Atara Biotherapeutics, Inc.
Form 10-Q
August 01, 2018

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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 June 30, 2018

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from to

Commission file number 001-36548

ATARA BIOTHERAPEUTICS, INC.

(Exact name of Registrant as specified in its Charter)

Delaware	46-0920988
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
	94080

611 Gateway Blvd., Suite 900

South San Francisco, CA
(Address of principal executive offices) (Zip Code)
(Registrant's telephone number, including area code: (650) 278-8930

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 and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the Registrant was required to submit and post such files). Yes No

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

Large accelerated filer Accelerated filer
Non-accelerated filer (Do not check if a small reporting company) 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

The number of outstanding shares of the Registrant's Common Stock as of July 27, 2018 was 45,342,653 shares.

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Atara Biotherapeutics, Inc.

Condensed Consolidated Balance Sheets

(Unaudited)

(In thousands, except per share amounts)

	June 30, 2018	December 31, 2017
Assets		
Current assets:		
Cash and cash equivalents	$103,203	$79,223
Short-term investments	313,812	86,873
Restricted cash - short-term	194	194
Prepaid expenses and other current assets	7,861	5,900
Total current assets	425,070	172,190
Property and equipment, net	66,075	44,129
Restricted cash - long-term	1,200	1,200
Other assets	362	260
Total assets	$492,707	$217,779
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$6,545	$14,711
Accrued compensation	5,276	5,664
Accrued research and development expenses	6,661	4,006
Other current liabilities	8,752	3,265
Total current liabilities	27,234	27,646
Long-term liabilities	12,974	12,269
Total liabilities	40,208	39,915
Commitments and contingencies (Note 7)		
Stockholders' equity:		
Common stock—$0.0001 par value, 500,000 shares authorized as of June 30, 2018 and December 31, 2017; 45,334 and 30,730 shares issued and outstanding as of June 30, 2018 and December 31, 2017, respectively	5	3
Additional paid-in capital	841,975	474,662
Accumulated other comprehensive loss	(505)	(151)
Accumulated deficit	(388,976)	(296,650)
Total stockholders' equity	452,499	177,864

Total liabilities and stockholders' equity	$492,707	$217,779

See accompanying notes.

Atara Biotherapeutics, Inc.

Condensed Consolidated Statements of Operations and Comprehensive Loss

(Unaudited)

(In thousands, except per share amounts)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2018	2017	2018	2017
Operating expenses:				
Research and development	$ 33,387	$ 18,296	$ 61,847	$ 35,837
General and administrative	19,236	9,613	33,228	18,233
Total operating expenses	52,623	27,909	95,075	54,070
Loss from operations	(52,623)	(27,909)	(95,075)	(54,070)
Interest and other income, net	1,743	481	2,752	990
Loss before provision for income taxes	(50,880)	(27,428)	(92,323)	(53,080)
Provision for income taxes	3	—	3	2
Net loss	$ (50,883)	$ (27,428)	$ (92,326)	$ (53,082)
Other comprehensive loss:				
Unrealized gain (loss) on available-for-sale securities	19	38	(354)	69
Comprehensive loss	$ (50,864)	$ (27,390)	$ (92,680)	$ (53,013)
Net loss per common share:				
Basic and diluted net loss per common share	$ (1.15)	$ (0.94)	$ (2.20)	$ (1.82)
Weighted-average shares outstanding used to calculate basic and diluted net loss per common share	44,379	29,247	42,001	29,152

See accompanying notes.

Atara Biotherapeutics, Inc.

Condensed Consolidated Statements of Cash Flows

(Unaudited)

(In thousands)

	Six months ended June 30,	
	2018	2017
Operating activities		
Net loss	$(92,326)	$(53,082)
Adjustments to reconcile net loss to net cash used in operating activities:		
Stock-based compensation expense	15,013	11,003
Amortization of investment premiums and discounts	(756)	459
Depreciation and amortization expense	1,064	428
Non-cash interest expense	125	—
Asset retirement obligation accretion expense	16	—
Changes in operating assets and liabilities:		
Prepaid expenses and other current assets	(1,961)	(725)
Other assets	(102)	(74)
Accounts payable	(207)	253
Accrued compensation	(388)	(483)
Accrued research and development expenses	2,655	(337)
Other current liabilities	2,545	160
Long-term liabilities	66	63
Net cash used in operating activities	(74,256)	(42,335)
Investing activities		
Purchases of short-term investments	(357,647)	(112,395)
Maturities of short-term investments	51,984	115,349
Sales of short-term investments	79,126	51,711
Purchases of property and equipment	(27,257)	(4,341)
Net cash (used in) provided by investing activities	(253,794)	50,324
Financing activities		
Proceeds from sale of common stock in underwritten offerings, net	293,290	—
Proceeds from issuance of common stock from "at-the-market" facility, net	47,586	9,326
Proceeds from employee stock awards	14,857	495
Taxes paid related to net share settlement of restricted stock units	(3,431)	(341)
Principal payments on capital lease obligations	(272)	—
Net cash provided by financing activities	352,030	9,480
Increase in cash, cash equivalents and restricted cash	23,980	17,469
Cash, cash equivalents and restricted cash at beginning of period	80,617	48,162
Cash, cash equivalents and restricted cash at end of period	$104,597	$65,631
Non-cash investing and financing activities		
Property and equipment purchases included in accounts payable and other accrued	$5,078	$2,502

liabilities		
Facility lease financing obligations	$441	$10,870
Property & equipment acquired under capital leases	$191	$—
Asset retirement cost	$88	$—
Interest capitalized during construction period for build-to-suit lease transaction	$77	$95
Supplemental cash flow disclosure		
Cash paid for interest	$67	$—

See accompanying notes.

Atara Biotherapeutics, Inc.

Notes to Condensed Consolidated Financial Statements

(Unaudited)

1. Description of Business

Atara Biotherapeutics, Inc. ("Atara", "we", "our" or "the Company") was incorporated in August 2012 in Delaware. Atara is a T-cell immunotherapy company developing novel treatments for patients with cancer, autoimmune and viral diseases. The Company's "off-the-shelf", or allogeneic, T-cells are engineered from donors with healthy immune function and allow for rapid delivery from inventory to patients without a requirement for pretreatment. Atara's T-cell immunotherapies are designed to precisely recognize and eliminate cancerous or diseased cells without affecting normal, healthy cells.

We licensed rights to T-cell product candidates from Memorial Sloan Kettering Cancer Center ("MSK") in June 2015 and to know-how and technology from QIMR Berghofer Medical Research Institute ("QIMR Berghofer") in October 2015 and September 2016. See Note 6 for further information.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles ("U.S. GAAP") and follow the requirements of the Securities and Exchange Commission ("SEC") for interim reporting. As permitted under those rules, certain footnotes or other financial information that are normally required by U.S. GAAP can be condensed or omitted. These condensed consolidated financial statements have been prepared on the same basis as the Company's annual consolidated financial statements included in the Company's Annual Report on Form 10-K for the year ended December 31, 2017, except that the presentation of total cash, cash equivalents and restricted cash has been conformed to current period presentation. In the opinion of management, the condensed consolidated financial statements reflect all adjustments, consisting only of normal recurring adjustments, which are necessary for a fair statement of the Company's consolidated financial information. The results of operations for the six-month period ended June 30, 2018 are not necessarily indicative of the results to be expected for the full year or any other future period. The condensed consolidated balance sheet as of December 31, 2017 has been derived from audited consolidated financial statements at that date but does not include all of the information required by U.S. GAAP for complete consolidated financial statements.

Liquidity Risk

We have incurred significant operating losses since inception and have relied on public and private equity financings to fund our operations. As of June 30, 2018, we had an accumulated deficit of $389.0 million. As we continue to incur losses, our transition to profitability will depend on the successful development, approval and commercialization of product candidates and on the achievement of sufficient revenues to support our cost structure. We may never achieve profitability, and unless and until we do, we will need to continue to raise additional capital. Management expects that

our cash, cash equivalents and short-term investments will be sufficient to fund our planned operations to mid-2020.

Concentration of Credit Risk and Other Uncertainties

We place cash and cash equivalents in the custody of financial institutions that management believes are of high credit quality, the amount of which at times, may be in excess of the amount insured by the Federal Deposit Insurance Corporation. We also have short-term investments in money market funds, U.S. Treasury, government agency and corporate debt obligations, commercial paper and asset-backed securities, which can be subject to certain credit risk. However, we mitigate the risks by investing in high-grade instruments, limiting our exposure to any one issuer, and monitoring the ongoing creditworthiness of the financial institutions and issuers.

We are subject to certain risks and uncertainties and believe that changes in any of the following areas could have a material adverse effect on future financial position or results of operations: our ability to obtain future financing; regulatory approval and market acceptance of, and reimbursement for, our product candidates, if approved; performance of third-party clinical research organizations and manufacturers upon which we rely; development of sales channels; protection of our intellectual property; litigation or claims against us based on intellectual property, patent, product, regulatory or other factors; and our ability to attract and retain employees necessary to support our growth.

Use of Estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates, assumptions, and judgments that affect the amounts reported in the financial statements and accompanying notes. Significant estimates relied upon in preparing these financial statements include estimates related to clinical trial and other accruals, stock-based compensation expense, construction costs and income taxes. Actual results could differ materially from those estimates.

Leases

We lease office space in multiple locations. In addition, we recently constructed a manufacturing facility in Thousand Oaks, California under a non-cancelable lease agreement. The leases are reviewed for classification as operating or capital leases. For operating leases, rent is recognized on a straight-line basis over the lease period. For capital leases, we record the leased asset with a corresponding liability for principal and interest. Payments are recorded as reductions to these liabilities with interest being charged to interest expense in our statements of operations and comprehensive loss.

We analyzed the nature of the renovations and our involvement during the construction period of our manufacturing facility and determined that we are the deemed “owner” of the construction project during the construction period. As a result, we are required to capitalize the fair value of the building as well as the construction costs incurred on our condensed consolidated balance sheet along with a corresponding financing liability for landlord-paid construction costs (i.e. “build-to-suit” accounting).

Once construction is complete, the Company considers the requirements for sale-leaseback accounting treatment, including evaluating whether all risks of ownership have been transferred back to the landlord, as evidenced by a lack of continuing involvement in the leased property. If the arrangement does not qualify for sale-leaseback accounting treatment, the building asset remains on the Company’s consolidated balance sheets at its historical cost, and such asset is depreciated over its estimated useful life. The Company bifurcates its lease payments into a portion allocated to the building and a portion allocated to the parcel of land on which the building has been built. The portion of the lease payments allocated to the land is treated for accounting purposes as operating lease payments, and therefore is recorded as rent expense in the consolidated statements of operations. The portion of the lease payments allocated to the building is further bifurcated into a portion allocated to interest expense and a portion allocated to reduce the build-to-suit lease obligation. The initial recording of these assets and liabilities is classified as non-cash investing and financing items, respectively, for purposes of the consolidated statements of cash flows.

Asset Retirement Obligations (“ARO”)

ARO are legal obligations associated with the retirement of long-lived assets pertaining to leasehold improvements. These liabilities are initially recorded at fair value and the related asset retirement costs are capitalized by increasing the carrying amount of the related assets by the same amount as the liability. Asset retirement costs are subsequently depreciated over the useful lives of the related assets. Subsequent to initial recognition, the Company records period-to-period changes in the ARO liability resulting from the passage of time and revisions to either the timing or the amount of the original estimate of undiscounted cash flows. The Company derecognizes ARO liabilities when the related obligations are settled.

Recent Accounting Pronouncements

In February 2016, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) No. 2016-02, Leases (Topic 842), which is intended to increase the transparency and comparability in the reporting of

leasing arrangements by generally requiring leased assets and liabilities to be recorded on the balance sheet. The new standard is effective for fiscal years and interim periods within those fiscal years beginning after December 15, 2018, with early adoption permitted. We have not yet determined the potential effect the new standard will have on our consolidated financial statements.

In June 2016, the FASB issued ASU No. 2016-13, Financial Instruments - Credit Losses: Measurement of Credit Losses on Financial Instruments. ASU 2016-13 requires that expected credit losses relating to financial assets measured on an amortized cost basis and available-for-sale debt securities be recorded through an allowance for credit losses. ASU 2016-13 limits the amount of credit losses to be recognized for available-for-sale debt securities to the amount by which carrying value exceeds fair value and also requires the reversal of previously recognized credit losses if fair value increases. The new standard will be effective for us on January 1, 2020. Early adoption will be available on January 1, 2019. We have not yet determined the potential effect the new standard will have on our consolidated financial statements.

In February 2018, the FASB issued ASU 2018-02, Income Statement – Reporting Comprehensive Income (Topic 220): Reclassification of Certain Tax Effects from Accumulated Other Comprehensive Income, which allows a reclassification from accumulated other comprehensive income to retained earnings for adjustments to tax effects that were originally recorded in other comprehensive income due to changes in the U.S. federal corporate income tax rate resulting from the enactment of the U.S. tax reform legislation, commonly referred to as the Tax Cuts and Jobs Act (the "Tax Act"). The new standard is effective for fiscal years and interim periods within those fiscal years beginning after December 15, 2018, with early adoption permitted. We have not yet determined the potential effect the new standard will have on our consolidated financial statements.

In March 2018, the FASB issued ASU 2018-05, Income Taxes (Topic 740) Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin No. 118, to insert the SEC's interpretive guidance from Staff Accounting Bulletin No. 118 into the income tax accounting codification under U.S. GAAP. The ASU permits companies to use provisional amounts for certain income tax effects of the Tax Act during a one-year measurement period. The provisional accounting impacts for the Company may change in future reporting periods until the accounting analysis is finalized, which we expect to complete within the measurement period in accordance with SAB 118.

Adoption of New Accounting Pronouncements

On January 1, 2018, the Company adopted two new accounting standards issued by the FASB that clarify presentation and classification in the statement of cash flows on a retrospective basis. As a result of adoption, amounts generally described as restricted cash and restricted cash equivalents are now presented with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. As a result of adoption, cash, cash equivalents and restricted cash reported on the condensed consolidated statements of cash flows now includes restricted cash of $1.4 million, $1.4 million, and $0.2 million as of December 31, 2017, June 30, 2017, and December 31, 2016, respectively, as well as previously reported cash and cash equivalents.

3. Net Loss per Common Share

Basic net loss per common share is calculated by dividing net loss by the weighted-average number of shares of common stock outstanding during the period, without consideration of common share equivalents. Diluted net loss per common share is computed by dividing net loss by the weighted-average number of shares of common stock and common share equivalents outstanding for the period. Common share equivalents are only included in the calculation of diluted net loss per common share when their effect is dilutive.

Potential dilutive securities, which include, unvested restricted stock units (“RSUs”), vested and unvested options to purchase common stock and shares to be issued under our employee stock purchase plan (“ESPP”) have been excluded from the computation of diluted net loss per share as the effect is antidilutive. Therefore, the denominator used to calculate both basic and diluted net loss per common share is the same in all periods presented.

The following table represents the potential common shares issuable pursuant to outstanding securities as of the related period end dates that were excluded from the computation of diluted net loss per common share as their inclusion would have an antidilutive effect:

	As of June 30,	
	2018	2017
Unvested RSUs	1,797,702	1,801,397
Vested and unvested options	5,718,914	4,482,620
ESPP share purchase rights	9,366	11,562
Total	7,525,982	6,295,579

4.Financial Instruments

Our financial assets are measured at fair value on a recurring basis using the following hierarchy to prioritize valuation inputs, in accordance with applicable GAAP:

Level 1: Quoted prices in active markets for identical assets or liabilities that we have the ability to access
Level 2: Observable market-based inputs or unobservable inputs that are corroborated by market data such as quoted prices, interest rates and yield curves
Level 3: Inputs that are unobservable data points that are not corroborated by market data

We review the fair value hierarchy classification on a quarterly basis. Changes in the ability to observe valuation inputs may result in a reclassification of levels of certain securities within the fair value hierarchy. We recognize transfers into and out of levels within the fair value hierarchy in the period in which the actual event or change in circumstances that caused the transfer occurs. There have been no transfers between Level 1, Level 2 and Level 3 in any periods presented.

Financial assets and liabilities are considered Level 2 when their fair values are determined using inputs that are observable in the market or can be derived principally from or corroborated by observable market data such as pricing for similar securities, recently executed transactions, cash flow models with yield curves, and benchmark securities. In addition, Level 2 financial instruments are valued using comparisons to like-kind financial instruments and models that use readily observable market data as their basis. U.S. Treasury, government agency and corporate debt obligations, commercial paper and asset-backed securities are valued primarily using market prices of comparable securities, bid/ask quotes, interest rate yields and prepayment spreads and are included in Level 2.

Financial assets and liabilities are considered Level 3 when their fair values are determined using pricing models, discounted cash flow methodologies, or similar techniques, and at least one significant model assumption or input is unobservable. We have no Level 3 financial assets or liabilities.

The following tables summarize the estimated fair value and related valuation input hierarchy of our available-for-sale securities as of each period end:

As of June 30, 2018:	Input Level	Total Amortized Cost	Total Unrealized Gain	Total Unrealized Loss	Total Estimated Fair Value
		(in thousands)			
Money market funds	Level 1	$58,908	$ —	$ —	$58,908
U.S. Treasury obligations	Level 2	170,458	5	(146)	170,317
Government agency obligations	Level 2	16,868	—	(33)	16,835
Corporate debt obligations	Level 2	133,960	9	(308)	133,661
Commercial paper	Level 2	17,463	—	—	17,463
Asset-backed securities	Level 2	13,661	1	(33)	13,629
Certificate of deposit	Level 2	1,500	—	—	1,500
Total available-for-sale securities		412,818	15	(520)	412,313
Less amounts classified as cash equivalents		(98,499)	(2)	—	(98,501)
Amounts classified as short-term investments		$314,319	$ 13	$ (520)	$313,812

As of December 31, 2017:	Input Level	Total Amortized Cost	Total Unrealized Gain	Total Unrealized Loss	Total Estimated Fair Value
		(in thousands)			
Money market funds	Level 1	$68,730	$ —	$ —	$68,730
U.S. Treasury obligations	Level 2	39,068	—	(28)	39,040
Government agency obligations	Level 2	4,749	—	(21)	4,728
Corporate debt obligations	Level 2	46,532	2	(98)	46,436
Commercial paper	Level 2	1,592	—	—	1,592

Asset-backed securities	Level 2	4,122	—	(6)	4,116
Total available-for-sale securities		164,793	2	(153)	164,642
Less amounts classified as cash equivalents		(77,769)	—	—	(77,769)
Amounts classified as short-term investments		$87,024	$ 2	$ (153)	$86,873

The amortized cost and fair value of our available-for-sale securities by contractual maturity were as follows:

	As of June 30, 2018		As of December 31, 2017	
	Amortized Cost	Estimated Fair Value	Amortized Cost	Estimated Fair Value
	(in thousands)		(in thousands)	
Maturing within one year	$339,803	$339,500	$151,938	$151,852
Maturing in one to five years	73,015	72,813	12,855	12,790
Total available-for-sale securities	$412,818	$412,313	$164,793	$164,642

As of June 30, 2018, certain available-for-sale securities had been in a continuous unrealized loss position, each for less than twelve months. As of this date, no significant facts or circumstances were present to indicate a deterioration in the creditworthiness of the respective issuers, and the Company has no requirement or intention to sell these securities before maturity or recovery of their amortized cost basis. During the three and six months ended June 30, 2018 and 2017, we did not recognize any other-than-temporary impairment losses.

In addition, restricted cash collateralized by money market funds is a financial asset measured at fair value and is a Level 1 financial instrument under the fair value hierarchy. As of June 30, 2018 and December 31, 2017, restricted cash totaled $1.4 million and $1.4 million, respectively.

The following table provides a reconciliation of cash, cash equivalents and restricted cash within the condensed consolidated balance sheets that sum to the total of the same such amounts in the condensed consolidated statement of cash flows:

	June 30, 2018	December 31, 2017
	(in thousands)	
Cash and cash equivalents	103,203	79,223
Restricted cash - short term	194	194
Restricted cash - long term	1,200	1,200
Total cash, cash equivalents and restricted cash	$104,597	$80,617

5. Property and Equipment

Property and equipment consisted of the following as of each period end:

	June 30, 2018	December 31, 2017
	(in thousands)	
Leasehold improvements	$32,309	$623
Construction in progress	19,192	40,797
Build-to-suit asset (see Note 7)	10,686	—
Lab equipment	2,751	2,156
Machinery equipment	1,120	885
Furniture and fixtures	1,628	536
Computer equipment and software	798	477
	68,484	45,474
Less accumulated depreciation and amortization	(2,409)	(1,345)
Property and equipment, net	$66,075	$44,129

Construction in progress represents capitalized costs for our manufacturing facility in Thousand Oaks, California and capitalizable costs incurred for development of internal use software. Depreciation and amortization expense was $0.7 million and $0.2 million for the three months ended June 30, 2018 and 2017, respectively and $1.1 million and $0.4 million for the six months ended June 30, 2018 and 2017, respectively.

6. License, Collaboration and Manufacturing Agreements

MSK Agreements – In September 2014, the Company entered into an exclusive option agreement with MSK under which it had the right to acquire the exclusive worldwide license rights to three clinical stage T-cell therapies from MSK. In June 2015, we exercised an option to enter into an exclusive license agreement with MSK for three clinical stage T-cell therapies. In connection with the execution of the license agreement, the Company paid $4.5 million in cash to MSK, which was recorded as research and development expense in our condensed consolidated statement of operations and comprehensive loss.

We are required to make additional payments of up to $33.0 million to MSK based on achievement of specified regulatory and sales-related milestones, as well as mid-single-digit percentage tiered royalty payments based on future sales of products resulting from the development of the licensed product candidates, if any. In addition, under certain circumstances, we are required to make certain minimum annual royalty payments to MSK, which are creditable against earned royalties owed for the same annual period. We are also required to pay a low double-digit percentage of any consideration we receive for sublicensing the licensed rights. The license agreement expires on a product-by-product and country-by-country basis on the later of: (i) expiration of the last licensed patent rights related to each licensed product, (ii) expiration of any market exclusivity period granted by law with respect to each licensed product, and (iii) a specified number of years after the first commercial sale of the licensed product in each country. Upon expiration of the license agreement, Atara will retain non-exclusive rights to the licensed products.

QIMR Berghofer Agreements – In October 2015, we entered into an exclusive license agreement and a research and development collaboration agreement with QIMR Berghofer.

Under the terms of the license agreement, we obtained an exclusive, worldwide license to develop and commercialize allogeneic cytotoxic T-lymphocyte ("CTL") therapy programs utilizing technology and know-how developed by QIMR Berghofer. In consideration for the exclusive license, we paid $3.0 million in cash to QIMR Berghofer, which was recorded as research and development expense in our statement of operations and comprehensive loss in the fourth quarter of 2015. In September 2016, the exclusive license agreement and research and development collaboration agreement were amended and restated. Under the amended and restated agreements, we obtained an exclusive, worldwide license to develop and commercialize additional CTL programs as well as the option to license additional technology in exchange for $3.3 million in cash, which was recorded as research and development expense in our statement of operations and comprehensive loss in the third quarter of 2016. We exercised this option in June 2018. The amended and restated license agreement also provides for various milestone and royalty payments to QIMR Berghofer based on future product sales, if any.

Under the terms of the amended and restated research and development collaboration agreement, we are also required to reimburse the cost of agreed-upon development activities related to programs developed under the collaboration. These payments are expensed on a straight-line basis over the related development periods resulting in research and development expense of $1.3 million and $0.7 million for the three months ended June 30, 2018 and 2017, respectively and $2.4 million and $1.3 million for the six months ended June 30, 2018 and 2017, respectively. The agreement also provides for various milestone payments to QIMR Berghofer based on achievement of certain developmental and regulatory milestones.

Milestones and royalties under each of the above agreements are contingent upon future events and will be recorded as expense when it is probable that the milestones will be achieved or royalties are due. As of June 30, 2018 and December 31, 2017, there were no outstanding obligations for milestones and royalties to MSK and QIMR Berghofer.

Cognate Agreement - In August 2015, Atara entered into a Development and Manufacturing Services Agreement (the "Manufacturing Agreement") with Cognate Bioservices, Inc. ("Cognate"). The Manufacturing Agreement was amended in December 2017 to provide for additional rights for Atara in relation to the conduct of the services and amended again in May 2018 to modify certain financial provisions with respect to manufacturing services. Pursuant to the Manufacturing Agreement, Cognate provides process development and manufacturing services for certain Atara product candidates. Atara may terminate the Manufacturing Agreement for convenience on 6 months written notice to Cognate, or immediately if Cognate is unable to perform the Services or fails to obtain or maintain certain necessary approvals. The Manufacturing Agreement includes standard mutual termination rights for uncured breach or insolvency, or a force majeure event preventing the performance of Services for at least ninety days. The Manufacturing Agreement also includes standard provisions in the case of termination or cancellation of any specific

manufacturing services.

7. Commitments and Contingencies

License and Collaboration Agreements

Potential payments related to our license and collaboration agreements, including milestone and royalty payments, are detailed in Note 6.

Other Research and Development Agreements

We may enter into contracts in the normal course of business with clinical research organizations for clinical trials, with contract manufacturing organizations for clinical supplies, and with other vendors for pre-clinical studies, supplies and other services for our operating purposes. These contracts generally provide for termination on notice. As of June 30, 2018 and December 31, 2017, there were no amounts accrued related to termination charges for minimum purchase volumes not being met.

Operating and Capital Leases

We lease our corporate headquarters in South San Francisco, California under a non-cancellable lease agreement that expires in April 2021. In connection with the lease, we are required to maintain a letter of credit in the amount of $0.2 million to the landlord, which expires and is renewed every 12 months, and is classified as restricted cash in our condensed consolidated balance sheet. We also lease office space in Westlake Village, California under a lease agreement that expires in April 2019. Also, in fourth quarter of 2017, we entered into multiple agreements to lease certain equipment that have been accounted for as capital leases. The terms of the lease agreements range between 2-3 years.

Rent expense was $0.5 million and $0.3 million for the three months ended June 30, 2018 and 2017, respectively and $1.0 million and $0.6 million for the six months ended June 30, 2018 and 2017, respectively.

Facility Lease Financing Obligation

In February 2017, we entered into a lease agreement for approximately 90,580 square feet of office, lab and cellular therapy manufacturing space in Thousand Oaks, California. The initial 15-year term of the lease commenced on February 15, 2018, upon the substantial completion of landlord's work as defined under the agreement. The contractual obligations during the initial term are $16.4 million in aggregate. We have the option to extend the lease for two additional periods of ten and nine years, respectively, after the initial term. In connection with the lease, we were required to issue a letter of credit in the amount of $1.2 million to the landlord, which is recorded as long-term restricted cash in our condensed consolidated balance sheet.

Based on the terms of the lease agreement and due to our involvement in certain aspects of the construction, we were deemed the owner of the building (for accounting purposes only) during the construction period in accordance with U.S. GAAP. Under this build-to-suit lease arrangement, we recognized construction in progress based on all construction costs incurred by both us and the landlord. We also recognized a financing obligation equal to all costs funded by the landlord.

As of June 30, 2018, due to completion of the construction by the landlord and having failed the criteria for sale-lease back accounting, we transferred the $10.3 million of landlord's construction costs previously capitalized as construction in progress to a build-to-suit asset, and have recognized a corresponding long-term financing obligation for the same amount in long-term liabilities in our consolidated balance sheets.

A portion of the monthly lease payment is allocated to land rent and recorded as an operating lease expense and the non-interest portion of the amortized lease payments to the landlord related to rent of the building is applied to the lease financing liability.

Asset Retirement Obligation

The Company's ARO consists of a contractual requirement to remove the tenant improvements at our manufacturing facility in Thousand Oaks, California and restore the facility to a condition specified in the lease agreement. The Company records an estimate of the fair value of its ARO in long-term liabilities in the period incurred. The fair value of the ARO is also capitalized as construction in progress. The fair value of our ARO was estimated by discounting projected cash flows over the estimated life of the related assets using our credit adjusted risk-free rate.

The following table presents the activity for our ARO liabilities:

	(in thousands)
Balance as of December 31, 2017	$ 580
Liabilities incurred during the period	88
Accretion expense	16
Balance as of June 30, 2018	$ 684

Indemnification Agreements

In the normal course of business, we enter into contracts and agreements that contain a variety of representations and warranties and provide for indemnification for certain liabilities. The exposure under these agreements is unknown because it involves claims that may be made against us in the future but have not yet been made. To date, we have not paid any claims or been required to defend any action related to our indemnification obligations. However, we may record charges in the future as a result of these indemnification obligations. We also have indemnification obligations to our directors and executive officers for specified events or occurrences, subject to some limits, while they are serving at our request in such capacities. There have been no claims to date and we believe the fair value of these indemnification agreements is minimal. Accordingly, we did not record liabilities for these agreements as of June 30, 2018 and December 31, 2017.

Contingencies

From time to time, we may be involved in legal proceedings, as well as demands, claims and threatened litigation, which arise in the normal course of our business or otherwise. The ultimate outcome of any litigation is uncertain and unfavorable outcomes could have a negative impact on our results of operations and financial condition. Regardless of outcome, litigation can have an adverse impact on us because of the defense costs, diversion of management resources and other factors. We are not currently involved in any material legal proceedings.

8. Stockholders' Equity

Equity Offerings

In January 2018, we completed an underwritten public offering of 7,675,072 shares of common stock at an offering price of $18.25 per share and received net proceeds of $131.4 million, after deducting underwriting discounts and commissions and offering expenses payable by us. Further, in March 2018, we completed an underwritten public offering of 4,928,571 shares of common stock at an offering price of $35.00 per share and received net proceeds of $161.9 million, after deducting underwriting discounts and commissions and offering expenses payable by us.

ATM Facility

In March 2017, we entered into a sales agreement (the "ATM Facility") with Cowen and Company, LLC ("Cowen") for the sale, in our sole discretion, of shares of our common stock, having an aggregate offering price of up to $75.0 million through Cowen, as our sales agent. We pay Cowen a commission of up to 3.0% of the gross sales proceeds of any common stock sold under the ATM Facility. The issuance and sale of these shares by us pursuant to the ATM Facility are deemed "at the market" offerings and are available under the Securities Act of 1933, as amended.

During the three and six months ended June 30, 2018, we sold an aggregate of 1,007,806 shares of common stock under the ATM facility, at an average price of approximately $48.52 per share, for gross proceeds of $48.9 million and net proceeds of $47.6 million, after deducting commissions and other offering expenses. As of June 30, 2018, $6.1 million of common stock remained available to be sold under this facility, subject to certain conditions as specified in the agreement.

Equity Incentive Plans

Under the terms of the 2014 Equity Incentive Plan ("2014 EIP"), we may grant options, restricted stock awards ("RSAs") and RSUs to employees, directors, consultants and other service providers. As of June 30, 2018, a total of 10,851,962 shares of common stock were reserved for issuance under the 2014 EIP, of which 3,958,128 shares were available for future grant and 6,893,834 shares were subject to outstanding options and RSUs.

In February 2018, we adopted the 2018 Inducement Plan ("2018 IP"), under which we may grant options, stock appreciation rights, RSAs and RSUs to new employees. As of June 30, 2018, 1,250,000 shares of common stock were reserved for issuance under the 2018 IP, of which 882,500 shares were available for future grant and 367,500 shares were subject to outstanding options and RSUs.

Restricted Stock Units

The following is a summary of RSU activity under our 2014 EIP and 2018 IP:

	RSUs	
	Shares	Weighted Average Grant Date Fair Value
Unvested as of December 31, 2017	1,685,000	$ 16.90
Granted	788,987	$ 36.69
Forfeited	(310,352)	$ 20.23
Vested	(365,933)	$ 15.11
Unvested as of June 30, 2018	1,797,702	$ 25.38
Vested and unreleased	3,384	
Outstanding as of June 30, 2018	1,801,086	

The fair value of RSUs is determined as the closing stock price on the date of grant. The weighted average grant date fair value of RSUs granted was $36.69 and $15.78 for the six months ended June 30, 2018 and 2017, respectively. As of June 30, 2018, there was $37.5 million of unrecognized stock-based compensation expense related to RSUs that is expected to be recognized over a weighted average period of 2.8 years. The aggregate intrinsic value of the RSUs outstanding as of June 30, 2018 was $66.2 million.

Under our RSU net settlement procedures, for most of our employees, we withhold shares at settlement to cover the minimum payroll withholding tax obligations. During the six months ended June 30, 2018, we settled 380,034 RSUs, of which 233,836 RSUs were net settled by withholding 87,954 shares. The value of the RSUs withheld was $3.4 million, based on the closing price of our common stock on the settlement date. During the six months ended June 30, 2017, we settled 253,399 RSUs, of which 49,691 RSUs were net settled by withholding 21,201 shares. The value of the RSUs withheld was $0.3 million, based on the closing price of our common stock on the settlement date. The value of RSUs withheld in each period was remitted to the appropriate taxing authorities and has been reflected as a financing activity in our condensed consolidated statements of cash flows.

Stock Options

The following is a summary of stock option activity under our 2014 EIP and 2018 IP. The table below also includes 275,000 stock options which were issued in 2017 outside of these plans:

	Shares	Weighted Average	Weighted Average	Aggregate Intrinsic

		Exercise Price	Remaining Contractual Term (Years)	Value (in thousands)
Outstanding as of December 31, 2017	5,229,648	$ 21.06		
Granted	1,578,750	38.48		
Exercised	(622,982)	22.37		
Forfeited or expired	(466,502)	35.32		
Outstanding as of June 30, 2018	5,718,914	$ 24.56	5.4	$ 74,744
Vested and expected to vest as of June 30, 2018	5,718,914	$ 24.56	5.4	$ 74,744
Exercisable as of June 30, 2018	2,037,856	$ 21.89	4.3	$ 30,678

Aggregate intrinsic value represents the difference between the closing stock price of our common stock on June 30, 2018 and the exercise price of outstanding, in-the-money options. As of June 30, 2018, there was $52.8 million of unrecognized stock-based compensation expense related to stock options that is expected to be recognized over a weighted average period of 3.0 years.

Options for 622,982 shares of our common stock were exercised during the six months ended June 30, 2018, with an intrinsic value of $11.3 million. No options were exercised during the six months ended June 30, 2017. As we believe it is more likely than not that no stock option related tax benefits will be realized, we do not record any net tax benefits related to exercised options.

The fair value of each option issued was estimated at the date of grant using the Black-Scholes valuation model. The following table summarizes the weighted-average assumptions used as inputs to the Black-Scholes model, and resulting weighted-average grant date fair values of stock options granted to employees during the periods indicated:

	Six months ended June 30, 2018		Six months ended June 30, 2017	
Assumptions:				
Expected term (years)	4.6		4.5	
Expected volatility	73.5	%	66.0	%
Risk-free interest rate	2.6	%	1.8	%
Expected dividend yield	0.0	%	0.0	%
Fair Value:				
Weighted-average estimated grant date fair value per share	$ 22.79		$ 8.89	
Options granted	1,578,750		770,900	
Total estimated grant date fair value	$ 35,980,000		$ 6,853,000	

The estimated fair value of stock options that vested in the six months ended June 30, 2018 and 2017 was $8.2 million and $7.4 million, respectively.

Employee Stock Purchase Plan

As of June 30, 2018, there were 943,338 shares available for purchase under the 2014 Employee Stock Purchase Plan (“2014 ESPP”). The Company recorded $0.2 million and $0.1 million of expense related to the 2014 ESPP in the six months ended June 30, 2018 and 2017, respectively. 77,100 and 43,962 shares were purchased under the 2014 ESPP during the six months ended June 30, 2018 and 2017, respectively.

Reserved Shares

The following shares of common stock were reserved for future issuance as of June 30, 2018:

	Total Shares Reserved
2014 Equity Incentive Plan	10,851,962
2018 Inducement Plan	1,250,000

2014 Employee Stock Purchase Plan	943,338
Options granted outside the equity plans	258,666
Total reserved shares of common stock	13,303,966

Stock-based Compensation Expense

Total stock-based compensation expense related to all employee and non-employee stock awards was as follows:

	Three months ended June 30,		Six months ended June 30,	
	2018	2017	2018	2017
	(in thousands)		(in thousands)	
Research and development	$ 3,384	$ 1,983	$ 6,316	$ 4,124
General and administrative	4,614	3,673	8,697	6,879
Total stock-based compensation expense	$ 7,998	$ 5,656	$ 15,013	$ 11,003

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

You should read the following discussion and analysis of our financial condition and results of operations together with our unaudited condensed consolidated financial statements and related notes included elsewhere in our Quarterly Report on Form 10-Q for the quarter ended June 30, 2018. This discussion and other parts of this Quarterly Report contain forward-looking statements that involve risk and uncertainties, such as statements of our plans, objectives, expectations and intentions. As a result of many factors, including those factors set forth in the “Risk Factors” section of this Quarterly Report, our actual results could differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Overview

Atara Biotherapeutics is a leading T-cell immunotherapy company developing novel treatments for patients with cancer, autoimmune and viral diseases. The Company's off-the-shelf, or allogeneic, T-cells are bioengineered from donors with healthy immune function and allow for rapid delivery from inventory to patients without a requirement for pretreatment. Atara's T-cell immunotherapies are designed to precisely recognize and eliminate cancerous or diseased cells without affecting normal, healthy cells. Atara's most advanced T-cell immunotherapy in development, tabelecleucel (formerly known as ATA129), is being developed for the treatment of patients with Epstein-Barr virus, or EBV, associated post-transplant lymphoproliferative disorder, or EBV+ PTLD, who have failed rituximab, as well as other EBV associated hematologic and solid tumors, including nasopharyngeal carcinoma, or NPC. Off-the-shelf ATA188 and autologous, or patient-derived, ATA190, the Company's T-cell immunotherapies using a complementary targeted antigen recognition technology, target specific EBV antigens believed to be important for the potential treatment of multiple sclerosis, or MS. Atara's clinical pipeline also includes ATA520 targeting Wilms Tumor 1, or WT1, ATA230 directed against cytomegalovirus, or CMV, and ATA621 directed against the BK and JC viruses.

Our technology allows for rapid delivery of a T-cell immunotherapy product that has been manufactured in advance and stored in inventory, with each manufactured lot of cells providing therapy for numerous potential patients. This differs from autologous treatments, in which each patient’s own cells must be extracted, modified outside the body and then delivered back to the patient. We utilize a proprietary cell selection algorithm to select the appropriate set of cells for use based on a patient’s unique immune profile, and, unlike many other T-cell programs, there is neither a requirement for pre-treatment before our cells are administered nor is there extended monitoring following administration. For example, in our ongoing trials with our most advanced product candidate, tabelecleucel, patients are monitored for one to two hours following receipt of tabelecleucel. Our T-cell immunotherapy platform is applicable to a broad array of targets and diseases. With more than 200 patients treated across the platform, we have observed clinical proof of concept across both viral and non-viral targets in conditions ranging from liquid and solid tumors to infectious and autoimmune diseases. We have also observed a safety profile characterized by few treatment-related serious adverse events, or SAEs, and no evidence of cytokine release syndrome to date.

Our T-cell immunotherapy product candidates are engineered from cells donated by healthy individuals with normal immune function. Once cells are collected from a donor, they are bioengineered to expand those T-cells that recognize the antigens of interest. The resulting expanded T-cells are then characterized and held as inventory. From inventory, these cells can be selected, distributed and prepared for infusion in a partially human leukocyte antigen, or HLA, matched patient in approximately 3-5 days. Following administration, our T-cells home to their target, undergo target-controlled proliferation, eliminate diseased cells and eventually recede. Target-controlled proliferation means that our T-cells expand in number when they encounter diseased cells in a patient’s body that express the antigen the cells are designed to recognize.

We have two technology platforms. One of our technology platforms was developed from more than a decade of experience at MSK. The other was developed at QIMR Berghofer, in Australia. We licensed rights to certain

know-how and T-cell product candidates from MSK in June 2015. In May 2018, we entered into an agreement to expand our collaboration with MSK to the development of chimeric antigen receptor T-cell (CAR-T) immunotherapies. Our most advanced product candidate, tabelecleucel, targets EBV. Tabelecleucel received Breakthrough Therapy Designation, or BTD, from the U.S. Food and Drug Administration, or FDA, and Priority Medicines, or PRIME, designation from the European Medicines Agency, or EMA, and is currently being evaluated as monotherapy in two Phase 3 trials for the treatment of patients with EBV+ PTLD. We believe that tabelecleucel has the potential to be the first commercially available off-the-shelf T-cell immunotherapy and the first FDA and EMA approved therapy for EBV+ PTLD. With a European conditional marketing authorization application planned for the first half of 2019 and U.S. biologics licensing applications planned following the completion of one of our ongoing Phase 3 trials, we are currently developing the infrastructure to commercialize tabelecleucel globally in EBV+ PTLD. We are also evaluating the potential utility of tabelecleucel in patients with other EBV associated cancers, such as NPC, to continue its development into solid tumors. Additional product candidates derived from the collaboration with MSK are being developed to treat various cancers and severe viral infections.

In October 2015 and September 2016, we licensed rights to certain know-how and technology from QIMR Berghofer that are complementary to those we licensed from MSK. This know-how and technology uses targeted antigen recognition to create off-the-shelf T-cell immunotherapy product candidates applicable to a variety of diseases, including autoimmune conditions such as MS. We are also working with QIMR Berghofer on the development of EBV and other virally targeted T-cells. Through this technology, we are expanding the role of immunotherapy beyond oncology and viral infections to autoimmune disease. Our most advanced off-the-shelf T-cell product candidate utilizing this technology, ATA188, targets select antigens of EBV and is currently being evaluated in a Phase 1 trial in an initial cohort for the treatment of patients with progressive MS. In connection with the initial license from QIMR Berghofer, we received an option to exclusively license an autologous version of ATA188, also known as ATA190, which recently demonstrated clinical activity in a Phase 1 trial in progressive MS. We expect to broadly explore the utility of our targeted antigen recognition technology in EBV and other virally driven diseases, and additional product candidates derived from our collaboration with QIMR Berghofer are being developed.

In August 2015, we entered into a Development and Manufacturing Services Agreement (the "Manufacturing Agreement") with Cognate Bioservices, Inc. ("Cognate"). The Manufacturing Agreement was amended in December 2017 to provide for additional rights for Atara in relation to the conduct of the services and amended again in May 2018 to modify certain financial provisions with respect to manufacturing services. Pursuant to the Manufacturing Agreement, Cognate provides process development and manufacturing services for certain of our product candidates. Atara may terminate the Manufacturing Agreement for convenience on 6 months written notice to Cognate, or immediately if Cognate is unable to perform the Services or fails to obtain or maintain certain necessary approvals. The Manufacturing Agreement includes standard mutual termination rights for uncured breach or insolvency, or a force majeure event preventing the performance of Services for at least ninety days. The Manufacturing Agreement also includes standard provisions in the case of termination or cancellation of any specific manufacturing services.

We believe that Atara is a leading allogeneic T-cell immunotherapy company with a robust oncology pipeline and potentially transformative T-cell immunotherapies for MS and other viral diseases. With tabelecleucel poised to potentially become the first off-the-shelf T-cell therapy approved in the U.S. and E.U. and a robust pipeline of high potential candidates, our ambition is to be recognized as the leader in off-the-shelf T-cell immunotherapy.

Tabelecleucel for EBV+ PTLD following HCT or SOT

Since its discovery as the first human oncovirus, EBV has been implicated in the development of a wide range of diseases, including lymphomas and other cancers. EBV is widespread in human populations and persists as a lifelong, asymptomatic infection. In healthy individuals, a small percentage of T-cells are devoted to keeping EBV in check. In contrast, immunocompromised patients, such as those undergoing hematopoietic cell transplants, or HCT, or solid organ transplants, or SOT, have a reduced ability to control EBV. Left without appropriate immune surveillance, EBV transformed cells can, in some patients, proliferate and cause an aggressive, life-threatening cancer called EBV+ PTLD.

Our most advanced T-cell immunotherapy product candidate, tabelecleucel, is an allogeneic EBV-specific T-cell immunotherapy that is currently being investigated for the treatment of patients with EBV+ PTLD who have failed rituximab. In February 2015, the FDA granted tabelecleucel BTD in the treatment of patients with EBV+ PTLD after HCT who have failed rituximab. BTD is an FDA process designed to accelerate the development and review of drugs intended to treat a serious condition when early trials show that the drug may be substantially better than current treatment. In October 2016, tabelecleucel was accepted into the EMA PRIME regulatory pathway for the same indication, providing enhanced regulatory support. In addition, tabelecleucel has received orphan status in the United States and European Union for the treatment of patients with EBV+ PTLD following HCT or SOT. In December 2016, we announced that we had reached agreement with the FDA on the designs of two Phase 3 trials for tabelecleucel intended to support approval in two separate indications, the treatment of EBV+ PTLD following HCT

and SOT in patients who have failed rituximab. In December 2017, following discussion with the FDA of manufacturing and comparability data generated on material manufactured by our contract manufacturing organization, we initiated these trials in the United States. We expect to expand these trials geographically to include clinical sites outside the United States.

The Phase 3 MATCH trial (EBV+ PTLD following HCT) is a multicenter, open label, single arm trial designed to enroll approximately 35 patients with EBV+ PTLD following HCT who have failed rituximab. The Phase 3 ALLELE trial (EBV+ PTLD following SOT) is a multicenter, open label trial with two non-comparative cohorts. Each cohort is designed to enroll approximately 35 patients. The first cohort will include patients who previously received rituximab monotherapy, and the second cohort will include patients who previously received rituximab plus chemotherapy. Both cohorts are enrolling concurrently. The primary endpoint of both the MATCH and ALLELE trials is confirmed best objective response rate, or ORR, defined as the percent of patients achieving either a complete or partial response to treatment with tabelecleucel confirmed after the initial tumor assessment showing a response. Secondary endpoints for both trials include duration of response, overall survival, safety, quality of life metrics, and other measures to evaluate its health economic impact. A safety committee will meet periodically to monitor for safety. Initial results from the first tabelecleucel Phase 3 study, or cohort in the case of ALLELE, are expected to be available in the first half of 2019.

We are also pursuing marketing approval of tabelecleucel in the European Union. In March 2016, the EMA issued a positive opinion for orphan drug designation for tabelecleucel for the treatment of patients with EBV+ PTLD. In October 2016, the EMA Committee for Medicinal Products for Human Use and the Committee for Advanced Therapies granted tabelecleucel access to the EMA's recently established PRIME regulatory initiative for the treatment of patients with EBV+ PTLD following HCT who have failed rituximab. PRIME provides early enhanced regulatory support to facilitate regulatory applications and accelerate the review of medicines that address a high unmet need. In January 2017, we received parallel scientific advice from the EMA's Scientific Advice Working Group and several national Health Technology Assessment agencies in the EU, including those in the United Kingdom, Germany and France. Based on these discussions, we plan to submit an application for Conditional Marketing Authorization, or CMA, of tabelecleucel in the treatment of patients with EBV+ PTLD following HCT who have failed rituximab in the first half of 2019. The CMA will be based on clinical data from Phase 1 and 2 trials conducted at MSK and supported by available data from our Phase 3 MATCH and ALLELE trials in patients with EBV+ PTLD after HCT and SOT who have failed rituximab, which will be ongoing at the time of filing.

Tabelecleucel for nasopharyngeal carcinoma, or NPC

NPC, is a type of head and neck cancer that is primarily EBV associated. Standard treatment for NPC includes radiation therapy with or without platinum-based chemotherapy. In the setting of metastatic disease after the failure of chemotherapy, median survival is approximately five to 11 months based on historical data, and there are no approved therapeutic agents available to treat this disease today. In April 2017, we entered into an agreement with Merck (known as MSD outside of the United States and Canada) to provide drug supply for a trial sponsored and conducted by us to evaluate tabelecleucel in combination with Merck's anti-PD-1 (programmed death receptor-1) therapy, KEYTRUDA ® (pembrolizumab), in patients with platinum-resistant or recurrent EBV-associated NPC. The Phase 1/2 trial will evaluate the safety, pharmacokinetics, pharmacodynamics, and preliminary efficacy of the combination and is planned for initiation in the second half of 2018.

ATA188 and ATA190 for multiple sclerosis

MS is a chronic disorder of the central nervous system, or CNS, that disrupts the myelination and normal functioning of the brain, optic nerves and spinal cord through inflammation and tissue loss. The evolution of MS results in an increasing loss of both physical and cognitive (e.g., memory) function. This has a substantial negative impact on the approximately 2.3 million people worldwide affected by MS.

There are two categories of MS: progressive MS, or PMS; and relapsing-remitting MS, or RRMS. PMS is a severe form of MS with few therapeutic options. Within PMS there are two types of MS: secondary progressive MS, or SPMS; and primary progressive MS, or PPMS. According to the National Multiple Sclerosis Society, there are approximately one million people affected by PMS. Both types of PMS are characterized by persistent progression and worsening of MS symptoms and physical disability over time. PPMS occurs when the patient has a disease course characterized by steady and progressive worsening after disease onset. SPMS initially begins as RRMS, but once patients have continuous progression of their disease, they have developed SPMS. This is distinct from RRMS, where patients have flares of the disease that are followed by periods of recovery and quiescence during which the disease does not progress.

There is a strong biologic connection between EBV and MS. EBV is present in nearly all patients with MS. For example, in an international study of patients with clinically isolated syndrome (CIS), a CNS demyelinating event isolated in time that is compatible with the possible future development of MS, only one patient out of 1,407 was seronegative for, or not infected with, EBV. In addition, in separate studies, clear differences in location and

frequency of EBV infected B-cells and plasma cells were evident between the brains of MS patients and the brains of patients without MS. In these studies, the EBV infected B-cells and plasma cells were in close proximity to areas of active demyelination. Studies suggest that EBV positive B-cells and plasma cells in the CNS have the potential to catalyze an autoimmune response and the MS pathophysiology. In patients with MS, their T-cells may be unable to control EBV positive B-cells and plasma cells so that B-cells and plasma cells could then accumulate in the brain and generate antibodies that attack and destroy myelin, the protective layer that insulates nerves in the brain and spinal cord. This loss of myelin ultimately leads to MS symptoms. MS disease course has also been shown to correlate with measures of EBV activity. The role of B-cells in MS is supported by the recent approval by the FDA of ocrelizumab for PPMS which broadly targets B-cells through their expression of a cell surface marker known as CD20. Low vitamin D also suppresses T-cells and is associated with MS.

Our second T-cell immunotherapy product candidate, ATA188, is an off-the-shelf EBV-specific T-cell that utilizes a targeted antigen recognition technology that enables the T-cells we administer to selectively identify cells expressing the EBV antigens that we believe are important for the potential treatment of MS. We are also developing an autologous version of this product candidate that we call ATA190. ATA190 utilizes the same approach to targeted antigen recognition as ATA188. These product candidates are designed to selectively target only those cells which are EBV positive while sparing those that are not. We believe that eliminating only EBV positive B-cells, including plasma cells, has the potential to benefit some patients with MS through enhanced efficacy and a better side-effect profile. In October 2015, we obtained an exclusive, worldwide license to develop and commercialize allogeneic T-cell immunotherapy product candidates targeting EBV, including ATA188, utilizing technology and know-how developed by QIMR Berghofer. In connection with this license, we also received an option to exclusively license the autologous version of EBV product candidates, including ATA190, which we exercised in June 2018.

In the fourth quarter of 2017, we initiated an open label, single arm, multi-center, multi-national Phase 1 trial with allogeneic ATA188 for patients with MS and in January 2018 announced that we received clearance of our investigational new drug, or IND, application from the FDA to proceed with patient enrollment at U.S. sites. In the first quarter of 2018, we initiated this study in the U.S. The primary objective of this Phase 1 trial is to assess the safety of ATA188 in patients followed for at least one year after the first dose. Key secondary endpoints in the trial include measures of clinical improvement such as Expanded Disability Status Scale, or EDSS, and annualized relapse rate, or ARR, as well as MRI imaging. The trial is expected to enroll a total of 60 patients across the United States, Australia and Europe: 30 patients with PMS, either PPMS or SPMS, and 30 patients with RRMS. We expect to announce initial results from our ATA188 Phase 1 trial in patients with PMS in the first half of 2019.

In addition, based on the Phase 1 clinical results observed to date with ATA190, we believe the continued development of ATA190 will enhance our understanding of the potential therapeutic utility of targeting EBV in the treatment of MS and further inform and complement our development of ATA188. We plan to initiate, in 2019, a randomized clinical study of ATA190 in patients with PMS.

ATA520 for hematologic malignancies

Our third T-cell immunotherapy product candidate, ATA520, is an off-the-shelf WT1 specific T-cell immunotherapy, that targets cancers expressing the antigen WT1 and is currently in Phase 1 clinical trials. WT1 is an intracellular protein that is overexpressed in a number of cancers, including hematological malignances as well as solid tumors. Given the advances of our EBV-related pipeline programs in NPC and MS, as well as the opportunity to pursue a conditional marketing authorization in the E.U. for tabelecleucel, we expect to initiate an additional clinical trial with ATA520 following the further process development of ATA520 as well as the clinical and regulatory advancement of tabelecleucel and our MS related programs.

ATA230 for CMV viremia and disease

Our fourth T-cell immunotherapy product candidate, ATA230, is an off-the-shelf CMV specific T-cell immunotherapy, that is in Phase 2 clinical trials for refractory CMV infection that occurs in some patients who have received an HCT or SOT or are otherwise immunocompromised. Recently, the FDA granted orphan drug designation for ATA230 for the treatment of CMV viremia and disease in immunocompromised patients as well as Rare Pediatric Disease Designation for the treatment of congenital CMV infection. The EMA has also granted us orphan status for ATA230 for CMV infection in patients with impaired cell-mediated immunity. Given the opportunity to pursue a CMA in the E.U. for tabelecleucel, we have decided to prioritize our EBV related programs ahead of ATA230 at this time, and plan to further evaluate our development strategy for ATA230 later in 2018.

ATA621 for BK and JC virus associated diseases

Through our ongoing collaboration with QIMR Berghofer, we recently developed a new T-cell immunotherapy product candidate, ATA621, for BK and JC virus associated diseases. These two viruses are closely related and there are no available antiviral agents approved for use in BK or JC associated diseases. JC virus is associated with progressive multifocal leukoencephalopathy, or PML, which occurs in transplant, HIV and cancer patients as well as in patients treated with other immunosuppressive therapies, including certain therapies utilized for the treatment of MS. BK virus is associated with hemorrhagic cystitis, or BKVHC, which mainly occurs following HCT or cyclophosphamide treatment as well as BK virus associated nephropathy, or BKVAN, which is a disease most commonly associated with kidney transplant. We are currently conducting IND enabling manufacturing process development and plan to initiate a Phase 1 trial with ATA621 in 2019.

Financial Overview

We have a limited operating history. Since our inception in 2012, we have devoted substantially all of our resources to identify, acquire and develop our product candidates, including conducting preclinical studies and clinical trials and providing general and administrative support for these operations.

We have never generated revenues and have incurred losses since inception. We do not expect to receive any revenues from any product candidates that we develop until we obtain regulatory approval and commercialize our products or enter into collaborative agreements with third parties.

Our net losses were $92.3 million and $53.1 million for the six months ended June 30, 2018 and 2017, respectively. As of June 30, 2018, we had an accumulated deficit of $389.0 million. Substantially all of our net losses have resulted from costs incurred in connection with our research and development programs and from general and administrative expenses associated with our operations. As of June 30, 2018, our cash, cash equivalents and short-term investments totaled $417.0 million, which we intend to use to fund our operations.

Research and Development Expenses

The largest component of our total operating expenses since inception has been our investment in research and development activities, including the preclinical and clinical development of our product candidates. Research and development expenses consist primarily of compensation and benefits for research and development employees, including stock-based compensation; expenses incurred under agreements with contract research organizations and investigative sites that conduct clinical trials and preclinical studies; the costs of acquiring and manufacturing clinical trial materials and other supplies; payments under licensing and research and development agreements; other outside services and consulting costs; and an allocation of facilities, information technology and overhead expenses. Research and development costs are expensed as incurred.

We plan to increase our research and development expenses as we continue the development of our product candidates. Our current planned research and development activities include the following:

- continuing to initiate sites and enroll patients in our Phase 3 clinical trials of tabelecleucel for the treatment of patients with EBV+ PTLD after HCT and SOT who have failed rituximab;
- process development, testing and manufacturing of drug supply to support clinical trials and IND-enabling studies;
- continuing development of ATA190 and enrolling patients to the Phase 1 trial of ATA188 in MS;