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

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d) of the
Securities Exchange Act of 1934

Date of report (Date of earliest event reported): **March 15, 2018**

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

Delaware	**001-35890**	**45-1472564**
(State or other jurisdiction of incorporation)	(Commission File Number)	(IRS Employer Identification No.)

9 Fourth Avenue **Waltham, Massachusetts** (Address of principal executive offices)	**02451** (Zip Code)

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

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (17 CFR §230.405) or Rule 12b-2 of the Securities Exchange Act of 1934 (17 CFR §240.12b-2).

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. ☐

Item 2.02 Results of Operations and Financial Condition

On March 15, 2018, OvaScience, Inc. (the "Company") announced its financial results for the quarter and the year ended December 31, 2017. The full text of the press release issued in connection with the announcement is furnished as Exhibit 99.1 to this Current Report on Form 8-K.

The information in this Current Report on Form 8-K (including Exhibit 99.1) shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as expressly set forth by specific reference in such filing.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

The following exhibit relating to Item 2.02 shall be deemed to be furnished, and not filed:

99.1 Press Release dated March 15, 2018

SIGNATURE

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.

Date: March 15, 2018

/s/ Jonathan Gillis
Jonathan Gillis
Senior Vice President of Finance

Exhibit 99.1

OvaScience Reports Fourth Quarter and Year-End 2017 Financial Results

— Initial Data from First 20 Patients in Phase 1 Clinical Trial of OvaPrime Indicates Safety and Tolerability; Conducting Additional Preclinical Studies to Optimize Proposed Phase 1b/2a Clinical Trial —
— Appointed James Lillie, Ph.D. as Chief Scientific Officer to Lead Advancement of OvaTure Program —
— Conference Call Today at 4:30 p.m. ET —

WALTHAM, Mass., March 15, 2018 — OvaScience[SM] (NASDAQ:OVAS), a company focused on the discovery and development of new treatment options for women and families struggling with infertility, today reported financial results and provided a business update for the fourth quarter and year ended December 31, 2017.

"We made a concerted effort over the past six months to hone our strategic focus on research and development, and are positioned to make meaningful progress in our OvaPrime and OvaTure programs in 2018," said Dr. Christopher Kroeger, Chief Executive Officer of OvaScience. "We are pleased with the initial safety data from our Phase 1 clinical trial of OvaPrime and are eager to continue advancing the treatment. We are currently conducting additional preclinical animal studies designed to further characterize egg precursor cells and evaluate the impact of our improved cell processing techniques. These studies will inform the final design of our proposed Phase 1b/2a trial. We expect to finalize our OvaPrime development plan and begin enrollment in the second half of the year."

Dr. Kroeger added, "Additionally, Dr. James Lillie, our newly appointed Chief Scientific Officer, is leading the advancement of OvaTure, executing a strategy that combines internal expertise with that of specialized contract research organizations and select academic partners. We look forward to the continued implementation of our scientifically rigorous, data-driven approach to OvaTure and, more broadly, to realizing the promise of treatments derived from our novel egg precursor cell technology platform."

Recent Business Highlights:

OvaPrime[SM] Treatment: OvaPrime is a potential fertility treatment that could help restore a woman's egg production. With OvaPrime, a woman's own egg precursor (EggPC[SM]) cells are isolated from a niche within her ovary where they are quiescent and repositioned such that they receive the appropriate signals to mature *in vivo* into healthy, fertilizable eggs.

- In January 2018, OvaScience reported initial safety data from its single-center, prospective, blinded and placebo-controlled Phase 1 clinical trial of OvaPrime in women

with either primary ovarian insufficiency (POI) or poor ovarian response (POR). Among the first 20 patients evaluable for safety six-months post-EggPC cell reintroduction, there were no treatment related serious adverse events and no adverse events (AEs) related to the EggPC cells. There were seven mild AEs, four of which were deemed unrelated to OvaPrime and three of which were related to the standard laparoscopic procedure. No patients discontinued treatment because of an AE. The mean duration of follow-up among these 20 patients was nine months. OvaScience closed enrollment in this trial at 81 patients, for a modified intent-to-treat (ITT) population of 58. OvaScience expects to announce six-month safety data for all patients by year-end 2018 and to read out initial secondary endpoints for all patients by the end of the third quarter of 2019. Based on preliminary blinded data, OvaScience does not expect the study to result in strong signals on secondary endpoints, which may be due to a sub-optimal EggPC cell dose.

- OvaScience has since improved its cell processing techniques, resulting in a substantial increase in EggPC cell yield. The Company is conducting preclinical animal studies designed to provide additional data regarding the characteristics of EggPC cells and to evaluate the increased cell yield and purity derived from its improved cell processing techniques. OvaScience expects to utilize the findings from these studies to optimize the final design of its proposed multi-center, prospective, controlled, Phase 1b/2a clinical trial of OvaPrime and plans to provide an update on its development plan and begin enrollment in the second half of 2018. As appropriate, OvaScience also expects to apply the improvements to its cell processing techniques to ongoing efforts with OvaTure and AUGMENT.

OvaTure℠ Treatment: OvaTure is a potential fertility treatment that eliminates the need for hormone stimulation. With OvaTure, a woman's own EggPC cells are isolated from her ovary and matured *in vitro* into healthy, fertilizable eggs.

- OvaScience continues to progress the preclinical development of OvaTure. The Company is focused on optimizing subculture techniques for the maturation of human and bovine EggPC cells and working with its academic partners to secure authorization to fertilize human EggPC cell-derived eggs outside of the United States.
- In February 2018, OvaScience provided Intrexon with written termination of the companies' Exclusive Channel Collaboration Agreement. This decision was based on a belief that OvaScience can most effectively develop OvaTure by leveraging internal capabilities along with specialized contract research organizations and select academic institutions that have complementary capabilities. OvaScience does not expect the termination of this collaboration to adversely impact or slow OvaTure development.

AUGMENT℠ Treatment: AUGMENT is a fertility treatment designed to improve fertilization and pregnancy rates. With AUGMENT, mitochondria from a woman's own EggPC cells are isolated and injected into the egg during *in vitro* fertilization (IVF). AUGMENT is currently offered to patients through an exclusive license to IVF Japan Group in Japan. OvaScience retains

worldwide commercialization rights for AUGMENT outside of Japan and continues to work with the U.S. Food and Drug Administration under its available procedures to determine the most appropriate regulatory pathway for potential entry into the United States.

Corporate Highlights:

- In January 2018, OvaScience announced the appointment of James Lillie, Ph.D., as Chief Scientific Officer. Dr. Lillie brings extensive cellular biology and biochemistry experience to OvaScience and is responsible for leading the Company's preclinical research and development efforts, including the continued advancement of OvaTure.
- Also in January 2018, OvaScience implemented a corporate restructuring to streamline its operations, reduce its cost structure and extend its cash position beyond a readout of the proposed Phase 1b/2a clinical trial of OvaPrime. In conjunction with this restructuring, OvaScience reduced its workforce by approximately 50 percent.

Fourth Quarter and Full Year 2017 Financial Results:

- Research and development expenses for the quarter ended December 31, 2017, excluding restructuring costs, were $3.6 million, compared to $4.7 million for the same period in 2016. This $1.1 million decrease was primarily driven by decreased headcount and employee related costs. Research and development expenses for the full year ended December 31, 2017, excluding restructuring costs, were $18.3 million, compared to $21.6 million for the same period in 2016. This year-over-year $3.3 million decrease was primarily driven by decreased headcount, employee related costs, including stock based compensation expense, and certain travel and lab supplies. These quarterly and annual decreases resulted from the implementation of OvaScience's refined corporate strategy in fiscal 2017.
- Selling, general and administrative expenses for the quarter ended December 31, 2017, excluding restructuring costs, were $4.8 million, compared to $10.9 million for the same period in 2016. This $6.1 million decrease was primarily driven by decreased headcount and employee related costs, reduced consulting and marketing, and reduced travel, facilities and other expenses. Selling, general and administrative expenses for the full year ended December 31, 2017, excluding restructuring costs, were $27.7 million, compared to $49.2 million for the same period in 2016. This year-over-year $21.5 million decrease was primarily driven by decreased headcount and employee related costs, reduced consulting and marketing, and reduced travel, facilities and other expenses. These quarterly and annual decreases resulted from the implementation of OvaScience's refined corporate strategy in fiscal 2017.
- Net loss for the quarter ended December 31, 2017 was $8.5 million, or $0.24 per share, compared to a net loss of $22.6 million, or $0.64 per share, for the same period in 2016. Net loss for the full year ended December 31, 2017 was $51.0 million or $1.43 per share, compared to a net loss of $82.3 million, or $2.56 per share, for the same period in 2016. The net loss for the quarter and year-ended December 31, 2017 includes restructuring

charges of $0.2 million and $4.0 million, respectively, compared to $5.4 million for the same periods in 2016.

As of December 31, 2017, OvaScience had cash, cash equivalents and short-term investments of $67.2 million, compared to $114.4 million as of December 31, 2016.

The cash outlays related to the restructurings in the fourth quarter of 2017 were $0.9 million. OvaScience expects to incur additional cash outlays related to the restructurings of between $1.0 million and $1.5 million over 2018.

OvaScience anticipates that it will have sufficient funds without additional financing to support its operations into 2020, enabling it to reach significant milestones for both OvaPrime and OvaTure.

Conference Call

OvaScience will host a conference call at 4:30 p.m. ET today, Thursday, March 15, 2018, to discuss these financial results and provide an update on the Company. The conference call may be accessed by dialing 1-888-424-8151 for U.S. callers and 1-847-585-4422 for international callers five minutes prior to the start of the call and providing the passcode 7278292. Additionally, the live, listen-only webcast of the conference call can be accessed by visiting the Investors section of the Company's website at www.ovascience.com. A replay of the conference call will be available from 7:00 p.m. ET on Thursday, March 15, 2018, through 11:59 p.m. ET on Thursday, March 29, 2018, and may be accessed by visiting OvaScience's website or by dialing 1-888-843-7419 for U.S. callers and 1-630-652-3042 for international callers. The replay access code is 7278292.

About OvaScience

OvaScience, Inc. (NASDAQ:OVAS) is a company focused on the discovery and development of new treatment options for women and families struggling with infertility. Each OvaScience treatment is based on the Company's proprietary technology platform that leverages the breakthrough discovery of EggPC cells — immature egg cells found within the outer ovarian cortex. OvaScience is developing OvaPrime, a potential fertility treatment that could help restore a woman's egg production, and OvaTure, a potential fertility treatment that eliminates the need for hormone stimulation. OvaScience's AUGMENT treatment, designed to improve fertilization and pregnancy rates, is available in Japan under an exclusive license to IVF Japan. OvaScience treatments are not available in the United States. For more information, visit www.ovascience.com.

Forward-Looking Statements

This press release includes forward-looking statements about the Company's plans for the OvaPrime treatment, OvaTure treatment and AUGMENT treatment, including statements relating to the Company's (i) plans to conduct additional preclinical studies to further

characterize egg precursor cells, evaluate the impact of our improved cell processing techniques, and inform the final design of the proposed Phase 1b/2a OvaPrime clinical study, (ii) plans to apply the learnings from these preclinical studies to OvaTure and AUGMENT as appropriate, (iii) plans to finalize and give an update on the OvaPrime development plan, and begin enrollment in the planned Phase 1b/2a OvaPrime clinical trial, in the second half of 2018, (iv) plans to realize the promise of treatments derived from the Company's EggPC cell technology platform, (v) expectations relating to data readouts from the ongoing Phase 1 OvaPrime study, (vi) expectation that the termination of the Intrexon Exclusive Channel Collaboration Agreement will not adversely impact or slow the development of OvaTure, and (vii) expected restructuring-related cash outlays and the Company's anticipated cash runway. Actual results may differ materially from those indicated by these forward-looking statements as a result of various important factors, including risks related to: the science underlying our treatments (including the OvaPrime, OvaTure and AUGMENT treatments), which is unproven; our ability to obtain regulatory approval or licenses where necessary for our treatments; our ability to develop our treatments on the timelines we expect, if at all; our ability to commercialize our treatments, on the timelines we expect, if at all; risks associated with preclinical, clinical and other studies; development risk; risks associated with dependence on third parties, including our partners; operational risks; as well as those risks more fully discussed in the "Risk Factors" section of our most recently filed Quarterly Report on Form 10-Q and/or Annual Report on Form 10-K. The forward-looking statements contained in this press release reflect our current views with respect to future events. We anticipate that subsequent events and developments will cause our views to change. However, while we may elect to update these forward-looking statements in the future, we specifically disclaim any obligation to do so. These forward-looking statements should not be relied upon as representing our view as of any date subsequent to the date hereof.

Media and Investor Contact
OvaScience, Inc.
Jonathan Gillis
617-420-8639
jgillis@ovascience.com

OvaScience, Inc.
Condensed Consolidated Balance Sheets
(Unaudited)
(In thousands)

	As of	
	December 31, 2017	December 31, 2016
Assets		
Current assets:		
Cash and cash equivalents	$ 15,703	$ 43,930
Short-term investments	51,500	70,458
Prepaid expenses and other current assets	1,578	2,056
Total current assets	68,781	116,444
Property and equipment, net	3,113	5,572
Investment in joint venture	146	65
Restricted cash	789	439
Other long-term assets	24	24
Total assets	$ 72,853	$ 122,543
Liabilities and stockholders' equity		
Current liabilities:		
Accounts payable	$ 2,242	$ 2,183
Accrued expenses and other current liabilities	5,562	11,026
Total current liabilities	7,804	13,209
Other non-current liabilities	751	1,116
Total liabilities	8,555	14,325
Total stockholders' equity	64,298	108,217
Total liabilities and stockholders' equity	$ 72,853	$ 122,543

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

	Three Months Ended December 31,		Twelve Months Ended December 31,	
	2017	2016	2017	2016
Revenues	$ 91	$ 121	$ 295	$ 653
Costs and expenses:				
Cost of revenues	218	1,433	790	5,401
Research and development	3,560	4,709	18,337	21,641
Selling, general and administrative	4,809	10,947	27,744	49,223
Restructuring charge	188	5,400	4,030	5,400
Total costs and expenses	8,775	22,489	50,901	81,665
Loss from operations	(8,684)	(22,368)	(50,606)	(81,012)
Interest income, net	(191)	(162)	(752)	(659)
Other income, net	(1)	82	36	164
Loss from equity method investment	3	371	1,018	1,542
Loss before income taxes	$ (8,494)	(22,658)	(50,908)	(82,059)
Income tax expense	34	(15)	67	201
Net loss	(8,528)	(22,643)	(50,975)	(82,260)
Net loss per share—basic and diluted	$ (0.24)	$ (0.64)	$ (1.43)	$ (2.56)
Weighted average number of shares used in net loss per share—basic and diluted	35,687	35,612	35,675	32,148