ 10,505	$ —	$ (8)	$ 10,497
	$ 10,505	$ —	$ (8)	$ 10,497

6. Accrued expenses

Accrued expenses consisted of the following:

	September 30, 2019	December 31, 2018
Accrued payroll and related expenses	$ 3,080	$ 3,042
Accrued preclinical, manufacturing and clinical expenses	4,017	8,314
Accrued professional fees	710	567
Accrued other	230	452
	$ 8,037	$ 12,375

7. Debt

On May 8, 2019, the Company entered into a loan and security agreement (the Credit Facility) with Silicon Valley Bank (SVB) pursuant to which the Company can borrow, at its option, up to $20,000, in up to four principal advances of at least $5,000 each (each, a Term Loan or collectively, the Term Loans) through August 31, 2020. The Company drew $5,000 on the Term Loan upon execution of the Credit Facility.

The Term Loans bear interest at a floating per annum rate equal to the greater of (i) 4.0% and (ii) 1.50% below the Prime Rate, as defined. The Company is obligated to make monthly interest only payments on each outstanding Term Loan commencing on the first calendar day of the month following the funding date of such Term Loan and continuing on the first calendar day of each month thereafter through August 31, 2020. Commencing on September 1, 2020 and continuing on the first calendar day of each month thereafter, the Company is obligated to make 30 consecutive equal payments of principal, together with applicable interest in arrears to SVB.

All outstanding principal and accrued and unpaid interest with respect to the Term Loans are due and payable in full on February 1, 2023. Upon repayment of the Term Loans, the Company is also required to make a final payment to SVB equal to 5.0% of the principal amount of the Term Loans then extended to the Company. This final payment is accreted under the effective interest method over the life of each loan. The Term Loans are secured by substantially all of the

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Company's assets, except for its intellectual property which is subject to a negative pledge, and certain other customary exclusions.

At the Company's option, it may prepay the outstanding principal balance of any Term Loans in whole but not in part, subject to a prepayment fee of: (a) 3.0% of the Term Loans then extended to the Company if the prepayment occurs on or prior to May 8, 2020, (b) 2.0% of the Term Loans then extended to the Company if the prepayment occurs after May 8, 2020 but on or prior to May 8, 2021, or (c) 1.0% of the Term Loans then extended to the Company if the prepayment occurs after May 8, 2021 but before February 1, 2023. In the event the Company has not borrowed a total of $20,000 upon the earlier of August 21, 2020, acceleration of the Company's payment obligations or Company's prepayment of the then extended Term Loans, the Company is required to pay an additional fee equal to 3.0% of any unborrowed portion of the committed funding (the Unused Term Loan Commitment Fee).

The Credit Facility includes customary affirmative, financial, and restrictive covenants applicable to the Company. Affirmative covenants include, among others, covenants requiring the Company to maintain its corporate existence and governmental approvals, deliver certain financial reports, maintain insurance coverage and satisfy certain requirements regarding deposit accounts. Financial covenants include maintaining a liquidity ratio (as defined in the Credit Facility) of 1.50 to 1.00. The restrictive covenants include, among others, requirements relating to the Company's ability to transfer collateral, incur additional indebtedness, engage in mergers or acquisitions, pay dividends or make other distributions, make investments, create liens, sell assets and agree to a change in control, in each case subject to certain customary exceptions.

The Company's payment obligations under the Credit Facility are subject to acceleration upon the occurrence of specified events of default, which include, but are not limited to, the occurrence of a material adverse change in the Company's business, operations, or financial or other condition. Amounts outstanding upon the occurrence of an event of default are payable upon SVB's demand and shall accrue interest at an additional rate of 5.0% per annum of the past due amount outstanding. As of September 30, 2019, the Company was in compliance with all covenants under the Credit Facility. As such, as of September 30, 2019, the classification of the loan balance as stated on the balance sheet was based on the timing of payment obligations.

The Company incurred $215 of debt issuance costs related to external legal and transaction fees. The Company recorded the debt issuance costs as a direct deduction from the carrying value of the Term Loans which are amortized as interest expense using the effective-interest method over the term of the Term Loans.

As of September 30, 2019, the Company had drawn a Term Loan of $5,000.

As of September 30, 2019, Debt consisted of the following:

	September 30, 2019
Total debt	$ 5,000
Less: Current portion of long-term-debt	(167)
Total debt, net of current portion	4,833
Debt financing costs, net of accretion	(191)
Accretion related to final payment	28
Long-term debt, net	$ 4,670

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As of September 30, 2019, the estimated future principal payments due are as follows:

2019 (excluding the nine months ended September 30, 2019)	$ —
2020	666
2021	2,000
2022	2,000
2023	334
Total debt	$ 5,000

During the three and nine months ended September 30, 2019, the Company recognized $51 and $64, respectively, of interest expense related to the Credit Facility.

8. Stockholders' equity

Preferred stock

As of September 30, 2019, the Company had 25,000,000 shares of authorized preferred stock. No shares of preferred stock have been issued.

Common stock

The holders of the common stock are entitled to one vote for each share held. Common stockholders are not entitled to receive dividends, unless declared by the Board of Directors (the Board).

In March 2019, the Company completed a follow-on public offering in which the Company issued and sold an aggregate of 24,437,500 shares of its common stock at the public offering price of $4.00 per share, which included the exercise in full of the underwriters' option to purchase additional shares of common stock. The net proceeds from the offering were $92,162.

At September 30, 2019 and December 31, 2018, there were 5,205,407 and 3,856,932 shares of common stock, respectively, reserved for the exercise of outstanding stock options and warrants.

	September 30, 2019	December 31, 2018
Warrants	39,474	110,365
Restricted stock units	447,336	—
Stock options	4,718,597	3,746,567
	5,205,407	3,856,932

At-the-market equity offering program

On July 2, 2018, the Company established an at-the-market equity offering program (ATM) pursuant to which it is able to offer and sell up to $75,000 of its common stock from time to time at prevailing market prices. As of September 30, 2019, the Company had not sold any shares under the ATM.

Warrants

In connection with a 2013 Series A-1 Preferred Stock issuance, the Company granted to certain investors warrants to purchase 129,491 shares of common stock. The warrants have a $0.05 per share exercise price and a contractual life of 10 years. The fair value of these warrants was recorded as a component of equity at the time of issuance. As of

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September 30, 2019, warrants to purchase 39,474 shares of common stock were outstanding. During the quarter ended September 30, 2019, the Company issued 69,680 shares of common stock upon the exercise of warrants.

9. Stock options

Stock option plans

In June 2017 the Company's shareholders approved the 2017 Stock Incentive Plan (the 2017 Plan). Under the 2017 Plan, up to 2,255,000 shares of common stock may be granted to the Company's employees, officers, directors, consultants and advisors in the form of options, restricted stock awards or other stock-based awards. The 2017 Plan provides that the number of shares of common stock issuable under the 2017 Plan shall be increased annually by 4% of the outstanding shares or such lesser amount specified by the Board. The terms of the awards are determined by the Board, subject to the provisions of the 2017 Plan. As of the adoption date of the 2017 Plan, there were 3,141,625 options outstanding under the Company's 2007 Stock Incentive Plan (the 2007 Plan) (the 2007 Plan and the 2017 Plan collectively are referred to as the Plans). Any cancellations under the 2007 Plan would increase the number of shares that could be granted under the 2017 Plan. In January 2019, the number of shares of common stock issuable under the Plan was increased by 929,378 shares. As of September 30, 2019, there were 1,983,432 shares available for future issuance under the 2017 Plan.

With respect to incentive stock options, the option price per share will equal the fair market value of the common stock on the date of grant, which is generally the closing price for a share of the Company's common stock on the Nasdaq Global Select Market on such date, and the vesting period is generally four years. Nonqualified stock options will be granted at an exercise price established by the Board at its sole discretion (which has not been less than fair market value on the date of grant) and the vesting periods may vary. Options granted under the 2017 Plan expire no later than 10 years from the date of grant. The Board may accelerate vesting or extend the expiration of granted options in the case of a merger, consolidation, dissolution, or liquidation of the Company.

Stock option activity

A summary of the activity under the Plans is as follows:

	Number of Shares	Weighted-Average Exercise Price
Options outstanding at January 1, 2019	3,746,567	$ 6.58
Granted	1,630,283	3.74
Exercised	(58,964)	2.04
Cancelled	(599,289)	9.42
Options outstanding at September 30, 2019	4,718,597	$ 5.29
Options exercisable at September 30, 2019	2,531,612	$ 4.36

The weighted-average grant date fair value of options granted during the nine months ended September 30, 2019 and 2018, was $2.47 and $9.45 per share, respectively.

Cash received from the exercise of stock options was $121 and $853 for the nine months ended September 30, 2019 and 2018, respectively.

Restricted stock units

In July 2019, the Company issued 449,331 restricted stock units with service conditions to employees, of which 447,366 are outstanding as of September 30, 2019. Vesting of these awards is contingent on the fulfillment of the service

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conditions. The weighted-average grant date fair value of restricted stock units was $4.00 per share. The Company recognized $184 of expense related to these awards in the third quarter of 2019 and will continue to recognize stock-based compensation expense related to these awards through July 2021 when the awards vest.

Stock-based compensation expense

The measurement date for employee awards is generally the date of grant. Stock-based compensation expense is recognized over the requisite service period, which is generally the vesting period, using the straight-line method.

The following table presents stock-based compensation expense by award type included within the Company's condensed consolidated statement of operations and comprehensive loss:

	Three months ended September 30,		Nine months ended September 30,	
	2019	2018	2019	2018
Stock options	$ 1,055	$ 988	$ 3,240	$ 2,692
Restricted stock units	184	—	184	—
Employee stock purchase plan	46	65	186	65
Stock-based compensation expense included in Total operating expenses	$ 1,285	$ 1,053	$ 3,610	$ 2,757

The following table presents stock-based compensation expense as reflected in the Company's condensed consolidated statements of operations and comprehensive loss:

	Three months ended September 30,		Nine months ended September 30,	
	2019	2018	2019	2018
Research and development	$ 587	$ 495	$ 1,636	$ 1,302
General and administrative	698	558	1,974	1,455
Stock-based compensation expense included in Total operating expenses	$ 1,285	$ 1,053	$ 3,610	$ 2,757

The Company had an aggregate of $8,290 of unrecognized stock compensation cost as of September 30, 2019 remaining to be amortized over the weighted-average period of 2.2 years. As of September 30, 2019, the Company had $1,605 of unrecognized stock-based compensation expense related to restricted stock units. The fair value of each option award is estimated on the date of grant using the Black-Scholes option pricing model with the following weighted average assumptions:

	Three months ended September 30,		Nine months ended September 30,	
	2019	2018	2019	2018
Risk-free interest rate	1.9 %	2.9 %	2.4 %	2.7 %
Expected dividend yield	— %	— %	— %	— %
Expected term (years)	6.11	5.85	5.99	6.06
Expected stock price volatility	75 %	73 %	74 %	73 %

Employee Stock Purchase Plan

During the year ended December 31, 2017, the Board adopted, and the Company's stockholders approved the 2017 employee stock purchase plan (the 2017 ESPP). The Company initially reserved 225,000 shares of common stock for issuance under the 2017 ESPP. In January 2019, the number of shares of common stock for issuance under the 2017

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ESPP was increased by 232,344 shares. The Company did not issue any shares under the 2017 ESPP during the three months ended September 30, 2019. During the nine months ended September 30, 2019, the Company issued 82,281 shares under the 2017 ESPP. The Company did not issue any shares under the 2017 ESPP during the three and nine months ended September 30, 2018 As of September 30, 2019, there were 332,877 shares available for issuance under the 2017 ESPP.

10. Leases

The Company has an operating lease for its facility and operating and finance leases for certain equipment. The Company leases office space in Cambridge, MA under an operating lease, which was last amended in January 2018, and is effective through March 2021. The Company has an option to extend the lease term for an additional five years. The Company's exercise of this option was not considered reasonably certain as of September 30, 2019. The Company has remaining lease terms of three years to five years for certain equipment, some of which may include options to purchase at fair value.

During the first quarter of 2019, the Company entered into finance leases for certain equipment. The Company recorded assets under finance leases of $429 as property and equipment.

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The components of lease expense were as follows:

	Three months ended	Nine months ended
	September 30, 2019	
Operating lease cost	$ 540	$ 1,620
Finance lease cost:		
Amortization of right-of-use assets	$ 25	$ 50
Interest on lease liabilities	7	14
	$ 32	$ 64

Supplemental balance sheet information related to leases was as follows:

	Nine months ended September 30, 2019
Operating leases:	
Operating lease right-of-use assets	$ 3,059
Operating lease liabilities, current	2,145
Operating lease liabilities	1,257
Finance leases:	
Property and equipment, gross	$ 429
Property and equipment, accumulated depreciation	(50)
Other liabilities, current	85
Other liabilities	299
Weighted-average remaining lease term:	
Operating leases	1.6 years
Finance leases	4.0 years
Weighted-average discount rate:	
Operating leases	10.3%
Finance leases	6.9%

Mersana Therapeutics, Inc.
Notes to condensed consolidated financial statements (continued)
(in thousands, except share and per share data)
(unaudited)

Supplemental cash flow information related to leases was as follows:

	Nine months ended September 30, 2019
Cash paid for amounts included in the measurement of lease liabilities:	
Operating cash flows from operating leases	$ 1,685
Operating cash flows from finance leases	14
Financing cash flows from finance leases	58
Right-of-use assets obtained in exchange for lease obligations:	
Operating leases	4,369
Finance leases	429

Future minimum lease payments under non-cancellable leases as of September 30, 2019 were as follows:

	Operating leases	Finance leases
2019 (excluding the nine months ended September 30, 2019)	$ 586	$ 29
2020	2,394	116
2021	687	116
2022	—	84
2023 and thereafter	—	92
	3,667	437
Imputed interest	—	(8)
	$ 3,667	$ 429

11. Commitments

License agreements

Through September 30, 2019, the Company had licensed intellectual property from two biotechnology companies. The consideration included upfront payments and a commitment to pay annual license fees, milestone payments and, upon product commercialization, royalties on revenue generated from the sale of products covered by the licenses. The Company recorded a milestone payment of $600 during the three and nine months ended September 30, 2019 upon dosing of the first patient in the expansion cohort of the XMT-1536 clinical trial. The Company did not record any milestone payments during the nine months ended September 30, 2018.

12. Subsequent events

For the purposes of the unaudited financial statements as of September 30, 2019 and the period then ended, the Company has evaluated subsequent events through November 6, 2019, the date the unaudited interim financial statements were issued. There were no items requiring adjustment or disclosure in the consolidated financial statements.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our unaudited condensed consolidated financial statements and the notes thereto appearing elsewhere in this Quarterly Report on Form 10-Q and the audited financial information and the notes thereto included in our Annual Report on Form 10-K for the year ended December 31, 2018 filed with the Securities and Exchange Commission (SEC) on March 8, 2019.

Our actual results and the timing of certain events may differ materially from the results discussed, projected, anticipated, or indicated in any forward-looking statements. We caution you that forward-looking statements are not guarantees of future performance and that our actual results of operations, financial condition and liquidity and the development of the industry in which we operate may differ materially from the forward-looking statements contained in this Quarterly Report on Form 10-Q. In addition, even if our results of operations, financial condition and liquidity and the development of the industry in which we operate are consistent with the forward-looking statements contained in this Quarterly Report on Form 10-Q, they may not be predictive of results or developments in future periods.

The following information and any forward-looking statements should be considered in light of factors discussed elsewhere in this Quarterly Report on Form 10-Q and under Item 1A. Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2018, filed with the SEC on March 8, 2019.

We caution readers not to place undue reliance on any forward-looking statements made by us, which speak only as of the date they are made. We disclaim any obligation, except as specifically required by law and the rules of the SEC, to publicly update or revise any such statements to reflect any change in our expectations or in events, conditions or circumstances on which any such statements may be based, or that may affect the likelihood that actual results will differ from those set forth in the forward-looking statements.

Overview

We are a clinical stage biopharmaceutical company focused on developing antibody drug conjugates, or ADCs, that offer a clinically meaningful benefit for cancer patients with significant unmet need. We have leveraged over 20 years of industry learning in the ADC field to develop proprietary technologies that enable us to design ADCs to have improved efficacy, safety and tolerability relative to existing ADC therapies. Our novel platform, Dolaflexin, has been used to generate a pipeline of proprietary ADC product candidates to address patient populations that are not currently amenable to treatment with traditional ADC-based therapies. Our lead product candidate, XMT-1536, is a first-in-class, wholly-owned Dolaflexin ADC targeting NaPi2b, an antigen broadly expressed in ovarian cancer and non-small cell lung cancer (NSCLC) adenocarcinoma. In August 2019, we announced the dosing of the first patient in the expansion portion of the Phase 1 study of XMT-1536. The expansion cohorts will assess the efficacy, safety and tolerability of XMT-1536 at 36 mg/m^2 every four weeks in patients with platinum-resistant ovarian cancer and non-small cell lung cancer (NSCLC) adenocarcinoma. We have not yet determined a maximum tolerated dose, and we plan to continue the dose escalation portion of the study in parallel.

In June 2019, we presented interim efficacy and safety data from the ongoing Phase 1 dose-escalation study evaluating XMT-1536 at the American Society of Clinical Oncology (ASCO) Annual Meeting in a poster titled "Phase 1 dose escalation study of XMT-1536, a novel NaPi2b-targeting antibody-drug conjugate (ADC), in patients (pts) with solid tumors likely to express NaPi2b." We continue to add sites to support the expansion cohorts initiated in the third quarter of 2019. By evaluating the expansion cohorts, we aim to establish proof of concept in platinum-resistant ovarian cancer and NSCLC adenocarcinoma.

Since inception, our operations have focused on building our platforms, identifying potential product candidates, producing drug substance and drug product material for use in preclinical studies, conducting preclinical and toxicology studies, manufacturing clinical trial material and conducting clinical trials, establishing and protecting our intellectual property, staffing our company and raising capital. We do not have any products approved for sale and have not generated any revenue from product sales. We have funded our operations primarily through our strategic partnerships, private placements of our convertible preferred stock and public offerings of our common stock.

Since inception, we have incurred significant cumulative operating losses. For the nine months ended September 30, 2019, the net loss was $12.0 million, compared to $41.8 million in the nine months ended September 30, 2018. The

difference year over year is primarily attributable to $40.0 million in revenue that was recognized in the first quarter of 2019 as a result of the discontinuation of the partnership with Takeda in that quarter. Cash used in operations for the three and nine months ended September 30, 2019 was $16.3 million and $55.2 million, respectively. As of September 30, 2019, we had an accumulated deficit of $176.1 million. We expect to continue to incur significant expenses and operating losses over the next several years. We anticipate that our expenses will increase significantly in connection with our ongoing activities, as we:

- continue clinical development activities for our lead product candidate XMT-1536;
- continue activities to discover, validate and develop additional product candidates;
- maintain, expand and protect our intellectual property portfolio; and
- hire additional research, development and general and administrative personnel.

Financial operations overview

Revenue

To date, we have not generated any revenue from the sale of products. All of our revenue has been generated from strategic partnerships.

In June 2014, we entered into an agreement with Merck KGaA for the development and commercialization of ADC product candidates utilizing our Fleximer polymer scaffold for up to six target antigens. Merck KGaA is responsible for generating antibodies against the target antigens and we are responsible for generating Fleximer and our proprietary payloads and conjugating this to the antibody to create the ADC product candidates. Merck KGaA has the exclusive right to and is responsible for the further development and commercialization of these ADC product candidates. In May 2018, we entered into a supply agreement with Merck KGaA for the supply of materials that could be used for Investigational New Drug-enabling studies and clinical trials.

For the three months ended September 30, 2019 and 2018 and the nine months ended September 30, 2019 and 2018, we recognized revenue of $0.8 million, $1.5 million, $2.1 million and $2.4 million, respectively, related to our license agreement and supply agreement with Merck KGaA.

In January 2016, we entered into an agreement with Takeda for the development and commercialization of XMT-1522, a HER2-targeted ADC. Under this agreement, Takeda was granted the exclusive right and responsibility to commercialize XMT-1522 outside the United States and Canada. In addition, in January 2016, we entered into an agreement with Takeda for the development and commercialization of ADC product candidates utilizing Fleximer.

In January 2019, following a strategic evaluation by the Company of the competitive environment for HER2-targeted therapies, the Company and Takeda decided to discontinue the development of XMT-1522, which was then being studied in the dose escalation of a Phase 1 clinical trial. The Company’s collaboration agreements with Takeda were terminated following receipt of written notices during the first quarter of 2019.

We recognized the remaining deferred revenue of $40.0 million related to the termination of the Takeda agreements in the first quarter of 2019. We did not recognize any revenue related to the Takeda agreements in the second or third quarter and do not expect to have any further revenue related to these agreements.

We have provided limited services for Asana BioSciences. We recorded an immaterial amount of revenue for these services in the three and nine months ended September 30, 2019. For the three and nine months ended September 30, 2018, we recorded revenue of $0.6 million and $0.8 million, respectively, related to these services. In addition, the Company recognized revenue of $1.5 million related to a milestone achieved during the nine months ended September 30, 2018. The Company did not recognize any revenue related to milestones in the three and nine months ended September 30, 2019.

For the foreseeable future, we expect substantially all of our revenue to be generated from our collaboration agreements with Merck KGaA and Asana BioSciences. Given the uncertain nature and timing of clinical development, we cannot predict when or whether we will receive further milestone payments or any royalty payments under these collaborations.

Operating expenses

Research and development expenses

Research and development expenses consist primarily of costs incurred for our research and development activities, including our drug discovery efforts, and the development of our product candidates, which include:

- employee-related expenses, including salaries, bonus, benefits and stock-based compensation expense;
- costs of funding research and development performed by third parties that conduct research, preclinical activities, manufacturing and clinical trials on our behalf;
- laboratory supplies;
- facility costs, including rent, depreciation and maintenance expenses; and
- upfront and milestone payments under our third-party licensing agreements.

Research and development costs are expensed as incurred. Costs of certain activities, such as manufacturing, preclinical studies and clinical trials, are generally recognized based on an evaluation of the progress to completion of specific tasks. Nonrefundable advance payments for goods or services to be received in the future for use in research and development activities are deferred and capitalized. The capitalized amounts are expensed as the related goods are delivered or the services are performed.

We expect research and development costs to increase significantly for the foreseeable future as our product candidate development programs progress. There are numerous factors associated with the successful development and commercialization of any of our product candidates, including future trial design and various regulatory requirements, many of which cannot be determined with accuracy at our current stage of development. Additionally, future commercial and regulatory factors beyond our control may impact our clinical development programs and plans.

A significant portion of our research and development costs have been external costs, which we track on a program-by-program basis following nomination as a product candidate. We have not historically tracked all of our internal research and development expenses on a program-by-program basis as they are deployed across multiple projects under development. The following table summarizes our external research and development expenses, by program, following nomination as a development candidate. All external expenses not attributable to the XMT-1536 and XMT-1522 programs are captured within preclinical and discovery costs. These costs relate to our next ADC clinical candidate, as well as additional earlier discovery stage programs and certain unallocated costs. Our internal research and development costs are primarily personnel-related costs, stock-based compensation costs, facility costs, including depreciation, and lab consumables.

	Three months ended September 30,		Nine months ended September 30,	
(in thousands)	**2019**	**2018**	**2019**	**2018**
XMT-1536 external costs	$ 2,193	$ 3,106	$ 6,801	$ 7,739
XMT-1522 external costs	305	4,646	2,267	11,347
Preclinical and discovery costs	4,994	1,590	13,383	3,434
Internal research and development costs	6,209	5,838	20,159	17,578
Total research and development costs	$ 13,701	$ 15,180	$ 42,610	$ 40,098

The successful development of our product candidates is highly uncertain. As such, we cannot reasonably estimate or know the nature, timing and estimated costs of the efforts that will be necessary to complete the remainder of the development of our product candidates. We are also unable to predict when, if ever, material net cash inflows will

commence from the development efforts associated with our product candidates. This is due to the numerous risks and uncertainties associated with developing drugs, including the uncertainty of:

- successful completion of preclinical studies and IND-enabling studies;
- successful enrollment in and completion of clinical trials;
- receipt of marketing approvals from applicable regulatory authorities;
- establishing commercial manufacturing capabilities or making arrangements with third-party manufacturers;
- obtaining and maintaining patent and trade secret protection and regulatory exclusivity for our product candidates;
- commercializing the product candidates, if and when approved, whether alone or in collaboration with others; and
- continued acceptable safety profile of the drugs following approval.

A change in the outcome of any of these variables with respect to the development, manufacture or commercialization of any of our product candidates would significantly change the costs, timing and viability associated with the development of that product candidate.

General and administrative expenses

General and administrative expenses consist primarily of salaries and other employee-related costs, including stock-based compensation, for personnel in executive, finance, accounting, information technology, business development, legal operations and human resources functions. Other significant costs include facility costs not otherwise included in research and development expenses, legal fees relating to patent and corporate matters, and fees for accounting and consulting services.

We anticipate that our general and administrative expenses will increase in the future to support continued research and development activities, including increased costs related to the hiring of additional personnel, fees to outside consultants and patent costs, among other expenses.

Other income (expense)

Other income (expense) consists of interest income earned on cash equivalents and marketable securities.Interest expense is related to the credit facility that we entered into on May 9, 2019, with Silicon Valley Bank. It bears a floating per annum rate interest, as well as a final payment of 5% of the amounts drawn, that is being recorded as interest expense over the term through the maturity date using the effective-interest method. Also included in interest expense is the amortization of the deferred financing costs and the accretion of debt discount relating to the credit facility.

Critical accounting policies and estimates

Our management's discussion and analysis of our financial condition and results of operations are based on our financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles. The preparation of these financial statements requires us to make judgments and estimates that affect the reported amounts of assets, liabilities, revenues, and expenses and the disclosure of contingent assets and liabilities in our financial statements. We base our estimates on historical experience, known trends and events, and various other factors that are believed to be reasonable under the circumstances. Actual results may differ from these estimates under different assumptions or conditions. On an ongoing basis, we evaluate our judgments and estimates in light of changes in circumstances, facts and experience. The effects of material revisions in estimates, if any, will be reflected in the financial statements prospectively from the date of change in estimates. There were no material changes to our critical accounting policies as reported in our Annual Report on Form 10-K for the year ended December 31, 2018, which was filed with the SEC on

March 8, 2019, with the exception of our critical accounting policies related to the adoption of ASC 842*Leases*, effective January 1, 2019, as described in Note 2 to our consolidated financial statements included herein.

Results of Operations

Comparison of the three months ended September 30, 2019 and 2018

The following table summarizes our results of operations for the three months ended September 30, 2019 and 2018:

	Three months ended September 30,		
(in thousands)	**2019**	**2018**	**Dollar Change**
Collaboration revenue	$ 844	$ 2,151	$ (1,307)
Operating expenses:			
Research and development	13,701	15,180	(1,479)
General and administrative	4,436	4,380	56
Total operating expenses	18,137	19,560	(1,423)
Other income (expense):			
Interest income	608	340	268
Interest expense	(107)	—	(107)
Total other income (expense), net	501	340	161
Net loss	$ (16,792)	$ (17,069)	$ 277

Collaboration Revenue

Collaboration revenue was $0.8 million during the three months ended September 30, 2019, compared to $2.2 million during the three months ended September 30, 2018. The decrease of $1.3 million was primarily a result of a decrease in services performed in support of partner programs for Asana BioSciences and the Merck KGaA Agreements.

Research and Development Expense

Research and development expense was $13.7 million for the three months ended September 30, 2019, compared to $15.2 million for the three months ended September 30, 2018. The overall decrease of $1.5 million was primarily related to a decrease in manufacturing costs of $5.5 million for XMT-1536 and XMT-1522 programs, offset by the following:

- $2.4 million increase in manufacturing costs for preclinical and discovery efforts associated with our next ADC clinical candidate;
- $0.5 million increase in costs for advancement of companion diagnostic development efforts for the NaPi2B biomarker;
- $0.6 million increase attributable to a milestone paid upon dosing of the first patient in the expansion cohort of the XMT-1536 clinical trial; and
- $0.4 million increase attributable to employee compensation, including stock-based compensation expense.

We expect our research and development expenses to increase as we continue our clinical development of XMT-1536 and continue to advance our preclinical product candidate pipeline and invest in improvements in our ADC technologies.

General and Administrative Expense

General and administrative expense was approximately $4.4 million during the three months ended September 30, 2019 and 2018. General and administrative expense remained flat due to the following:

- $0.6 million in increased employee compensation, including stock-based compensation expense;

- $0.6 million in decreased consulting and professional fees.

We expect that our general and administrative expense willincrease in the future to support continued research and development activities. These increases will likely include legal, auditing and filing fees, additional insurance premiums and general compliance and consulting expenses.

Other Income (Expense)

Other income (expense), net, was $0.5 million and $0.3 million for the three months ended September 30, 2019 and September 30, 2018, respectively. Other income consists primarily of interest income on cash equivalents and marketable securities, which increased $0.3 million due to higher investable balances for the three months ended September 30, 2019. Interest expense was related to our outstanding borrowings under the credit facility.

Comparison of the nine months ended September 30, 2019 and 2018

The following table summarizes our results of operations for the nine months ended September 30, 2019 and 2018:

	Nine months ended September 30,		
(in thousands)	**2019**	**2018**	**Dollar Change**
Collaboration revenue	$ 42,081	$ 9,405	$ 32,676
Operating expenses:			
Research and development	42,610	40,098	2,512
General and administrative	13,072	12,181	891
Total operating expenses	55,682	52,279	3,403
Other income (expense):			
Interest income	1,785	1,049	736
Interest expense	(146)	—	(146)
Total other income (expense), net	1,639	1,049	590
Net loss	$ (11,962)	$ (41,825)	$ 29,863

Collaboration Revenue

Collaboration revenue was $42.1 million during the nine months ended September 30, 2019, compared to $9.4 million during the nine months ended September 30, 2018, an increase of $32.7 million, primarily as a result of the termination of the Takeda agreements and the recognition of the remaining deferred revenue of $40.0 million. Additionally, revenue of $2.1 million was recognized for the Merck KGaA Agreement and Merck KGaA Supply Agreement in the nine months ended September 30, 2019. This compares to the revenue recognized during the nine months ended September 30, 2018 for support of partner programs with Takeda, Merck KGaA and Asana BioSciences of $7.9 million and recognition of a milestone of $1.5 million achieved upon completion of a GLP toxicology study by Asana BioSciences.

Research and Development Expense

Research and development expense was $42.6 million for the nine months ended September 30, 2019, compared to $40.1 million for the nine months ended September 30, 2018. The overall increase of $2.5 million was primarily attributable to the following:

- $0.5 million increase in costs for advancement of companion diagnostic development efforts for the NaPi2B biomarker;
- $0.7 million increase in lab consumables and facilities costs;
- $0.6 million increase attributable to a milestone paid upon dosing of the first patient in the expansion cohort of the XMT-1536 clinical trial; and
- $1.7 million increase in employee compensation, including stock-based compensation expense.

These increased costs were primarily offset by $1.2 million in decreased clinical and regulatory expenses related to XMT-1522 program costs.

We expect our research and development expenses to increase as we continue our clinical development of XMT-1536 and continue to advance our preclinical product candidate pipeline and invest in improvements in our ADC technologies.

General and Administrative Expense

General and administrative expense was $13.1 million for the nine months ended September 30, 2019, compared to $12.2 million for the nine months ended September 30, 2018. The increase of $0.9 million was primarily attributable to $1.4 million in increased employee compensation, including stock-based compensation expense. This increased cost was offset by $0.6 million in decreased consulting and professional fees.

We expect that our general and administrative expense will increase in the future to support continued research and development activities. These increases will likely include legal, auditing and filing fees, additional insurance premiums and general compliance and consulting expenses.

Other Income (Expense)

Other income (expense), net, was $1.6 million and $1.0 million for the nine months ended September 30, 2019 and September 30, 2018, respectively. Other income consists primarily of interest income on cash equivalents and marketable securities, which increased $0.7 million due to higher investable balances for the nine months ended September 30, 2019. Interest expense of $0.1 million was related to our outstanding borrowings under the credit facility.

Liquidity and Capital Resources

Sources of Liquidity

Since our initial public offering in July 2017, we have financed our operations primarily with the proceeds from that offering and our 2019 follow-on public offering. The follow-on public offering was completed on March 5, 2019 and resulted in net proceeds of $92.2 million. On May 8, 2019, the Company entered into a term-loan agreement for up to $20.0 million, of which $5.0 million was funded in connection with the execution of the agreement. No additional amounts have been drawn since the initial $5.0 million. As of September 30, 2019, we had cash, cash equivalents and marketable securities of $112.0 million.

On July 2, 2018, we established an ATM pursuant to which we are able to offer and sell up to $75.0 million of our common stock from time to time at prevailing market prices. As of September 30, 2019, we had not sold any shares under the ATM and had $75.0 million of availability under the program.

Cash Flows

The following table provides information regarding our cash flows for the nine months ended September 30, 2019 and 2018:

	Nine months ended September 30,	
(in thousands)	**2019**	**2018**
Net cash used in operating activities	$ (55,168)	$ (39,312)
Net cash provided by (used in) investing activities	(43,793)	73,472
Net cash provided by financing activities	97,473	853
Increase (decrease) in cash, cash equivalents and restricted cash	$ (1,488)	$ 35,013

Net Cash Used in Operating Activities

Net cash used in operating activities for the nine months ended September 30, 2019 was $55.2 million as compared to $39.3 million during the nine months ended September 30, 2018. The increase was due primarily to an increase in operating expenses and the timing of payments made to vendors.

Net Cash Provided by (Used in) Investing Activities

Net cash used in investing activities was $43.8 million during the nine months ended September 30, 2019 and consisted primarily of purchases of marketable securities, partially offset by maturities of marketable securities. Net cash provided by investing activities was $73.5 million during the nine months ended September 30, 2018 and consisted primarily of maturities of marketable securities.

Net Cash Provided by Financing Activities

Net cash provided by financing activities was $97.5 million during the nine months ended September 30, 2019 as compared to $0.9 million during the nine months ended September 30, 2018. During the nine months ended September 30, 2019 cash provided by financing activities consisted primarily of the proceeds from the Company's follow-on public offering and issuance of debt. During the nine months ended September 30, 2018, cash provided by financing activities resulted primarily of the proceeds from exercises of stock options.

Funding Requirements

We expect our cash expenditures to increase in connection with our ongoing activities, particularly as we continue the research and development of, continue clinical trials of, and seek marketing approval for, our product candidates. In addition, if we obtain marketing approval for any of our product candidates, we expect to incur significant commercialization expenses related to drug sales, marketing, manufacturing and distribution to the extent that such sales, marketing and distribution are not the responsibility of potential collaborators. Accordingly, we will need to obtain substantial additional funding in connection with our continuing operations. If we are unable to raise capital when needed or on attractive terms, we would be forced to delay, reduce or eliminate our research and development programs or future commercialization efforts.

We currently expect that our cash, cash equivalents, and marketable securities will enable us to fund our operating plan through at least mid-2021. In addition, we have access to an additional line of credit of $15.0 million. Our future capital requirements will depend on many factors, including:

- the scope, progress, results and costs of drug discovery, preclinical development, laboratory testing and clinical trials for our product candidates;
- the scope, prioritization and number of our research and development programs;
- the costs, timing and outcome of reviews of our product candidates by regulatory agencies;
- our ability to establish and maintain collaborations on favorable terms, if at all;
- the achievement of milestones or occurrence of other developments that trigger payments under any collaboration agreements we obtain;
- the extent to which we are obligated to reimburse, or entitled to reimbursement of, clinical trial costs under future collaboration agreements, if any;
- the costs of preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending intellectual property-related claims;
- the extent to which we acquire or in-license other product candidates and technologies;
- the costs of securing manufacturing arrangements for clinical and commercial production; and
- the costs of establishing or contracting for sales and marketing capabilities if we obtain regulatory approvals to market our product candidates.

Identifying potential product candidates and conducting preclinical testing and clinical trials is a time-consuming, expensive and uncertain process that takes many years to complete, and we may never generate the necessary data or results required to obtain marketing approval and achieve drug sales. In addition, our product candidates, if approved, may not achieve commercial success. Our commercial revenues, if any, will be derived from sales of drugs that we do not expect to be commercially available for many years, if at all. Accordingly, we will need to continue to rely on additional financing to achieve our business objectives. Adequate additional financing may not be available to us on acceptable terms, or at all.

Until such time, if ever, as we can generate substantial product revenues, we expect to finance our cash needs through a combination of equity offerings, debt financings, strategic partnerships and licensing arrangements. We have access to an additional line of credit of $15.0 million under the Credit Facility along with funds to be earned in connection with our agreements with Merck KGaA and Asana BioSciences, if development activities are successful under those agreements. Future additional debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends.

If we raise funds through additional strategic partnerships or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or to grant licenses on terms that may not be favorable to us. If we are unable to raise additional funds through equity or debt financings when needed, we may be required to delay, limit, reduce or terminate our drug development or future commercialization efforts or grant rights to develop and market product candidates that we would otherwise prefer to develop and market ourselves.

Off-Balance Sheet Arrangements

We did not have, during the periods presented, and we do not currently have, any off-balance sheet arrangements, as defined under applicable SEC rules.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

We are exposed to market risk related to changes in interest rates. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates, particularly because our investments, including cash and cash equivalents and short-term marketable securities, are in a money market fund that invests in U.S. Treasury obligations. Due to the short-term duration of our investment portfolio and the low risk profile of our investments, if market interest rates were to increase immediately and uniformly by 100 basis points, or one percentage point, from levels at September 30, 2019, the change in the net fair value of our interest-sensitive marketable securities would not have a material effect on the fair market value of our portfolio.

We are currently not exposed to market risk related to changes in foreign currency exchange rates, but we may contract with vendors that are located in Asia and Europe and may be subject to fluctuations in foreign currency rates at that time.

Inflation generally affects us by increasing our cost of labor and clinical trial costs. We do not believe that inflation had a material effect on our business, financial condition or results of operations during the three or nine months ended September 30, 2019 and 2018.

Item 4. Controls and Procedures

Management's Evaluation of our Disclosure Controls and Procedures

We maintain "disclosure controls and procedures," as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended (Exchange Act), that are designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms and (ii) accumulated and communicated to our management, including our principal executive and principal financial officer, as appropriate to allow timely decisions regarding required disclosure. Our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and our management necessarily applies

its judgment in evaluating the cost-benefit relationship of possible controls and procedures. Our disclosure controls and procedures are designed to provide reasonable assurance of achieving their control objectives.

Our management, with the participation of our principal executive officer and principal financial officer, has evaluated the effectiveness of our disclosure controls and procedures as of September 30, 2019, the end of the period covered by this Quarterly Report on Form 10-Q. Based upon such evaluation, our principal executive officer and principal financial officer have concluded that our disclosure controls and procedures were effective at the reasonable assurance level as of such date.

Changes in Internal Control over Financial Reporting

There was no change in our internal control over financial reporting that occurred during the period covered by this Quarterly Report on Form 10-Q that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II - OTHER INFORMATION

Item 1. Legal Proceedings

From time to time, we may be subject to various legal proceedings and claims that arise in the ordinary course of our business activities. Although the results of litigation and claims cannot be predicted with certainty, as of the end of the period covered by this report, we did not believe we were party to any claim or litigation, the outcome of which, if determined adversely to us, would individually or in the aggregate be reasonably expected to have a material adverse effect on our business. Regardless of the outcome, litigation can have an adverse impact on us because of defense and settlement costs, diversion of management resources and other factors.

Item 1A. Risk Factors

Risk Factors

There have been no material changes to the Company's risk factors as set forth in Part I, Item 1A of the Company's Annual Report on Form 10-K, as filed with the SEC on March 8, 2019.

Item 6. Exhibits.

EXHIBIT 3.1	-	Fifth Amended and Restated Certificate of Incorporation (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K, filed on July 10, 2017).
EXHIBIT 3.2	-	Amended and Restated Bylaws (incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K, filed on July 10, 2017).
EXHIBIT 10.1		First Amendment to the License, Development and Commercialization Agreement dated August 19, 2019, by and between Mersana Therapeutics, Inc. and Recepta Biopharma, S.A.
EXHIBIT 31.1	-	Rule 13a—14(a) / 15d—14(a) Certifications — Chief Executive Officer.
EXHIBIT 31.2	-	Rule 13a—14(a) / 15d—14(a) Certifications — Principal Financial Officer.
EXHIBIT 32.1	-	Section 1350 Certifications.
EXHIBIT 101.INS	-	XBRL Instance Document.
EXHIBIT 101.SCH	-	XBRL Taxonomy Extension Schema Document.
EXHIBIT 101.CAL	-	XBRL Taxonomy Extension Calculation Linkbase Document.
EXHIBIT 101.DEF	-	XBRL Taxonomy Extension Definition Linkbase Document.
EXHIBIT 101.LAB	-	XBRL Taxonomy Extension Label Linkbase Document.
EXHIBIT 101.PRE	-	XBRL Taxonomy Extension Presentation Linkbase Document.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

Mersana Therapeutics, Inc.

Dated: November 6, 2019

By: /s/ Anna Protopapas
Anna Protopapas
President and Chief Executive Officer

Dated: November 6, 2019

By: /s/ Brian DeSchuytner
Brian DeSchuytner
Senior Vice President, Finance & Product Strategy

EXHIBIT 10.1

FIRST AMENDMENT TO THE

LICENSE, DEVELOPMENT AND COMMERCIALIZATION AGREEMENT

This First Amendment (the "First Amendment") to the License, Development and Commercialization Agreement effective as of July 9, 2015 (the "Agreement") is by and between Mersana Therapeutics, Inc. ("Mersana"), with offices at 840 Memorial Dr., Cambridge, MA 02139, USA, and Recepta Biopharma, S.A. ("Recepta"), with offices at Rua Tabapuã, 1123 conj 36, Itaim Bibi, São Paulo, SP, CEP 04533 – 014, Brazil, and is effective as of the date that it is fully executed by the Parties (the "First Amendment Effective Date"). Capitalized terms not otherwise defined herein shall have the definitions ascribed to them in the Agreement.

BACKGROUND

WHEREAS, the Parties have been in discussions regarding the payment of the First Product Milestone Payment for the Initiation of first Phase II Clinical Trial (the "Phase II Milestone Payment") as provided in Section 5.2 of the Agreement; and

WHEREAS, in the interest of clarifying the matter, the Parties have agreed to amend the Agreement to modify the Phase II Milestone Payment provisions;

NOW THEREFORE, in consideration of the foregoing recitals and other good and valuable consideration, the receipt and sufficiency of which is hereby agreed and acknowledged, and intending to be legally bound, the Parties hereby agree as follows:

1. Defined Terms:

   a. "XMT-1536 Clinical Trial" is defined as that certain open-label clinical trial entitled: "Phase 1b, First-in-Human, Dose Escalation and Expansion Study of XMT-1536 in Patients with Solid Tumors Likely to Express NaPi2b," with the ClinicalTrials.gov identifier: NCT03319628.

   b. "Pivotal Trial" is defined as a clinical trial of a drug product designed to demonstrate statistically significant clinical efficacy and safety in human patients (in conjunction with performance of a therapeutic procedure) pursuant to a clinical study agreed with the FDA, which trial the FDA accepts as a clinical trial necessary for regulatory approval of such product.

2. Section 5.2 of the Agreement is hereby amended to delete, in its entirety, the Development milestone entitled “Initiation of first Phase II Clinical Trial” and its related payment of US$1,500,000 for the First Product.

3. The following Development milestones shall be added to the table in Section 5.2:

Development Milestones	**First Product**	**Second Product**
	Milestone Payment	
Dosing of first patient in the expansion cohort of the XMT-1536 Clinical Trial	$600,000	N/A
The first event to occur of the following: 1. The FDA requires the inclusion of additional patients in the XMT-1536 Clinical Trial expansion cohort as a condition precedent to giving the clearance for Mersana to begin a Pivotal Trial for XMT-1536; or 2. Mersana Initiates its first Phase II Clinical Trial; or 3. Mersana Initiates its first Pivotal Trial.	$900,000	N/A

4. The following is hereby added at the end of Section 5.2:

> "If a Development milestone is achieved pursuant to this Section 5.2 for a Licensed Product, and a prior Development milestone for such Licensed Product has not previously been paid by Mersana, then such unpaid previous Development milestone payment shall become due and payable in addition to and concurrently with the applicable Development milestone payment due hereunder."

5. Except as modified as set forth herein, the Agreement remains in full force and effect. This First Amendment and the Agreement represent the entire agreement about this subject matter and supersede prior negotiations or agreements. All prior agreements, understandings, representations, warranties, and negotiations between the Parties about the subject matter of this First Amendment and the Agreement merge into this First Amendment and the Agreement.

[*Signatures on following page*]

IN WITNESS WHEREOF, Mersana and Recepta, by their duly authorized officers, have executed this First Amendment.

MERSANA THERAPEUTICS, INC.	**RECEPTA BIOPHARMA S.A.**
By: /s/ Anna Protopapas	By: /s/ José Fernando Perez
Name: Anna Protopapas	Name: José Fernando Perez
Title: President & CEO	Title: CEO
Date: August 19, 2019	Date: August 19, 2019

Exhibit 31.1

Certification of Principal Executive Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of Sarbanes-Oxley Act of 2002

I, Anna Protopapas, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Mersana Therapeutics, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
    b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
    c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
    d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report), that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Mersana Therapeutics, Inc.

/s/ Anna Protopapas
Anna Protopapas
President and Chief Executive Officer
(Principal Executive Officer)

Dated: November 6, 2019

Exhibit 31.2

Certification of Principal Financial Officer pursuant to Exchange Act Rules 13a-14(a) and 15d-14(a), as adopted pursuant to Section 302 of Sarbanes-Oxley Act of 2002

I, Brian DeSchuytner, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of Mersana Therapeutics, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report), that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Mersana Therapeutics, Inc.

/s/ Brian DeSchuytner
Brian DeSchuytner
Senior Vice President, Finance & Product Strategy
(Principal Financial Officer)

Dated: November 6, 2019

Exhibit 32.1

CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

In connection with the Quarterly Report on Form 10-Q of Mersana Therapeutics, Inc. (the "Company") for the quarter ended September 30, 2019 as filed with the Securities and Exchange Commission on the date hereof (the "Report"), each of the undersigned officers of the company, hereby certifies, pursuant to Section 1350 of Chapter 63 of Title 18, United States Code, that to the best of her or his knowledge:

1) the Report fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934; and

2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: November 6, 2019

/s/ Anna Protopapas
Anna Protopapas
President and Chief Executive Officer
(Principal Executive Officer)

Dated: November 6, 2019

/s/ Brian DeSchuytner
Brian DeSchuytner
Senior Vice President, Finance & Product Strategy
(Principal Financial Officer)