OvaScience, Inc.
Form 10-Q
November 03, 2016
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q
(Mark
One)

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

For the quarterly period ended September 30, 2016

OR

o 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: 001-35890

OVASCIENCE, INC.
(Exact name of registrant as specified in its charter)

Delaware	45-1472564
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
9 4th Avenue Waltham, Massachusetts	02451
(Address of principal executive offices)	(Zip Code)

617-500-2802
(Registrant's telephone number, including area code)

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 x No o

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate website, 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 x No o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting

company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer x	Accelerated filer o
Non-accelerated filer o (Do not check if a smaller reporting company)	Smaller reporting company o

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

As of November 1, 2016, there were 35,608,386 shares of the registrant's Common Stock, par value $0.001 per share, outstanding.

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Part I. Financial Information

Item 1. Financial Statements

OvaScience, Inc.
Condensed Consolidated Balance Sheets
(Unaudited)
(In thousands, except share and per share data)

	As of September 30, 2016	As of December 31, 2015
Assets		
Current assets:		
Cash and cash equivalents	$ 50,480	$ 43,224
Short-term investments	80,515	83,438
Prepaid expenses and other current assets	2,459	3,002
Short-term restricted cash	—	197
Total current assets	133,454	129,861
Property and equipment, net	8,047	8,313
Investment in joint venture	435	—
Long-term restricted cash	439	439
Other long-term assets	23	—
Total assets	$ 142,398	$ 138,613
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 2,770	$ 3,352
Accrued expenses and other current liabilities	8,496	7,891
Total current liabilities	11,266	11,243
Deferred rent and other non-current liabilities	1,255	520
Total liabilities	12,521	11,763
Stockholders' equity:		
Preferred stock, $0.001 par value; 5,000,000 shares authorized, no shares issued and outstanding	—	—
Common stock, $0.001 par value; 100,000,000 shares authorized; 35,607,059 and 27,296,747 shares issued and outstanding at September 30, 2016 and December 31, 2015, respectively	36	27
Additional paid-in capital	357,397	294,910
Accumulated other comprehensive (loss)	(22)	(170)
Accumulated deficit	(227,534)	(167,917)
Total stockholders' equity	129,877	126,850
Total liabilities and stockholders' equity	$ 142,398	$ 138,613

See accompanying notes.

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OvaScience, Inc.
Condensed Consolidated Statements of Operations and Comprehensive Loss
(Unaudited)
(In thousands, except per share data)

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2016	2015	2016	2015
Revenues	$197	$75	$532	$120
Costs and expenses:				
Costs of revenues	1,559	940	3,968	1,091
Research and development	4,990	3,998	16,932	13,766
Selling, general and administrative	12,612	12,909	38,276	37,022
Total costs and expenses	19,161	17,847	59,176	51,879
Loss from operations	(18,964)	(17,772)	(58,644)	(51,759)
Interest income, net	162	141	497	286
Other (expense) income, net	(33)	25	(82)	31
Loss from equity method investment	(364)	(316)	(1,171)	(1,176)
Loss before income taxes	(19,199)	(17,922)	(59,400)	(52,618)
Income tax expense	92	—	217	—
Net loss	$(19,291)	$(17,922)	$(59,617)	$(52,618)
Net loss per share—basic and diluted	$(0.54)	$(0.66)	$(1.92)	$(1.95)
Weighted average number of shares used in net loss per share—basic and diluted	35,568	27,267	30,985	27,020
Net loss	$(19,291)	$(17,922)	$(59,617)	$(52,618)
Other comprehensive loss:				
Unrealized (losses) gains on available-for-sale securities	(31)	22	148	(46)
Comprehensive loss	$(19,322)	$(17,900)	$(59,469)	$(52,664)

See accompanying notes.

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OvaScience, Inc.
Condensed Consolidated Statements of Cash Flows
(Unaudited)
(In thousands)

	Nine Months Ended September 30,	
	2016	2015
Cash flows from operating activities:		
Net loss	$(59,617)	$(52,618)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	1,645	748
Amortization of premium on debt securities	607	792
Stock-based compensation expense	8,225	14,417
Issuance of common stock for director fees	116	—
Net loss on equity method investment	1,171	1,176
Changes in operating assets and liabilities:		
Prepaid expenses and other assets	543	(1,894)
Accounts payable	(639)	(139)
Accrued expenses, deferred rent and other non-current liabilities	1,184	(1,449)
Net cash used in operating activities	(46,765)	(38,967)
Cash flows from investing activities:		
Investment in joint venture	(1,750)	(1,500)
Purchases of property, plant and equipment	(1,045)	(2,323)
Maturities of short-term investments	45,008	41,104
Sales of short-term investments	23,089	3,117
Purchases of short-term investments	(65,633)	(82,072)
Decrease (increase) in restricted cash	197	(439)
Net cash used in investing activities	(134)	(42,113)
Cash flows from financing activities:		
Net proceeds from the issuance of common stock	53,934	124,063
Issuances of common stock under benefit plans, net of withholding taxes paid	221	1,445
Net cash provided by financing activities	54,155	125,508
Net increase in cash and cash equivalents	7,256	44,428
Cash and cash equivalents at beginning of period	43,224	6,414
Cash and cash equivalents at end of period	$50,480	$50,842

See accompanying notes.

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OvaScience, Inc.
Notes to Unaudited, Condensed Consolidated Financial Statements

1. Organization

OvaScience, Inc., incorporated on April 5, 2011 as a Delaware corporation, is a global fertility company developing proprietary potential treatments for female infertility based on scientific discoveries about the existence of egg precursor, or EggPC℠, cells. As used in these condensed consolidated financial statements, the terms "OvaScience," "the Company," "we," "us," and "our" refer to the business of OvaScience, Inc. and its wholly owned subsidiaries. Our operations to date have been limited to organizing and staffing our company, business planning, raising capital, acquiring and developing our technology, identifying potential fertility treatments, developing the AUGMENT℠ treatment, preparing for the launch of the AUGMENT treatment in select international in vitro fertilization (IVF) clinics, researching and developing the OvaPrime℠ treatment and the OvaTure℠ treatment, and determining the regulatory and development path for our fertility treatments. We have commenced our planned principal operations but have only generated limited revenues to date.

We are subject to a number of risks similar to other life science companies, including, but not limited to, the need to obtain adequate additional funding, possible failure to provide our treatments to IVF clinics to gain clinical experience in select countries outside of the United States, the need to obtain marketing approval for certain of our fertility treatments, competitors developing new technological innovations, the need to successfully commercialize and gain market acceptance of our fertility treatments and protection of proprietary technology. If we do not successfully commercialize any of our fertility treatments, we will be unable to generate treatment revenue or achieve profitability. As of September 30, 2016 we had an accumulated deficit of approximately $227.5 million.

Liquidity

We have incurred annual net operating losses in each year since our inception. We have generated limited treatment revenues related to our primary business purpose and have financed our operations primarily through public sales of our common stock and private placements of our preferred stock, which was subsequently converted to common stock. We have launched one fertility treatment, the AUGMENT treatment, in select international IVF clinics and have two potential treatments in development. We have devoted substantially all of our financial resources and efforts to the launch of the AUGMENT treatment, raising capital, and research and development of our fertility treatments. We expect to continue to incur significant expenses and operating losses for at least the next several years. We expect that our existing cash, cash equivalents and short-term investments of $131.0 million at September 30, 2016 will enable us to fund our current operating plan for at least the next 12 months.

2. Basis of presentation and significant accounting policies

Unaudited interim financial data

The accompanying unaudited condensed consolidated balance sheet as of September 30, 2016, the statements of operations and comprehensive loss for the three and nine months ended September 30, 2016 and 2015, and the statements of cash flows for the nine months ended September 30, 2016 and 2015, and the related interim information contained within the notes to the financial statements, have been prepared in accordance with the rules and regulations of the Securities and Exchange Commission ("SEC") for interim financial information. Accordingly, they do not include all of the information and the notes required by U.S. generally accepted accounting principles for complete financial statements. In the opinion of management, the unaudited interim financial statements reflect all adjustments, consisting of normal and recurring adjustments, necessary for the fair presentation of our financial position at September 30, 2016, results of our operations for the three and nine months ended September 30, 2016 and 2015 and

our cash flows for the nine months ended September 30, 2016 and 2015. The results for the three and nine months ended September 30, 2016 are not necessarily indicative of future results.

Principles of consolidation

These condensed consolidated financial statements include the accounts of OvaScience and the accounts of our wholly-owned subsidiaries. All intercompany transactions have been eliminated in consolidation.

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Use of estimates

These condensed consolidated financial statements are presented in conformity with U.S. generally accepted accounting principles, which require management to make estimates and assumptions that affect the amounts reported in the condensed consolidated financial statements and accompanying notes. Actual results could differ from such estimates.

Net loss per share

Basic and diluted net loss per common share is calculated by dividing net loss by the weighted average number of shares outstanding during the relevant period. Potentially dilutive shares, including outstanding stock options and unvested restricted stock units, are only included in the calculation of diluted net loss per share when their effect is dilutive.

The amounts in the table below were excluded from the calculation of diluted net loss per share, prior to the use of the treasury stock method, due to their anti-dilutive effect (in thousands):

	As of September 30,	
	2016	2015
Outstanding stock options and restricted stock units	5,757	4,765
Total	5,757	4,765

Summary of significant accounting policies

Our other significant accounting policies are described in Note 2, “Summary of Significant Accounting Policies,” in our Annual Report on Form 10-K for the year ended December 31, 2015.

New accounting pronouncements

In August 2016, the FASB issued ASU No. 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments. ASU No. 2016-15 requires changes in the presentation of debt prepayment or debt extinguishment costs, contingent consideration payments made after a business combination, proceeds from the settlement of insurance claims, proceeds from the settlement of corporate-owned life insurance policies and distributions received from equity method investees. This update is effective for annual and interim periods beginning after December 15, 2017 using a retrospective transition method to each period presented. Early adoption is permitted. We are evaluating this standard to determine if adoption will have a material impact on our consolidated financial statements.

In March 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standard Update (ASU) No. 2016-09, Compensation - Stock Based Compensation, which simplifies several aspects of accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities and classification on the statement of cash flows. The new standard also provides the option to either continue to estimate the number of awards that are expected to vest or to account for forfeitures as they occur. The amendment is effective for annual periods beginning after December 15, 2016, and interim periods within those annual periods, early adoption is permitted. We are evaluating this standard to determine if adoption will have a material impact on our consolidated financial statements.

In February 2016, the FASB issued ASU No. 2016-02, Leases, which is intended to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. Under the new standard, a lessee will be required to recognize assets and liabilities for both operating and financing leases with lease terms of more than 12 months. In addition, ASU 2016-02 requires the use of the modified retrospective method, which will require adjustment to all comparative periods presented in the consolidated financial statements. The amendment is effective for annual periods beginning after December 15, 2018, and interim periods within those annual periods. Early adoption is permitted. We are currently assessing the impact that adopting this new accounting standard will have on our consolidated financial statements and footnote disclosures thereto.

In August 2015, the FASB issued ASU No. 2015-14, which defers the effective date of ASU No. 2014-09 by one year. ASU No. 2014-09 amends the guidance for accounting for revenue from contracts with customers. This ASU supersedes the revenue recognition requirements in Accounting Standards Codification Topic 605, Revenue Recognition, and creates a new Topic 606, Revenue from Contracts with Customers. This guidance is now effective for fiscal years beginning after December 15, 2017 with early adoption permitted for annual periods beginning after December 15, 2016. Two adoption

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methods are permitted: retrospectively to all prior reporting periods presented, with certain practical expedients permitted; or retrospectively with the cumulative effect of initially adopting the ASU recognized at the date of initial application. We have not yet determined which adoption method we will utilize or the effect that the adoption of this guidance will have on our consolidated financial statements.

In August 2014, the FASB issued ASU 2014-15, Presentation of Financial Statements-Going Concern. The new standard requires management of public and private companies to evaluate whether there is substantial doubt about the entity's ability to continue as a going concern and, if so, disclose that fact. We will also be required to evaluate and disclose whether our plans alleviate that doubt. This guidance is effective for annual periods ending after December 15, 2016, and interim periods within annual periods beginning after December 15, 2016. We have evaluated the impact of this new standard as if it were adopted in connection with the issuance of this quarterly report and have determined that there is no additional disclosure required.

3. OvaXon Joint Venture

In December 2013, we entered into a joint venture with Intrexon Corporation (“Intrexon”) to leverage Intrexon’s synthetic biology technology platform and OvaScience’s technology relating to EggPC cells to focus on developing significant improvements in human and animal health. We and Intrexon formed OvaXon, LLC (“OvaXon”) to conduct the joint venture. Each party initially contributed $1.5 million of cash to OvaXon, each has a 50% equity interest and all costs and profits will be split accordingly. Each party will also have 50% control over OvaXon and any disputes between us and Intrexon will be resolved through arbitration, if necessary. Since the initial contributions, each party has contributed an additional $3.3 million.

We consider OvaXon a variable interest entity. OvaXon does not have a primary beneficiary as both we and Intrexon have equal ability to direct the activities of OvaXon through membership in a Joint Steering Committee and an Intellectual Property Committee and 50% voting rights. OvaXon has been accounted for under the equity method and is not consolidated. This analysis and conclusion will be updated annually or as changes occur to reflect any changes in ownership or control over OvaXon.

We have recorded losses from equity method investments related to OvaXon of $0.4 million and $1.2 million for the three and nine months ended September 30, 2016, respectively. We have recorded losses from equity method investments related to OvaXon of $0.3 million and $1.2 million for the three and nine months ended September 30, 2015, respectively. Each party contributed an additional $1.8 million during the nine months ended September 30, 2016 and an additional $1.5 million during the nine months ended September 30, 2015. As of September 30, 2016 the Company's investment in OvaXon was $0.4 million. As of December 31, 2015, OvaXon incurred expenses of $0.1 million in excess of the investment, which is included within accrued expenses on our balance sheet. The maximum exposure to additional losses with respect to our joint venture is limited to the carrying amount of the investment.

4. Fair value

The fair value of our financial assets and liabilities reflects our estimate of amounts that we would have received in connection with the sale of such assets or paid in connection with the transfer of such liabilities in an orderly transaction between market participants at the measurement date. In connection with measuring the fair value of our assets and liabilities, we seek to maximize the use of observable inputs (market data obtained from independent sources) and to minimize the use of unobservable inputs (our assumptions about how market participants would price assets and liabilities). We use the following fair value hierarchy to classify assets and liabilities based on the observable inputs and unobservable inputs we used to value our assets and liabilities:

•Level 1—quoted prices (unadjusted) in active markets for identical assets or liabilities.

- Level 2—quoted prices for similar assets and liabilities in active markets or inputs that are observable for the asset or liability, either directly or indirectly through market corroboration, for substantially the full term of the financial instrument.

- Level 3—unobservable inputs based on our assumptions used to measure assets and liabilities at fair value.

For fixed income securities, we reference pricing data supplied by our custodial agent and nationally known pricing vendors, using a variety of daily data sources, largely readily-available market data and broker quotes. The prices provided by third-party pricing services are validated by reviewing their pricing methods and obtaining market values from other pricing

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sources. After completing these validation procedures, we did not adjust or override any fair value measurements provided by the pricing services as of September 30, 2016 or December 31, 2015.

We review investments for other-than-temporary impairment whenever the fair value of an investment is less than the amortized cost and evidence indicates that an investment's carrying amount is not recoverable within a reasonable period of time. To determine whether an impairment is other-than-temporary, we consider the intent to sell, or whether it is more likely than not that we will be required to sell the investment before recovery of the investment's amortized cost basis. Evidence considered in this assessment includes reasons for the impairment, compliance with our investment policy, the severity and the duration of the impairment and changes in value subsequent to period end. As of September 30, 2016 and December 31, 2015, there were no investments with a fair value that was significantly lower than the amortized cost basis or any investments that had been in an unrealized loss position for a significant period.

The following tables provide our assets and liabilities that are measured at fair value on a recurring basis as of September 30, 2016 and December 31, 2015 (in thousands):

Description	Balance as of September 30, 2016	Level 1	Level 2	Level 3
Assets:				
Cash and money market funds	$ 50,480	$50,480	$—	$ —
Corporate debt securities (including commercial paper)	80,515	—	80,515	—
Total assets	$ 130,995	$50,480	$80,515	$ —

Description	Balance as of December 31, 2015	Level 1	Level 2	Level 3
Assets:				
Cash and money market funds	$ 43,224	$43,224	$—	$ —
Corporate debt securities (including commercial paper)	83,438	—	83,438	—
Total assets	$ 126,662	$43,224	$83,438	$ —

There were no transfers between levels during the periods ending September 30, 2016, and December 31, 2015.

Cash and cash equivalents are classified as Level 1 and carried at amounts that approximate fair value due to their short-term maturities.

Corporate debt securities are classified as Level 2 and the pricing is primarily sourced from third party pricing services, overseen by management, and is based on models that consider standard input factors such as dealer quotes, market spreads, cash flows, the U.S. Treasury yield curve, live trading levels, trade execution data, market consensus prepayment speeds, credit information and the bond's terms and condition, among other things.

5. Cash, cash equivalents and short-term investments

The following tables summarize our cash, cash equivalents and short-term investments at September 30, 2016 and December 31, 2015 (in thousands):

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September 30, 2016	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Cash and money market funds	$ 50,480	$ —	$ —	$ 50,480
Corporate debt securities	0	0	0	0
Due in one year or less	70,508	9	(22)	70,495
Due in two years or less	10,029	—	(9)	10,020
Total	$ 131,017	$ 9	$ (31)	$ 130,995
Reported as:				
Cash and cash equivalents	$ 50,480	$ —	$ —	$ 50,480
Short-term investments	80,537	9	(31)	80,515
Total	$ 131,017	$ 9	$ (31)	$ 130,995

December 31, 2015	Amortized Cost	Gross Unrealized Gains	Gross Unrealized Losses	Fair Value
Cash and money market funds	$ 43,224	$ —	$ —	$ 43,224
Corporate debt securities	0	0	0	0
Due in one year or less	68,898	—	(107)	68,791
Due in two years or less	14,710	—	(63)	14,647
Total	$ 126,832	$ —	$ (170)	$ 126,662
Reported as:				
Cash and cash equivalents	$ 43,224	$ —	$ —	$ 43,224
Short-term investments	83,608	—	(170)	83,438
Total	$ 126,832	$ —	$ (170)	$ 126,662

At September 30, 2016 and December 31, 2015 we held eighteen and forty-three debt securities that had been in an unrealized loss position for less than 12 months, respectively. At September 30, 2016 we also held two investments that had been in a continuous unrealized loss position for 12 months or longer. The losses related to these two investments are immaterial at September 30, 2016 and we believe that we will receive our full principal investment when these securities mature in the next 9 months. At December 31, 2015 we held no investments that had been in a continuous unrealized loss position for 12 months or longer.

At September 30, 2016 and December 31, 2015 the aggregate fair value of the securities in an unrealized loss position for less than 12 months was $44.9 million and $81.4 million, respectively. At September 30, 2016 the aggregate fair value of the securities in an unrealized loss position for longer than 12 months was $2.6 million. We evaluated our securities for other-than-temporary impairments based on quantitative and qualitative factors, and we considered the decline in market value for the twenty debt securities in an unrealized loss position as of September 30, 2016 to be primarily attributable to the then current economic and market conditions. We will likely not be required to sell these securities, and we do not intend to sell these securities before the recovery of their amortized cost bases, which recovery is expected within the next 12 months. Based on our analysis, we do not consider these investments to be other-than-temporarily impaired as of September 30, 2016.

As of September 30, 2016, we held $7.3 million in financial institution debt securities and other corporate debt securities located in Canada, Australia and New Zealand. As of December 31, 2015, we held $11.7 million in financial institution debt securities and other corporate debt securities located in Canada, the United Kingdom and Australia. Based on our analysis, we do not consider these investments to be other-than-temporarily impaired as of September 30, 2016.

We had immaterial realized gains and no realized losses or other-than-temporary impairments on our short-term investments for the three and nine months ended September 30, 2016 and 2015.

6. Property and equipment

Property and equipment and related accumulated depreciation are as follows (in thousands):

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	As of September 30, 2016	As of December 31, 2015
Laboratory equipment	$ 8,144	$ 7,270
Furniture	803	712
Computer equipment	298	230
Leasehold improvements	2,829	2,521
Total property and equipment, gross	12,074	10,733
Less: accumulated depreciation	(4,027)	(2,420)
Total property and equipment, net	$ 8,047	$ 8,313

We recorded depreciation and amortization expense of $0.6 million and $1.6 million for the three and nine months ended September 30, 2016, respectively. We recorded depreciation and amortization expense of $0.3 million and $0.7 million for the three and nine months ended September 30, 2015, respectively.

7. Common stock

In June 2016, we issued and sold in an underwritten public offering an aggregate of 8,222,500 shares of our common stock at $7.00 per share, which included 1,072,500 shares that represented the full exercise of an option to purchase additional shares granted to the underwriters in connection with the offering. The shares included in this offering were registered under the Securities Act of 1933, as amended, or the Securities Act, pursuant to a registration statement on Form S-3 (File No. 333-209778) that the SEC declared effective on May 5, 2016. The offering resulted in $53.9 million of net proceeds, after deducting underwriting discounts and commissions and other offering expenses payable by us.

In January 2015, we issued and sold in an underwritten public offering an aggregate of 2,645,000 shares of our common stock at $50 per share, which included 345,000 shares that represented the full exercise of an option to purchase additional shares granted to the underwriters in connection with the offering. The shares included in this offering were registered under the Securities Act pursuant to a registration statement on Form S-3 (File No. 333-200040) that the SEC declared effective on November 21, 2014. The offering resulted in $124.1 million of net proceeds, after deducting underwriting discounts and commissions and other offering expenses payable by us.

8. Stock-based compensation

Stock options

A summary of our stock option activity and related information is as follows:

	Shares	Weighted average exercise price per share	Weighted average remaining contractual term (years)	Aggregate intrinsic value (in thousands)
Outstanding at December 31, 2015	4,650,114	$ 21.49	8.58	$ 2,970
Granted	2,224,600	7.37		
Exercised	(63,492)	3.49		
Forfeited / Canceled	(1,381,763)	25.50		

Outstanding at September 30, 2016	5,429,459	14.90	8.41	510
Exercisable at September 30, 2016	2,215,766	17.64	7.49	393
Vested and expected to vest at September 30, 2016	4,695,323	15.19	8.31	484

The total intrinsic value (the amount by which the fair market value exceeded the exercise price) of stock options exercised was $0.2 million and $0.3 million for the three and nine months ended September 30, 2016, respectively. The total intrinsic value of stock options exercised was $0.1 million and $6.6 million for the three and nine months ended September 30, 2015, respectively.

The fair value of each stock-based option award is estimated on the grant date using the Black-Scholes option pricing model using the following assumptions:

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	Three months ended September 30,		Nine months ended September 30,	
	2016	2015	2016	2015
Risk-free interest rate	1.6%	1.7%	1.4% - 2.0%	1.6% - 2.3%
Dividend yield	—	—	—	—
Volatility	86%	72%	78% - 89%	72% - 75%
Expected term (years)	6.1	6.1	5.3 - 9.9	5.3 - 9.9

As of September 30, 2016, we had approximately $17.4 million of total unrecognized compensation cost, net of estimated forfeitures, related to unvested stock options, which we expect to recognize over a weighted-average period of 2.8 years.

During the nine months ended September 30, 2016 certain senior executives ceased employment with the Company. In connection with the separations, all unvested stock options were forfeited. As a result of the forfeiture, we reversed $0.1 million and $2.2 million, net, of stock-based compensation expense during the three and nine months ended September 30, 2016, respectively.

During the three and nine months ended September 30, 2016, we granted options to purchase 737,500 and 2,224,600 shares of our common stock at weighted average grant date fair values of $5.19 and $5.24 per share, respectively, and with weighted average exercise prices of $7.15 and $7.37 per share, respectively. During the three and nine months ended September 30, 2015, we granted options to purchase 284,500 and 1,710,100 shares of our common stock at weighted average grant date fair values of $10.71 and $21.79 per share, respectively, and with weighted average exercise prices of $16.58 and $34.38 per share, respectively.

Restricted stock units

We granted restricted stock units (“RSUs”) to Michelle Dipp, M.D., Ph.D., our then-current Chief Executive Officer in December 2014. The RSUs issued included a service-based award that vests evenly over eight quarters and a performance-based award that vests in two one-year tranches upon the achievement of certain performance conditions for the respective year, as determined by our board of directors. The grant date fair value of the service-based awards is based on the closing price of our common stock on the award date and the stock-based compensation expense for these service-based awards are recognized on a straight-line basis over the vesting period. The grant date fair value of the performance-based awards is based on the closing price of our common stock on the date that the performance criteria is established for each tranche and communicated to Dr. Dipp and the stock-based compensation for these performance-based awards is recognized over the requisite service period.

On March 29, 2015 our board of directors established the 2015 performance criteria for the first tranche of the performance-based award and communicated the performance criteria to Dr. Dipp. The grant date stock price of these performance-based RSUs was $43.47 per share. In December 2015 our board of directors determined that certain of the performance criteria had been met resulting in the partial vesting of the first tranche award. In January 2016, as part of Dr. Dipp's appointment as our Executive Chair all then outstanding RSUs previously issued to her were canceled, including the second tranche of the performance-based award and the remaining service based RSUs.

On January 5, 2016, we issued 250,000 RSUs to Dr. Harald Stock upon his appointment as Chief Executive Officer - Elect. The RSUs will vest over four years with 25% vesting on January 5, 2017 and the remaining RSUs vesting ratably over the next 12 quarters. The grant date fair value of the service-based award is based on the closing price of

our common stock on the award date and the stock-based compensation expense for these service-based awards are recognized on a straight-line basis over the vesting period. We recognized $0.1 million and $0.3 million of stock-based compensation expense related to this award during the three and nine month ended September 30, 2016, respectively.

As of September 30, 2016, we had approximately $1.7 million of total unrecognized compensation cost related to 327,500 non-vested service-based RSUs granted under the 2012 Plan. The expense is expected to be recognized over a weighted-average period of 3.3 years.

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

This Quarterly Report on Form 10-Q contains forward-looking statements that involve risks and uncertainties. The statements contained in this Quarterly Report on Form 10-Q that are not purely historical are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Without limiting the foregoing, the words “may,” “shall,” “will,” “should,” “could,” “expects,” “plans,” “intends,”

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“anticipates,” “believes,” “estimates,” “predicts,” “potential,” “continue,” “target,” “goal”, “seek”, “likely,” “hope” and similar intended to identify forward-looking statements, although not all forward-looking statements contain these words. All forward-looking statements included in this Quarterly Report on Form 10-Q are based on information available to us up to, and including, the date of this document, and we expressly disclaim any obligation to update any such forward-looking statements to reflect events or circumstances that arise after the date hereof. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of certain important factors, including those set forth in this Item 2 — “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” as well as under the heading “Risk Factors” contained in Item 1A of our Annual Report on Form 10-K for the year ended December 31, 2015, Exhibit 99.3 to our Current Report on Form 8-K , as filed with the Securities and Exchange Commission on May 25, 2016 and elsewhere in this Quarterly Report on Form 10-Q. You should carefully review those factors and also carefully review the risks outlined in other documents that we file from time to time with the Securities and Exchange Commission, or SEC.

Overview

OvaScience is a global fertility company focused on the discovery, development, and commercialization of new fertility treatment options for women. The current standard of treatment for infertility is in vitro fertilization, or IVF. IVF, however, fails approximately 70% of the time. The discovery of egg precursor, or EggPC℠, cells countered a long-held medical belief that women are born with a set number of eggs, and this discovery enabled our new fertility treatment options. Our patented technology is based on these EggPC cells, which are immature egg cells found in the protective outer lining of a woman’s ovaries. We believe that these immature egg cells have the ability to grow into young, fertilizable eggs.

Our portfolio of fertility treatment options uses our patented technology including proprietary methods to identify and isolate EggPC cells from a patient's own ovarian tissue. By applying our EggPC technology platform in unique ways, we have commercialized one fertility treatment and are developing new fertility treatment options that are designed to improve egg health and revolutionize IVF.

More women around the world are waiting until later in life to start families and are in need of new fertility treatment options, and approximately 72 million women worldwide have been diagnosed with infertility. Fertility decreases with age. The main cause of age related infertility is poor egg health, which is linked to a reduction in the number of functioning mitochondria. Other causes of poor egg health relating to mitochondria deficiency include Type 2 diabetes. Accordingly, approximately 40 million women throughout the world seek new treatment options for infertility and up to 800,000 women per year undergo some form of IVF treatment.

Our first commercial treatment, the AUGMENT℠ treatment, is specifically designed to improve egg health by supplementing a mitochondrial deficiency which may, in turn, offer the potential for enhanced IVF success rates. With the AUGMENT treatment, energy-producing mitochondria from a woman’s own EggPC cells are added to the woman’s mature eggs during the IVF process to supplement the existing mitochondria. The AUGMENT treatment has been introduced in our contracted IVF clinics outside of the United States, and we plan to expand the network of clinics and clinicians offering the AUGMENT treatment, focusing our efforts initially in Canada and Japan. We recently received central Institutional Review Board (IRB) approval for a Company-sponsored multi-center, controlled, double-blind, prospective, randomized egg allocation trial to evaluate the efficacy of the AUGMENT treatment in a broad patient population. We expect to begin enrolling patients in this trial in the first quarter of 2017, and to announce initial data in the second half of 2017.

We have introduced the AUGMENT treatment in clinics in different countries outside of the United States through preceptorship training programs, except in Spain, where we continue to work with the IVI Group on an investigator-initiated pilot trial. In some cases, we and our contracted clinics have had discussions with local

regulatory bodies, such as the Ministry of Health and La Comisión Nacional de Reproducción Humana Asistida, or CNRHA in Spain, and the Ministry of Health and Japan Society of Obstetrics and Gynecology (JSOG), prior to introducing the AUGMENT treatment.

In 2015, the AUGMENT treatment was offered in two clinics or clinic networks in Canada and in 2016, we have entered into agreements with six additional clinics or clinic networks in Canada and one clinic network in Japan, for a total of nine clinics or clinic networks that will be offering the AUGMENT treatment in accordance with their local requirements. We expect these clinics or clinic networks to begin offering revenue generating AUGMENT treatments following completion of on-boarding and qualification activities, such as obtaining IRB or preceptorship approval and completing a preceptorship training program, which consists of treatment of patients under the preceptorship training program and evaluation of the resulting data. Our initial experience has shown that the time from executing a practice agreement with a clinic or clinic network to the completion of preceptorship activity can vary significantly from clinic to clinic, and is expected to average approximately six to nine months. In August 2016, we entered into a commercial agreement with IVF Japan Group. IVF Japan Grou

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p has started performing a small number of revenue generating treatments under the terms of this agreement. We plan to continue to build the infrastructure to support our anticipated AUGMENT business in Japan throughout 2017. Of our nine contracted clinics or clinic networks, four have conducted commercial treatments, and two others have completed their preceptorship training program and are ready to begin commercial efforts, including identification of initial patient candidates.

We discontinued the availability of the AUGMENT treatment at our contracted clinics in Turkey and Panama to align with our focused regional expansion strategy. We do not expect the cessation of treatment in Turkey and Panama to have a material impact on our operating results.

We are also working with the IVI Group to obtain prospective patient experience data in an investigator-initiated pilot trial in Valencia, Spain. In the first part of 2016, the IVI Group continued enrollment of poor prognosis patients under the age of 43 and with a history of at least one previous cycle of IVF with embryo transfer and no pregnancy due to low embryo quality in its controlled, double-blind, prospective and randomized egg allocation study of the AUGMENT treatment. This adaptive trial, which evaluates ongoing clinical pregnancy rates of standard IVF and the AUGMENT treatment, allows for an interim analysis after completion and evaluation of data from 60 patients. At that point, based on the interim results, we may continue the trial with the IVI Group, adapt the study or cease enrolling new patients, which could occur as a result of positive or negative interim results. Absent any modification or cessation of the study, following completion of the interim analysis we expect that up to an additional 130 patients would be enrolled for a total of up to 190 patients in the study. We expect that final data from this trial will be announced in the second half of 2017.

The OvaPrime℠ treatment is a potential fertility treatment that could enable a woman to increase her egg reserve. Approximately 30% of women who start an IVF cycle fail to produce a sufficient number of eggs (or the eggs are too immature). The OvaPrime treatment is designed to replenish a woman’s egg reserve by transferring a patient’s EggPC cells from the protective ovarian lining back into the patient’s own ovaries where they may mature into fertilizable eggs during the IVF process. We reported large animal toxicology and small animal proof-of-concept studies relating to the OvaPrime treatment in 2014. In December 2015, we commenced a clinical study with the OvaPrime treatment in the United Arab Emirates to gain insight into the clinical efficacy and feasibility of the treatment. Additionally, we recently received IRB approval to begin a clinical trial of OvaPrime in Canada, and we are now enrolling patients. Both trials are designed to look at hormone level changes, including FSH and AMH, and follicular development, as evaluated by ultrasound. We plan to provide an update on the path forward for OvaPrime by the end of 2016 based on an internal review of preliminary data from these studies.

The OvaTure℠ treatment is a potential next-generation fertility treatment that could help a woman produce healthy, young, fertilizable eggs without the need for hormone injections. The OvaTure treatment seeks to mature a woman’s own EggPC cells into eggs outside her body. This potential treatment may be an option for women with compromised eggs, who are unable to make eggs, or who may be unwilling or unable to undergo hormone hyperstimulation. We established human preclinical proof-of-concept and continue to optimize the maturation process by demonstrating that human EggPC cells can be matured into eggs outside of the body. The aim is to characterize EggPC cells and mature them into oocytes to determine their ability to mature into fertilizable eggs. In the third quarter of 2016, we and our development partner, Intrexon Corporation, identified a preferred media that supports early EggPC to oocyte maturation and we continue to focus on furthering the culture process for late-stage oocyte maturation. We are continuing development of the OvaTure procedure, with a goal of further understanding and defining the clinical path forward in 2016. We are seeking permission from regulatory authorities outside the United States for certain steps necessary to complete testing of EggPC derived eggs.

Our strategy

We are focused on three primary objectives, or pillars, that we hope will serve as the foundation to grow our business. First, we plan to continue to generate clinical data to further validate our portfolio of novel fertility treatments and demonstrate their clinical benefit. Second, with a narrow and deep focus on Canada and Japan as our primary markets, we aim to expand our operational platform and, in Japan, execute a targeted introduction of the AUGMENT treatment in preparation for commercial launch. Third, we aim to build a patient-centered business model by increasing our patient support services through local, on-the ground teams to support patients and clinics.

Regarding our first objective, we are committed to supporting market confidence in our treatment paradigms by creating validating datasets to further support the use of our treatments. This objective includes the ongoing egg allocation study conducted by the IVI Group, which evaluates the rate of ongoing clinical pregnancy, potential additional AUGMENT studies and the ongoing OvaPrime studies.

In addition, we are currently working to expand access to the AUGMENT treatment in key IVF markets by taking a narrow and deep approach to the commercial launch, as defined by a critical mass of contracted clinics and extensive patient

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and doctor familiarity with, and education on, the AUGMENT treatment. We have already made significant progress in building our ongoing commercial operations and infrastructure, particularly in Canada, where, in addition to existing clinics, we have entered into agreements with six new clinics or clinic networks in 2016. From our experience in that market, we expect to draw meaningful conclusions to inform our strategy in Japan, where we executed our first commercial agreement in August 2016, as well as other future regions. With respect to the U.S., we are determining our FDA strategy with respect to the AUGMENT treatment.

Lastly, we plan to enhance our patient services, in part by shifting to a patient-centered business model in our targeted regions. With this type of commercial model, we plan to be more proactive in raising awareness and educating patients directly about the AUGMENT treatment. In the case of fertility treatment, we believe patients are sophisticated consumers who are informed and will pursue breakthrough treatments.

We believe our EggPC technology has the potential to make significant advances in the field of fertility because it is designed to address poor egg health and embryo quality due to age and other causes. We believe our EggPC technology could improve IVF by:

Increasing live birth rates and reducing the number of IVF cycles. By improving egg health, we believe we may increase the percentage of live births and reduce the number of IVF cycles required.

Reducing the incidence of multiple births. By generating higher quality eggs, we believe our EggPC technology may allow for the transfer of fewer embryos per IVF cycle and, as a result, lower the incidence of multiple births and the associated complications.

Lowering the overall cost of the IVF process. If we reduce the number of IVF cycles required for a live birth and the incidence of multiple births, we believe our fertility treatment options may also lower the overall costs associated with the IVF process.

Replenishing the ovary for women who make too few or no eggs. Our OvaPrime treatment is designed to replenish a woman’s egg reserve by transferring a patient’s EggPC cells from the protective ovarian lining back into the patient’s own ovaries where they may mature into fertilizable eggs.

Reducing the need for hormonal hyperstimulation. We are designing our OvaTure treatment to mature EggPC cells into fertilizable eggs in vitro, or outside the body. If successful, the OvaTure treatment could reduce, or possibly eliminate, the need for hormonal hyperstimulation for the maturation of multiple oocytes prior to egg retrieval in the IVF process.

Developing new treatments for diseases. OvaXon^{SM} is a joint venture with Intrexon Corporation, or Intrexon, which is focused on developing significant improvements in human and animal health using our EggPC cell technology and Intrexon’s synthetic biology and high throughput platform for applications.

The AUGMENT Treatment

We have introduced the AUGMENT treatment in select international IVF clinics and we anticipate that we will introduce the AUGMENT treatment into new international regions. The AUGMENT treatment is not available in the United States.

An AUGMENT treatment cycle begins upon our receipt of the patient’s ovarian tissue after biopsy, which is obtained through a biopsy performed by the patient's doctor prior to hormone stimulation. Our proprietary process identifies and isolates the patient’s own EggPC cells, and then the patient’s own mitochondria from these EggPC cells are isolated. The patient’s own mitochondria are then injected into her egg at the time of intracytoplasmic sperm injection, or ICSI. We expect to receive payment before processing tissue and defer revenue until we have met all of our treatment obligations, including delivery of the mitochondria to the clinic. Based on our experiences to date, the

period from receipt of the patient's tissue to recording revenue is expected to range between approximately 30 and 120 days or more. Within certain of our programs, revenue recognition may be further deferred.

We have established our international headquarters in the United Kingdom to coordinate our international commercial efforts. We plan to continue to focus our near-term efforts on the markets of Canada and Japan. Within these markets we plan to target customers that combine elements of the following key criteria:

•High quality patient clinical care
•High volume IVF clinics

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- High quality IVF labs
- Out-of-pocket pay and high average cost per cycle
- Potential for reimbursement by healthcare providers
- Donor egg restrictions

We continue to explore the optimal business model for the AUGMENT treatment based on our initial commercial experience. We plan to:

- pursue broader use, including patients with no previous failed IVF cycle for various egg health and male factor indications;
- review the optimal manufacturing model(s) in certain regions, while continuing to utilize onsite manufacturing, to handle demand resulting from expanded indications, ongoing publication of patient experience and broad geographic expansion; and
- continue to optimize commercial operations and logistics.

Critical Accounting Policies and Significant Judgments and Estimates

The discussion and analysis of our financial condition and results of operations is based on our condensed consolidated financial statements, which have been prepared in accordance with U.S. generally accepted accounting principles. The preparation of our condensed consolidated financial statements requires us to make judgments, estimates and assumptions that affect the amounts reported in the condensed consolidated financial statements and accompanying notes. We evaluate our estimates, on an ongoing basis, including those related to accrued expenses and assumptions in the valuation of stock-based compensation. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable in the circumstances. Actual results could differ from those estimates.

Refer to Part II, Item 7, “Management’s Discussion and Analysis of Financial Condition and Results of Operations” of our Annual Report on Form 10-K for the year ended December 31, 2015 for a discussion of our critical accounting policies and estimates.

There were no significant changes to our critical accounting policies and estimates in the nine months ended September 30, 2016.

Results of Operations

The following table summarizes our results of operations for the three and nine months ended September 30, 2016 and 2015, together with the change in these items in thousands of dollars and as a percentage:

	Three Months Ended, September 30,		2016 / 2015 Comparison Increase / (Decrease)			Nine Months Ended September 30,		2016 / 2015 Comparison Increase / (Decrease)		
	2016	2015	$	%		2016	2015	$	%	
Revenues	$ 197	$ 75	$ 122	163	%	$ 532	$ 120	$ 412	343	%
Costs of revenues	1,559	940	619	66	%	3,968	1,091	2,877	264	%
Research and development expenses	4,990	3,998	992	25	%	16,932	13,766	3,166	23	%
Selling, general and administrative expenses	12,612	12,909	(297)	(2)	%	38,276	37,022	1,254	3	%
Interest income, net	162	141	21	15	%	497	286	211	74	%

Other (expense) income, net	(33)	25	(58)	NM [1]	(82)	31	(113)	NM [1]	
Loss from equity method investment	364	316	48	15 %	1,171	1,176	(5)	—	%
Income tax expense	92	—	92	100 %	217	—	217	100	%
Net Loss	$19,291	$17,922	$1,369	8 %	$59,617	$52,618	$6,999	13	%

(1) - Not Meaningful

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Revenues

Revenues for the three and nine months ended September 30, 2016 were $197,000 and $532,000, respectively, as compared to $75,000 and $120,000 for the three and nine months ended September 30, 2015, respectively. For the three months ended September 30, 2016, we received the biopsy for 13 patients and recognized revenue related to 33 AUGMENT treatments, 5 of which related to biopsies received during the third quarter. An AUGMENT treatment cycle begins upon our receipt of the patient's ovarian tissue after biopsy. We expect to receive payment before processing tissue and defer revenues until we have met all of our treatment obligations, including delivery of the mitochondria to the clinic. Based on our experiences to date, the period from receipt of the patient's tissue to recording revenue is expected to range between 30 and 120 days or more. Within certain of our programs, revenue recognition may be further deferred. During the second half of 2015 and first three quarters of 2016, we offered various pilot pricing programs, which we plan to continue in the remainder of 2016. These programs are designed to broaden the customer base knowledge and hands on experience with AUGMENT treatment. We plan to continue to build our foundational commercial structure and expect revenues in the fourth quarter of 2016 to reflect the decreased number of biopsies in the third quarter of 2016 compared to the previous quarter, as well as the impact of potential patients enrolling in our non-revenue generating multi-center trials. Our ability to generate additional revenue in the near term will depend on continued enrollment and use of the AUGMENT treatment in our contracted clinics in new and existing markets.

Cost of Revenues

Costs of revenues for the three and nine months ended September 30, 2016 were $1.6 million and $4.0 million, respectively, compared to $0.9 million and $1.1 million for the three and nine months ended September 30, 2015, respectively. The increase in costs of revenues is driven by the expansion of our commercial operations, which includes additional personnel and equipment. To make the AUGMENT treatment available in a specific international region, we need to establish laboratories and hire scientific personnel to process the patient tissue. Therefore, as we continue to process additional AUGMENT treatments in commercial clinics we expect the cost of processing an AUGMENT treatment to decline as these fixed costs will be allocated over a larger number of treatments. Our costs of revenues include the cost of processing patient tissue that corresponds to treatment revenues for the reporting period.

Research and Development Expense

The $1.0 million, or 25%, increase in our research and development expense for the three months ended September 30, 2016 as compared to the three months ended September 30, 2015, from $4.0 million to $5.0 million was primarily attributable to:

- a $0.9 million increase in employee compensation and related benefits driven by the hiring of additional research and development personnel, including $0.1 million of severance-related costs;
- a $0.3 million increase in costs associated with certain ongoing research agreements;
- a $0.2 million increase in costs associated with ongoing clinical studies;
- a $0.1 million increase in facilities and other costs; and
- a $0.5 million decrease in stock-based compensation expense for certain senior executives that did not recur in 2016 as a result of executive leadership changes since the third quarter of 2015.

The $3.2 million, or 23%, increase in our research and development expense for the nine months ended September 30, 2016 as compared to the nine months ended September 30, 2015, from $13.8 million to $16.9 million was primarily attributable to:

- a $3.1 million increase in employee compensation and related benefits driven by the hiring of additional research and development personnel, including $0.4 million of severance-related costs;
- a $1.7 million increase in lab supplies and patient related costs associated with our ongoing clinical studies;
- a $0.9 million increase in facilities and other costs; and
- a $2.5 million decrease in stock-based compensation expense related to certain mark-to-market adjustments of Founders' stock, which was fully expensed and vested in the first quarter of 2015 that did not recur in 2016.

We expect research and development expense to increase if our programs successfully advance towards commercialization. We do not believe that our historical costs are indicative of the future costs associated with these programs nor do they represent what any other future treatment program we initiate may cost. Due to the variability in the length of time

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and scope of activities necessary to develop a fertility treatment and uncertainties related to cost estimates and our ability to commercialize and/or obtain marketing approval for our fertility treatments, accurate and meaningful estimates of the total costs required to bring our fertility treatments to market are not available.

Additionally, because of the risks inherent in drug discovery and development, we cannot reasonably estimate or know:

- the nature, timing and estimated costs of the efforts necessary to complete the development of our programs;
- the anticipated completion dates of our programs; or
- the period in which material net cash inflows are expected to commence, if at all, from our current programs and any potential future treatments.

Selling, General and Administrative Expense

Selling, general and administrative costs consist of ongoing costs to run our operations and continue to support the expanding international availability of the AUGMENT treatment. The $0.3 million, or 2%, decrease in selling, general and administrative expense for the three months ended September 30, 2016 as compared to the three months ended September 30, 2015, from $12.9 million to $12.6 million was primarily due to:

- a $0.9 million decrease in costs related to international expansion due to specific costs incurred in the third quarter of 2015, including legal, audit, and tax-related costs, as well as international shipping costs;
- a $0.8 million decrease in stock-based compensation expense related to certain senior executives that did not recur in 2016 as a result of executive leadership changes since the third quarter of 2015; and
- a $1.4 million increase in employee compensation and related benefits driven by the hiring of additional personnel, including $0.6 million of severance-related costs.

The $1.3 million, or 3%, increase in selling, general and administrative expense for the nine months ended September 30, 2016 as compared to the nine months ended September 30, 2015, from $37.0 million to $38.3 million was primarily due to:

- a $4.4 million increase in employee compensation and related benefits driven by the hiring of additional selling, general and administrative personnel, including $1.1 million of severance related costs;
- a $0.9 million increase to support our international growth and intellectual property including increases of $0.7 million in legal expenses and $0.2 million in accounting, tax and other related expenses; and
- a $4.0 million decrease in stock-based compensation expense related to certain mark-to-market adjustments of Founders' stock, which was fully expensed and vested in the first quarter of 2015 that did not recur in 2016, as well as pre-vest forfeitures as a result of the resignation of certain senior executives.

We expect selling, general and administrative expenses to increase as we continue to expand our international sales and operations. We plan to continue to build in-market teams in the markets of Canada and Japan to provide the infrastructure necessary to support our commercial efforts for the AUGMENT treatment. We do not believe that our historical costs are indicative of the future costs associated with supporting the AUGMENT treatment nor do they represent what any other future commercial treatment program we initiate may cost to support.

Interest Income, Net

Interest income, net was $0.2 million for the three months ended September 30, 2016, which included $0.2 million of interest income related to short-term investments. Interest income, net was $0.1 million for the three months ended September 30, 2015 which included $0.1 million of interest income related to short-term investments.

Interest income, net was $0.5 million for the nine months ended September 30, 2016, which included $0.5 million of interest income related to short-term investments. Interest income, net was $0.3 million for the nine months ended September 30, 2015 which included $0.1 million of interest income related to short-term investments.

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Loss from Equity Method Investment

Loss from equity method investment was $0.4 million and $1.2 million for the three and nine months ended September 30, 2016, respectively. Loss from equity method investment was $0.3 million and $1.2 million for the three and nine months ended September 30, 2015, respectively. These losses resulted from our OvaXon joint venture established in December 2013.

Income Tax Expense

Income tax expense was $0.1 million and $0.2 million for the three and nine months ended September 30, 2016, respectively. Income tax expense primarily consists of taxes incurred in the state and foreign jurisdictions in which we operate.

Liquidity and Capital Resources

Sources of Liquidity

We have generated limited AUGMENT treatment revenue to date. We have relied on the proceeds from sales of equity securities to fund our operations. Our short-term investments primarily trade in liquid markets, and the average days to maturity of our portfolio as of September 30, 2016 are less than 12 months. Because our fertility treatments are in various stages of development and the outcome of these efforts is uncertain, we cannot estimate the actual amounts necessary to successfully complete the development and commercialization of our fertility treatments, or whether or when we may achieve profitability.

In June 2016, we issued and sold in an underwritten public offering an aggregate of 8,222,500 shares of our common stock at $7.00 per share, which included 1,072,500 shares that represented the full exercise of an option to purchase additional shares granted to the underwriters in connection with the offering. The offering resulted in $53.9 million of net proceeds, after deducting underwriting discounts and commissions and other offering expenses payable by us.

Our significant capital resources are as follows (in thousands):

	September 30, 2016	December 31, 2015
Cash, cash equivalents and short-term investments	$ 130,995	$ 126,662
Working capital	122,188	118,618

	Nine Months Ended September 30,	
	2016	2015
Cash (used in) provided by:		
Operating activities	(46,765)	(38,967)
Investing activities	(134)	(42,113)
Capital expenditures (included in investing activities above)	(1,045)	(2,323)
Financing activities	54,155	125,508

Cash Flows

Cash used in operating activities in both of the periods presented was primarily driven by our net loss. Cash flows from operations can vary significantly due to various factors, including changes in the net loss and the timing of disbursements made for accounts payable and accruals. During the nine months ended September 30, 2016, we received $1.2 million tenant allowance relating to leasehold improvements from our landlord that has been included within cash used in operating activities. We have accounted for the allowance received as a lease incentive to deferred rent and will be recorded as a reduction to rent expense over the lease term.

Cash used in investing activities for the nine months ended September 30, 2016 included purchases of $65.6 million of short-term investments, capital expenditures of $1.0 million, and a $1.8 million investment in a joint venture, which were offset by $45.0 million of proceeds from maturities of short-term investments, $23.1 million in sales of short-term investments and a

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$0.2 million decrease in restricted cash. Capital expenditures in the nine months ended September 30, 2016 primarily consisted of laboratory equipment.

Cash used in investing activities for the nine months ended September 30, 2015 included purchases of $82.1 million of short-term investments, a $1.5 million investment in a joint venture and capital expenditures of $2.3 million, which were offset by $41.1 million of proceeds from maturities of short-term investments, $3.1 million in sales of short-term investments and a $0.4 million increase in restricted cash. Capital expenditures in the nine months ended September 30, 2015 primarily consisted of laboratory equipment.

Net cash provided by financing activities for the nine months ended September 30, 2016 was primarily the result of an underwritten public offering of an aggregate of 8,222,500 shares of common stock at a price per share of $7.00 resulting in net proceeds of $53.9 million. Stock option exercises and issuances of common stock resulted in net proceeds of $0.2 million.

Net cash provided by financing activities for the nine months ended September 30, 2015 was primarily the result of an underwritten public offering of an aggregate of 2,645,000 shares of common stock at a price per share of $50.00 resulting in net proceeds of $124.1 million. Stock option exercises and issuances of common stock resulted in net proceeds of $1.4 million.

We may need substantial additional funds to support our planned operations and commercialization strategy. We expect that our existing cash, cash equivalents and short-term investments of $131.0 million at September 30, 2016 will enable us to fund our current operating plan for at least the next 12 months. We have based this estimate on assumptions that may prove to be wrong, and we could use our available capital resources sooner than we currently expect. Because of the numerous risks and uncertainties associated with the development and commercialization of our fertility treatments, and the extent to which we may enter into collaborations with third parties for the development and commercialization of our fertility treatments, we are unable to estimate the amounts of increased capital outlays and operating expenses associated with completing the development of our current treatments in development. Our future capital requirements will depend on many factors, including:

- our success in expanding to new clinics in other major regions of the world, transitioning contracted clinics to commercial centers and significantly increasing the number of patients receiving the AUGMENT treatment;
- our success in introducing the OvaPrime treatment to international IVF clinics;
- the costs associated with the expansion of foreign operations and building out our international commercial infrastructure, including expanding and staffing in our international headquarters in the United Kingdom and other international subsidiaries;
- the costs associated with establishing a domestic and international sales, marketing, manufacturing and distribution infrastructure to commercialize the AUGMENT treatment and any other fertility treatments that we successfully develop;
- the pricing of the AUGMENT treatment and resulting revenues, as well as any future revenues we receive from our potential fertility treatments;
- the costs associated with the non-commercial preceptorship training program for the OvaPrime treatment;
- the costs of continuing the optimization of the OvaTure treatment and our success in defining a clinical pathway;

- the costs of existing and future AUGMENT studies, OvaPrime studies and any clinical trials of fertility treatments and potential fertility treatments;

- the costs involved in collaborating with Intrexon through the OvaXon joint venture to create new applications to prevent inherited diseases for human and animal health;

- any applicable regulatory process in the United States and abroad, including the premarketing and marketing approval requirements, to which any of our potential fertility treatments may be subject;

- any regulatory or institutional review board review of our potential fertility treatments that are subject to such review;

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- preparing, filing and prosecuting patent applications, maintaining and enforcing our intellectual property rights and defending intellectual property-related claims;

- establishing collaborations and partnerships on favorable terms, if at all; and

- developing, acquiring or in-licensing other potential fertility treatments and technologies.

Until such time, if ever, as we can generate sufficient revenues from the AUGMENT treatment or our other fertility treatments to become profitable, we expect to finance our cash needs through a combination of equity offerings, debt financings, collaborations, strategic alliances and licensing arrangements. We do not have any committed external source of capital. In addition, we may elect to raise additional capital even before we need it if the conditions for raising capital are favorable. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interest of our stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of common stockholders. 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 additional funds through collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or treatments or 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 fertility treatment development or future commercialization efforts or grant rights to develop and market treatments 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 SEC rules.

Contractual Obligations

There have been no material changes to our contractual obligations set forth under the heading “Management’s Discussion and Analysis of Financial Condition and Results of Operations — Contractual Obligations” in our Annual Report on Form 10-K for the year ended December 31, 2015.

Recently Issued Accounting Standards

In August 2016, the FASB issued ASU No. 2016-15, Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments. ASU No. 2016-15 requires changes in the presentation of debt prepayment or debt extinguishment costs, contingent consideration payments made after a business combination, proceeds from the settlement of insurance claims, proceeds from the settlement of corporate-owned life insurance policies and distributions received from equity method investees. This update is effective for annual and interim periods beginning after December 15, 2017 using a retrospective transition method to each period presented. Early adoption is permitted. We are evaluating this standard to determine if adoption will have a material impact on our consolidated financial statements.

In March 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standard Update (ASU) No. 2016-09, Compensation - Stock Based Compensation, which simplifies several aspects of accounting for share-based payment transactions, including the income tax consequences, classification of awards as either equity or liabilities and classification on the statement of cash flows. The new standard also provides the option to either continue to

estimate the number of awards that are expected to vest or to account for forfeitures as they occur. The amendment is effective for annual periods beginning after December 15, 2016, and interim periods within those annual periods, early adoption is permitted. We are evaluating this standard to determine if adoption will have a material impact on our consolidated financial statements.

In February 2016, the FASB issued ASU No. 2016-02, Leases, which is intended to increase transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. Under the new standard, a lessee will be required to recognize assets and liabilities for both operating and financing leases with lease terms of more than 12 months. In addition, ASU 2016-02 requires the use of the modified retrospective method, which will require adjustment to all comparative periods presented in the consolidated financial statements. The amendment is effective for annual periods beginning after December 15, 2018, and interim periods within

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those annual periods. Early adoption is permitted. We are currently assessing the impact that adopting this new accounting standard will have on our consolidated financial statements and footnote disclosures thereto.

In August 2015, the FASB issued ASU No. 2015-14, which defers the effective date of ASU No. 2014-09 by one year. ASU No. 2014-09 amends the guidance for accounting for revenue from contracts with customers. This ASU supersedes the revenue recognition requirements in Accounting Standards Codification Topic 605, Revenue Recognition, and creates a new Topic 606, Revenue from Contracts with Customers. This guidance is now effective for fiscal years beginning after December 15, 2017 with early adoption permitted for annual periods beginning after December 15, 2016. Two adoption methods are permitted: retrospectively to all prior reporting periods presented, with certain practical expedients permitted; or retrospectively with the cumulative effect of initially adopting the ASU recognized at the date of initial application. We have not yet determined which adoption method we will utilize or the effect that the adoption of this guidance will have on our consolidated financial statements.

In August 2014, the FASB issued ASU 2014-15, Presentation of Financial Statements-Going Concern. The new standard requires management of public and private companies to evaluate whether there is substantial doubt about the entity's ability to continue as a going concern and, if so, disclose that fact. We will also be required to evaluate and disclose whether our plans alleviate that doubt. This guidance is effective for annual periods ending after December 15, 2016, and interim periods within annual periods beginning after December 15, 2016. We have evaluated the impact of this new standard as if it were adopted in connection with the issuance of this quarterly report and have determined that there is no additional disclosure required.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

Our interest income is sensitive to changes in the general level of U.S. interest rates, particularly since a significant portion of our investments are in money market funds and corporate obligations. We do not enter into investments for trading or speculative purposes. We maintain our cash, cash equivalents and short-term investments with a high quality, accredited financial institution. Our marketable securities are subject to interest rate risk and will fall in value if market interest rates increase.

A hypothetical 100 basis point increase in interest rates would result in an approximately $0.3 million decrease in the fair value of our investments as of September 30, 2016, as compared to an approximately $0.5 million decrease as of December 31, 2015. We have the ability to hold our fixed income investments until maturity and, therefore, we do not expect our operating results or cash flows to be affected to any significant degree by the effect of a change in market interest rates on our investments.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures. Our management, with the participation of our principal executive officer and principal financial officer, evaluated the effectiveness of our disclosure controls and procedures as of September 30, 2016. The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the company’s management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure. Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost-benefit relationship of possible

controls and procedures. Based on the evaluation of our disclosure controls and procedures as of September 30, 2016, our principal executive officer and principal financial officer concluded that, as of such date, our disclosure controls and procedures were effective at the reasonable assurance level.

Changes in Internal Controls. No change in our internal control over financial reporting occurred during the fiscal quarter ended September 30, 2016 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Part II. Other Information

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Item 1. Legal Proceedings

On October 9, 2015, a purported class action lawsuit was filed in the Suffolk County Superior Court in the Commonwealth of Massachusetts (the "Superior Court") against us, several of our officers and directors and certain of the underwriters from our January 2015 follow-on public offering of our common stock. The plaintiffs purport to represent those persons who purchased shares of our common stock pursuant or traceable to our January 2015 follow-on public offering. The plaintiffs allege, among other things, that the defendants made false and misleading statements and failed to disclose material information in the Company's January 2015 Registration Statement and incorporated offering materials. Plaintiffs allege violations of Sections 11, 12 and 15 of the Securities Act and seek, among other relief, unspecified compensatory damages, rescission, pre-and post-judgment interest and fees, costs and disbursements. On December 7, 2015, the OvaScience defendants filed a notice of removal with the Federal District Court for the District of Massachusetts (the "District Court"). On December 30, 2015, plaintiffs filed a motion to remand the action to the Superior Court. Oral argument on the motion to remand was held on February 19, 2016. On February 23, 2016, the District Court granted plaintiffs' motion to remand the action to the Superior Court. On February 26, 2016, a second purported class action lawsuit was filed in the Suffolk County Superior Court in the Commonwealth of Massachusetts, alleging substantially the same claims against the same parties as the action filed on October 9, 2015. On April 4, 2016, the Superior Court granted the parties' joint motion to consolidate the two cases and appoint co-lead plaintiffs, and ordered the co-lead plaintiffs to file an amended consolidated complaint within sixty days. On June 17, 2016, co-lead plaintiffs filed an amended consolidated complaint asserting similar allegations and alleging violations of the same sections of the Securities Act of 1933 as the original complaint. On October 27, 2016, the Court granted plaintiffs' motion to intervene to add an additional name plaintiff. We are in the process of filing a motion to dismiss the amended consolidated complaint. We believe that the amended consolidated complaint is without merit and intend to defend against the litigation. There can be no assurance, however, that we will be successful. A resolution of this lawsuit adverse to the Company or the other defendants could have a material effect on our consolidated financial position and results of operations in the period in which the lawsuit is resolved. At present, we are unable to estimate potential losses, if any, related to the lawsuit.

We are not party to any other litigation in any court and management is not aware of any contemplated proceeding by any governmental authority against the Company.

Item 1A. Risk Factors

In addition to the other information set forth in this report, you should carefully consider the risk factors discussed in (i) Part I, Item 1A. "Risk Factors" in our Annual Report on Form 10-K for the year ended December 31, 2015, and (ii) Exhibit 99.3 to our Current Report on Form 8-K , as filed with the Securities and Exchange Commission on May 25, 2016, which could materially affect our business, financial condition, or results of operations. There have been no material changes in or additions to the risk factors included in our Annual Report on Form 10-K for the year ended December 31, 2015.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

On September 8, 2016, the Company granted options to purchase an aggregate of 727,500 shares of its common stock at a price per share of $7.15 to 20 employees. These grants were made pursuant to NASDAQ Listing Rule 5635(c)(4) and Section 4(a)(2) of the Securities Act. All stock option awards are exercisable at $7.15 per share and vest as to 25% on the one year anniversary of each employee's date of hire, with the remaining vesting quarterly thereafter, subject to each employee's continued employment with the Company.

Item 5. Other Information.

On November 3, 2016, we entered into a Sales Agreement, or the Sales Agreement, with Cowen and Company, LLC, or Cowen, with respect to an at-the-market offering program, under which we may offer and sell, from time to time at our sole discretion, shares of our common stock, or the Placement Shares, having an aggregate offering price of up to $50,000,000 through Cowen as our sales agent. We are not obligated to make any sales of common stock under the Sales Agreement and no assurance can be given that we will sell any shares under the Sales Agreement, or, if we do, as to the price or amount of shares that we will sell, or the dates on which any such sales will take place.

Any sales of shares of our common stock pursuant to the Sales Agreement will be made pursuant to an effective shelf registration statement on Form S-3and a related prospectus. Cowen may sell the Placement Shares by any method permitted by law deemed to be an “at the market” offering as defined in Rule 415 of the Securities Act of 1933, as amended, including, without limitation, sales made by means of ordinary brokers’ transactions on The NASDAQ Global Market or otherwise at market prices prevailing at the time of sale, in block transactions, or as otherwise directed by the Company. Cowen will use commercially reasonable efforts to sell the Placement Shares from time to time, based upon instructions from us (including any

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price, time or size limits or other customary parameters or conditions that we may impose). We will pay Cowen a commission of up to three percent (3.0%) of the gross sales proceeds of any Placement Shares sold through Cowen under the Sales Agreement, and we have also provided Cowen with customary indemnification and contribution rights. The Sales Agreement will terminate upon the earlier of the sale of all common stock subject to the Sales Agreement or termination of the Sales Agreement in accordance with its terms.

The above disclosure shall not constitute an offer to sell or the solicitation of an offer to buy the securities discussed herein, nor shall there be any offer, solicitation, or sale of the securities in any state in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state.

Item 6. Exhibits

The exhibits filed as part of this Quarterly Report on Form 10-Q are set forth in the Exhibit Index and such Exhibit Index is incorporated herein by reference.

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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 hereunto duly authorized.

OVASCIENCE, INC.

By: /s/ Harald Stock, Ph.D.
Name: Harald Stock, Ph.D.
Date: November 3, 2016 Title: President and Chief Executive Officer (Principal Executive Officer)

By: /s/ Christophe Couturier
Name: Christophe Couturier
Date: November 3, 2016 Title: Chief Financial Officer (Principal Accounting and Financial Officer)

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Exhibit Index

Exhibit	Description
10.1*	Offer Letter, dated September 6, 2016, by and between the Registrant and Christophe Couturier (incorporated by reference to Exhibit 10.1 of the Registrant's Current Report on Form 8-K filed September 6, 2016 (File No. 001-35890)).
10.2*	Nonstatutory Stock Option Agreement between the Registrant and Christophe Couturier dated September 8, 2016
10.3+	Amendment No. 6 to the Exclusive License Agreement by and between OvaScience, Inc. and The General Hospital Corporation.
31.1	Certification of Principal Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 by Principal Executive Officer.
31.2	Certification of Principal Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 by Principal Financial Officer.
32.1	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, by Principal Executive Officer.
32.2	Certification pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, by Principal Financial Officer.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Presentation Linkbase Document

* Indicates management contract or compensatory plan.
+ Confidential treatment has been requested for portions of this exhibit under Rule 24b-2 of the Securities Exchange Act of 1934, as amended.