UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

SHULI CHIU and AMANDA KIM, Derivatively on Behalf of OVASCIENCE, INC., Plaintiffs, vs. MICHELLE DIPP, RICHARD ALDRICH, JEFFREY D. CAPELLO, JOHN HOWE, III, MARC KOZIN, and JOHN SEXTON, Defendants, and, OVASCIENCE, INC., a Delaware corporation, Nominal Defendant.	Index No: 1:17-cv-11382-IT **SECOND AMENDED SHAREHOLDER DERIVATIVE COMPLAINT** **DEMAND FOR JURY TRIAL**

Plaintiffs Shuli Chiu and Amanda Kim ("Plaintiffs"), by and through their undersigned counsel, derivatively on behalf of Nominal Defendant OvaScience, Inc. ("OvaScience" or the "Company"), submit this Second Amended Shareholder Derivative Complaint (the "Complaint"). Plaintiffs' allegations are based upon their personal knowledge as to themselves and their own acts, and upon information and belief, developed from the investigation and analysis by Plaintiffs' counsel, including a review of publicly available information, including filings by OvaScience with the U.S. Securities and Exchange Commission ("SEC"), press releases, news reports, analyst reports, investor conference transcripts, publicly available filings in lawsuits, and matters of public record.

NATURE OF THE ACTION

1. This is a shareholder derivative action brought in the right, and for the benefit, of OvaScience against certain of its officers and directors seeking to remedy Defendants' breach of fiduciary duties and unjust enrichment that occurred between January 8, 2015 and the present (the "Relevant Period") and have caused substantial harm to OvaScience.

2. OvaScience is a fertility company that claims to have discovered a therapy which increases in vitro fertilization ("IVF") live birth rates by extracting mitochondria (a substance in egg cells which is generally viewed as the energy source of the egg) from egg precursor cells (immature egg cells found in the protective outer layer of a woman's own ovaries) and injecting the same into the mature egg being utilized in the IVF process. In January of 2015 and thereafter, this process, the AUGMENT℠ treatment ("AUGMENT"), was the Company's sole marketable product.

3. The theory that such injection of additional mitochondria improves egg health and IVF success rates, is difficult to test and prove. It is further difficult to test the efficacy of the AUGMENT treatment.

4. Nonetheless, and as detailed herein, the Company repeatedly communicated to investors that the efficacy of AUGMENT had been ***scientifically validated***, which was untrue. Further, on March 16, 2015, the Company represented to investors that it was on target to have 1,000 active AUGMENT treatment cycles in process by the end of fiscal 2015, which was untrue and known by the Defendants to be untrue.

5. Throughout the Relevant Period, Defendants caused the Company to issue false

and misleading statements and/or failed to disclose, among other things, that: (a) the science behind AUGMENT had not been scientifically validated; (b) the Company was unable to achieve the purported success rates it claimed; (c) the real reasons why the Company moved its studies outside of the United States; (d) the Company had not chosen to undertake its studies outside of the United States, but was forced to as it did not want to meet stringent and expensive federal regulations; (e) that at all relevant times, the Company's profitability and prospects were false and misleading; and (f) resultantly, the Company lacked adequate internal controls over its publicly issued statements and financial reporting.

JURSIDICTION AND VENUE

6. Pursuant to 28 U.S.C. § 1332, this Court has diversity jurisdiction over the claims asserted herein.

7. Venue is proper in this Court under 28 U.S.C. § 1931(b) because a substantial portion of the transactions and wrongs complained of herein occurred in this District, and by doing business here and engaging in numerous activities that had an effect in this District.

PARTIES

A. Plaintiffs

8. ***Plaintiff Shuli Chiu*** ("Plaintiff Chiu") is, and was at relevant times, a shareholder of OvaScience. Plaintiff Chiu will fairly and adequately represent the interests of the shareholders in enforcing the rights of the corporation. Plaintiff Chiu is a citizen of California.

9. ***Plaintiff Amanda Kim*** ("Plaintiff Kim") is, and was at relevant times, a shareholder of OvaScience. Plaintiff Kim will fairly and adequately represent the interests of the

shareholders in enforcing the rights of the corporation. Plaintiff Kim is a citizen of Colorado.

B. Nominal Defendant

10. ***Nominal Defendant OvaScience, Inc.*** ("OvaScience") is a Delaware Corporation with its principal executive offices located at 9 Fourth Avenue, Waltham, Massachusetts. OvaScience describes itself as a global fertility company developing proprietary potential treatments for female infertility based on scientific discoveries about the existence of egg precursor cells.

C. Director Defendants

11. ***Defendant Michelle Dipp, M.D., Ph.D.*** ("Dipp") co-founded OvaScience in April 2011 and served as a member of the Board since July 2011. Dipp served as Chief Executive Officer ("CEO") from June 2011 until July 2016, President from September 2011 until December 2014, and Executive Chair since January 2016. Defendant Dipp has contemporaneously served as partner of Longwood Fund, L.P. ("Longwood"), a venture capital investment fund, since 2010. Longwood is a beneficial owner of at least ten-percent of outstanding OvaScience common stock. Through Longwood, Defendant Dipp co-founded Verastem, Inc. ("Verastem") in 2010. Prior to that, she was a founding employee of Sirtris Pharmaceuticals, Inc. ("Sirtris"), a pharmaceutical company, where she served as vice president of corporate development from 2005 to 2008, along with fellow co-Defendants Aldrich as co-founder and Capello as member of the board. Defendant Dipp was said to take the lead role in the sale of Sirtris to GlaxoSmithKline plc ("GlaxoSmithKline") for $720 million and continued

her affiliation with the drug giant following the acquisition.[1] According to the Company's Schedule 14A filed with the SEC on April 20, 2015 ("2015 Proxy Statement), as of April 8, 2015, Defendant Dipp owned 1,792,208 shares of OvaScience stock, 6.6% of the outstanding stock of the Company. Given the price per share of the Company's common stock at the close of trading on April 8, 2015 was $28.58, Dipp owned $51,221,304 worth of OvaScience stock. Between March 2014 and December 2015, Defendant Dipp sold 44,920 shares of artificially inflated OvaScience stock for proceeds of $1,281,172.[2] In 2014, for her executive services, OvaScience paid Defendant Dipp an additional $5,629,030 in stock and option awards. On July 1, 2016, Defendant Dipp stepped down from the CEO position. Pursuant to the EC Agreement, Defendant Dipp will initially receive an annual base salary of $500,000 per year. In addition, Defendant Dipp may be awarded an annual target bonus of up to 60% of her then-current annual base salary. Dipp is either a citizen of Texas or Massachusetts.

---

[1] *See* Ryan McBride, "Sirtris Vet Michelle Dipp Takes Over Key Role at Glaxo as Westphal Returns to VC," Xconomy.com (at http://www.xconomy.com/boston/2010/04/22/sirtris-vet-michelle-dipp-takes-over-key-role-atglaxo-as-westphal-returns-to-vc/) (Following GlaxoSmithKline's acquisition of Sirtris, "the pharma giant said it wanted two of Sirtris's principals, Christoph Westphal and Michelle Dipp, to help it connect with some of the best people and biotech ideas in Boston).

[2] During the Relevant Period, when OvaScience shares were trading at artificially inflated levels, Defendant Dipp sold 44,920 shares of Company stock, for overall proceeds of $1,281,172. On March 31, 2014, Defendant Dipp disposed of 5,081 shares of OvaScience stock at $8.94 per share for proceeds of $45,424. On June 30, 2014, Defendant Dipp sold 5,938 shares at $9.17 per share for $54,451. On September 30, 2014, Defendant Dipp sold 5,237 shares at $16.60 per share for $86,934. On December 31, 2014, Defendant Dipp sold 21,228 shares at $44.22 per share for $938,702. On March 3, 2015, Defendant Dipp sold 898 shares at $42.10 per share for $37,805. On March 31, 2015, Defendant Dipp sold 1,263 shares at $34.73 per share for $43,863. On June 30, 2015, Defendant Dipp sold 1,256 shares at $28.93 per share for $36,336. On September 30, 2015, Defendant Dipp sold 1,256 shares at $8.49 per share for $10,663. On December 31, 2015, Defendant Dipp sold 2,763 shares at $9.77 per share for proceeds of $26,994.

12. ***Defendant Richard Aldrich*** ("Aldrich") co-founded OvaScience in a non-operational role in April 2011. He has served as a member of the Board since July 2011 and served as the Chairman of the Board from March 2012 until January 2016. Defendant Aldrich is the Chairperson of the Nominating and Corporate Governance Committee. Defendant Aldrich is also a co-founder and partner of Longwood, a majority beneficial owner of OvaScience common stock, according to Yahoo Finance. Defendant Aldrich co-founded and helped to build several successful biotech companies, including Sirtris where he worked with Defendants Dipp and Capello, and which was acquired by GlaxoSmithKline in 2008 for $720 million. Through Longwood, Defendant Aldrich started several biotechnology portfolio companies, including Flex Pharma, Inc. ("Flex Pharma"), where Defendants Capello and Kozin serve on the board of directors, and Verastem where Defendant Aldrich serves on the board of directors. According to the Company's 2015 Proxy, as of April 8, 2015, Defendant Aldrich owned 1,419,014 shares of OvaScience stock, 5.2% of the outstanding stock of the Company. Given the price per share of the Company's common stock at the close of trading on April 8, 2015 was $28.58, Defendant Aldrich owned $40,555,420 worth of OvaScience stock. Upon information and belief, Defendant Aldrich is a citizen of Massachusetts.

13. ***Defendant Jeffrey D. Capello*** ("Capello") has served as a member of the Board since March 2012. Capello is a "Financial Expert" and is the Chairperson of the Company's Audit Committee. Since July 2014, Defendant Capello has served as the executive vice president and chief financial officer of Ortho-Clinical Diagnostics, which was acquired by the Carlyle Group from Johnson & Johnson, with responsibility for global finance and business

development. Prior to his role at Ortho-Clinical Diagnostics, Defendant Capello served as chief financial officer and executive vice president of Boston Scientific from March 2010 to December 2013. From 2006 to 2008, Defendant Capello was the senior vice president and chief financial officer with responsibilities for global finance and business development at PerkinElmer from 2006 to 2008. Previously, he served as PerkinElmer's vice president of finance, corporate controller, treasurer and chief accounting officer from 2001 to 2006. Defendant Capello is a board member of Flex Pharma, a biotechnology company created out of a Longwood portfolio by Defendant Aldrich, along with Defendant Kozin. Previously, a member of the board of directors of Sirtris, where he served along with Defendants Dipp and Aldrich, and which was acquired by GlaxoSmithKline in 2008 for $720 million and served as the Chair of its audit committee. Defendant Capello is also a certified public accountant. According to the Company's 2015 Proxy Statement, as of April 8, 2015, Defendant Capello owned 34,615 shares of OvaScience stock. Given the price per share of the Company's common stock at the close of trading on April 8, 2015 was $28.58, Defendant Capello owned $989,296 worth of OvaScience stock. Defendant Capello is a citizen of Massachusetts.

14. ***Defendant Marc Kozin*** ("Kozin") has served as a member of the Board since January 2014. Kozin is a member of the Company's Nominating and Corporate Governance Committee and the Global Strategy Committee. Defendant Kozin is also a member of the Audit Committee. Defendant Kozin has been a Senior Advisor to L.E.K. Consulting, a global strategy consulting firm, since July 2011. Prior to that, Defendant Kozin served as president of L.E.K.'s North American practice for 15 years. Defendant Kozin currently serves as a member of the

board of directors of several companies, including Flex Pharma, along with Defendants Aldrich and Capello. According to the Company's 2015 Proxy Statement, as of April 8, 2015, Defendant Kozin owned 29,136 shares of OvaScience stock. Given the price per share of the Company's common stock at the close of trading on April 8, 2015 was $28.58, Defendant Kozin owned $832,706 worth of OvaScience stock. Kozin is a citizen of New Hampshire.

15. ***Defendant John Sexton, Ph.D.*** ("Sexton") has served as a member of the Board since April 2015. Sexton is a member of the Company's Global Strategy Committee. Defendant Sexton is the fifteenth President of NYU, serving in the role since 2001. Earlier in his career at NYU, he was the Dean and Benjamin Butler Professor of Law at NYU School of Law. In connection with Defendant Sexton's election to the Board, and pursuant to the Director Compensation Policy, Defendant Sexton will be granted a non-statutory stock option to purchase an aggregate of 20,650 shares of common stock of the Company, constituting his initial grant and 2015 annual meeting grant. These stock options will have an exercise price per share equal to the closing price of the Common stock on the NASDAQ on the date of grant. Going forward, the Director Compensation Policy provides for Defendant Sexton to be granted an option to purchase 12,000 shares of Common stock on the date of the first Board meeting held after the 2016 annual meeting of stockholders and each annual meeting held thereafter. The Director Compensation Policy also provides for Defendant Sexton to receive an annual fee of $35,000 for his service on the Board. Defendant Sexton is a citizen of New York.

16. ***Defendant John Howe, III*** ("Howe") has served as a member of the Board since June 2015. Howe is the Chairman of Company's Compensation Committee. He is also a

member of the Audit Committee and the Global Strategy Committee. In connection with Defendant Howe's election to the Board, and pursuant to the Amended and Restated Non-Employee Director Compensation Policy (the "Director Compensation Policy"), on June 4, 2015, Defendant Howe was granted a non-statutory stock option to purchase an aggregate of 20,650 shares of common stock of the Company, constituting his initial grant and 2015 annual meeting grant. These stock options will have an exercise price per share equal to $36.19, which was the closing price of the common stock on the NASDAQ on the date of grant. In addition, the Director Compensation Policy provides for Defendant Howe to be granted an option to purchase 12,000 shares of common stock on the date of the first Board meeting held after the 2016 annual meeting of stockholders and each annual meeting held thereafter. The Director Compensation Policy also provides for Defendant Howe to receive an annual fee of $35,000 for his service on the Board. Defendant Howe is a citizen of Washington.

17. Defendants Dipp, Aldrich, Capello, Kozin, Sexton, and Howe are hereinafter referred to as the "Defendants."

THE COMPANY'S CODE OF BUSINESS CONDUCT
CORPORATE GOVERNANCE GUIDELINES
NOMINATING AND CORPORATE GOVERNANCE CHARTER
GLOBAL STRATEGY COMMITTEE

18. As members of the Company's Board, Defendants were held to the highest standards of honesty and integrity and charged with overseeing the Company's business.

19. The Company's Code of Business Conduct entitled "Code of Conduct and Ethics" states in relevant part:

This Code of Business Conduct and Ethics (the "Code") sets forth

legal and ethical standards of conduct for employees, officers and directors of OvaScience, Inc. (the "Company"). This Code is intended to deter wrongdoing and to promote the conduct of all Company business in accordance with high standards of integrity and in compliance with all applicable laws and regulations. Except as otherwise required by applicable local law, this Code applies to the Company and all of its subsidiaries and other business entities controlled by it worldwide.

* * *

Compliance with Laws, Rules, and Regulations

The Company requires that all employees, officers and directors comply with all laws, rules and regulations applicable to the Company wherever it does business. You are expected to use good judgment and common sense in seeking to comply with all applicable laws, rules and regulations and to ask for advice when you are uncertain about them.

* * *

Honest and Ethical Conduct and Fair Dealing

Employees, officers and directors should endeavor to deal honestly, ethically and fairly with the Company's suppliers, customers, competitors and employees. Statements regarding the Company's products and services must not be untrue, misleading, deceptive or fraudulent. You must not take unfair advantage of anyone through manipulation, concealment, abuse of privileged information, misrepresentation of material facts or any other unfair-dealing practice.

* * *

Accuracy of Books and Records and Public Reports

Employees, officers and directors must honestly and accurately report all business transactions. You are responsible for the accuracy of your records and reports. Accurate information is essential to the Company's ability to meet legal and regulatory obligations.

All Company books, records and accounts shall be maintained in accordance with all applicable regulations and standards and accurately reflect the true nature of the transactions they record. The financial statements of the Company shall conform to generally accepted accounting rules and the Company's accounting policies. No undisclosed or unrecorded account or fund shall be established for any purpose. No false or misleading entries shall be made in the Company's books or records for any reason, and no disbursement of corporate funds or other corporate property shall be made without adequate supporting documentation.

It is the policy of the Company to provide full, fair, accurate, timely and understandable disclosure in reports and documents filed with, or submitted to, the Securities and Exchange Commission and in other public communications.

20. The Company's Corporate Governance Guidelines states in relevant part:

A. Director Responsibilities

1. Oversee Management of the Company. The principal responsibility of the directors is to oversee the management of the Company and, in so doing, serve the best interests of the Company and its stockholders. This responsibility includes:

- Reviewing and approving fundamental operating, financial and other corporate plans, strategies and objectives.
- Evaluating the performance of the Company and its senior executives and taking appropriate action, including removal, when warranted.
- Evaluating the Company's compensation programs on a regular basis and determining the compensation of its senior executives.
- Reviewing and approving senior executive succession plans.
- Evaluating whether corporate resources are used only for appropriate business purposes.
- Establishing a corporate environment that promotes timely and effective disclosure (including robust and appropriate controls, procedures and incentives), fiscal

accountability, high ethical standards and compliance with all applicable laws and regulations.

- Reviewing the Company's policies and practices with respect to risk assessment and risk management.
- Reviewing and approving material transactions and commitments not entered into in the ordinary course of business.
- Developing a corporate governance structure that allows and encourages the Board to fulfill its responsibilities.
- Providing advice and assistance to the Company's senior executives.
- Evaluating the overall effectiveness of the Board and its committees.

2. Exercise Business Judgment. In discharging their fiduciary duties, directors are expected to exercise their business judgment to act in what they reasonably believe to be the best interests of the Company and its stockholders.
3. Understand the Company and its Business. Directors have an obligation to become and remain informed about the Company and its business, including the following:

- The principal operational and financial objectives, strategies and plans of the Company.
- The results of operations and financial condition of the Company and of significant subsidiaries and business segments.
- The relative standing of the business segments within the Company and as compared to competitors, if applicable.
- The factors that determine the Company's success.
- The risks and problems that affect the Company's business and prospects.

4. Establish Effective Systems. Directors are responsible for determining that effective systems are in place for the periodic and timely reporting to the Board on important matters concerning the Company, including the following:

- Current business and financial performance, the degree of achievement of approved objectives and the need to address forward-planning issues.
- Future business prospects and forecasts, including actions, facilities, personnel and financial resources required to achieve forecasted results.
- Financial statements, with appropriate segment or divisional breakdowns.
- Compliance programs to assure the Company's compliance with law and corporate policies.
- Material litigation and governmental and regulatory matters.
- Monitoring and, where appropriate, responding to communications from stockholders.

Directors should also periodically review the integrity of the Company's internal control and management information systems.

21. The Company's Nominating and Corporate Governance Charter states in relevant part:

A. Purpose

The purpose of the Nominating and Corporate Governance Committee of the Board of Directors (the "Board") of OvaScience, Inc. (the "Company") is to:

- recommend to the Board the persons to be nominated for election as directors at any meeting of stockholders and the persons (if any) to be elected by the Board to fill any vacancies on the Board;
- recommend to the Board the directors to be appointed to each committee of the Board;
- develop and recommend to the Board corporate governance guidelines; and
- oversee the evaluation of the Board.

*** * ***

C. Authority and Responsibilities

General

The Nominating and Corporate Governance Committee shall discharge its responsibilities, and shall assess the information provided to it by the Company's management and others, in accordance with its business judgment.

* * *

Corporate Governance

5. Corporate Governance Guidelines. The Nominating and Corporate Governance Committee shall develop and recommend to the Board corporate governance guidelines applicable to the Company. The Committee shall, from time to time as it deems appropriate, review and reassess the adequacy of such corporate governance guidelines and recommend any proposed changes to the Board for approval.
6. Board Leadership Structure. As more fully provided for in the Company's Corporate Governance Guidelines, the Nominating and Corporate Governance Committee shall periodically review the Board's leadership structure to assess whether it is appropriate given the specific characteristics and circumstances of the Company.

Evaluation of the Board; Succession Planning

7. Evaluation of the Board. The Nominating and Corporate Governance Committee shall be responsible for overseeing an annual self-evaluation of the Board to determine whether it and its committees are functioning effectively. The Committee shall determine the nature of the evaluation, supervise the conduct of the evaluation and prepare an assessment of the Board's performance, to be discussed with the Board.

* * *

22. The Company's Definitive Proxy Statement, filed on Form DEF 14A with the

Securities and Exchange Commission ("SEC") on April 26, 2017 (the "2017 Proxy"), generally describes the responsibilities of the Compensation Committee to include:

- annually reviewing and approving corporate goals and objectives relevant to our Chief Executive Officer's compensation;
- determining our Chief Executive Officer's compensation;
- reviewing and approving, or making recommendations to our board with respect to, the compensation of our other executive officers;
- overseeing an evaluation of our senior executives;
- overseeing and administering our equity incentive plans; and
- reviewing and making recommendations to our board with respect to director compensation.

23. The 2017 Proxy states that in March 2017, the Company established a Global Strategy Committee to support the Board in providing Board level global strategic guidance to the Executive Chair and executive management team. The Company's website does not mention this committee or provide a charter. The 2017 Proxy states that the Global Strategy Committee's responsibilities include:

- advising the Executive Chair and executive management team generally on global strategy, as well as on the development and implementation of the Company's strategic plan; and

- advising the Executive Chair and executive management team on strategies for approaching international markets, including guidance on cultural, regulatory and government affairs matters.

DUTIES OF DEFENDANTS

24. By reason of their positions as officers and/or directors of the Company, and because of their ability to control the business and corporate affairs of the Company, Defendants owed the Company and its investors the fiduciary obligations of trust, loyalty, and good faith. The obligations required Defendants to use their utmost abilities to control and manage the

Company in an honest and lawful manner. Defendants were and are required to act in furtherance of the best interests of the Company and its investors.

25. Each director of the Company owes to the Company and its investors the fiduciary duty to exercise loyalty, good faith, and diligence in the administration of the affairs of the Company and in the use and preservation of its property and assets. In addition, as officers and/or directors of a publicly held company, Defendants had a duty to promptly disseminate accurate and truthful information with regard to the Company's operations, finances, and financial condition, as well as present and future business prospects, so that the market price of the Company's stock would be based on truthful and accurate information.

26. To discharge their duties, the officers and directors of the Company were required to exercise reasonable and prudent supervision over the management, policies, practices, and controls of the affairs of the Company. By virtue of such duties, the officers and directors of the Company were required to, among other things:

(a) ensure that the Company complied with its legal obligations and requirements, including acting only within the scope of its legal authority and disseminating truthful and accurate statements to the SEC and the investing public;

(b) conduct the affairs of the Company in an efficient, businesslike manner so as to make it possible to provide the highest quality performance of its business, to avoid wasting the Company's assets, and to maximize the value of the Company's stock;

(c) properly and accurately guide investors and analysts as to the true financial condition of the Company at any given time, including making accurate

statements about the Company's business prospects, and ensuring that the Company maintained an adequate system of financial controls such that the Company's financial reporting would be true and accurate at all times;

(d) remain informed as to how the Company conducted its operations, and, upon receipt of notice or information of imprudent or unsound conditions or practices, make reasonable inquiries in connection therewith, take steps to correct such conditions or practices, and make such disclosures as necessary to comply with federal and state securities laws;

(e) ensure that the Company was operated in a diligent, honest, and prudent manner in compliance with all applicable federal, state and local laws, and rules and regulations; and

(f) ensure that all decisions were the product of independent business judgment and not the result of outside influences or entrenchment motives.

27. Each defendant, by virtue of his position as a director and/or officer, owed to the Company and to its shareholders the fiduciary duties of loyalty, good faith, and the exercise of due care and diligence in the management and administration of the affairs of the Company, as well as in the use and preservation of its property and assets. The conduct of Defendants complained of herein involves a knowing and culpable violation of their obligations as directors and officers of the Company, the absence of good faith on their part, and a reckless disregard for their duties to the Company and its shareholders that Defendants were aware, or should have been aware, posed a risk of serious injury to the Company.

SUBSTANTIVE ALLEGATIONS

Background

28. OvaScience was founded in 2011 by Defendants Dipp and Aldrich and non-parties Jonathan Tilly ("Tilly") and Christoph Westphal ("Westphal"). Dipp, Aldrich and Westphal are all partners at Longwood Fund, LP. Longwood Fund GP, LLC, an affiliate of Longwood Fund, LP, at relevant times was an approximately 7% holder of OvaScience.

29. Defendant OvaScience is a life science company that engages in the discovery, development, and commercialization of new treatments for infertility. The Company is attempting to develop various fertility treatment options purported to enhance egg health and revolutionize in vitro fertilization ("IVF"). The Company's Autologous Germline Mitochondrial Energy Transfer ("AUGMENT") treatment, designed to improve the energy and health of the woman's eggs by using mitochondria from a woman's egg precursor cells ("EggPCs"), is available in certain IVF clinics in select international regions.

30. OvaScience claims it discovered a therapy which increases the "health" of female eggs using in vitro fertilization ("IVF") by extracting mitochondria (a substance in egg cells which is generally viewed as the energy source of the egg) from egg precursor cells and injecting them into mature eggs for better results in the IVF process.

31. OvaScience did not discover the scientific fact that egg precursor cells exist. The Company did not originate the idea of transferring mitochondria from one egg to another (IVF specialists used mitochondria from donor eggs). OvaScience's original idea was to utilize mitochondria from a patient's own precursor eggs during the IVF process.

32. OvaScience's new idea – extracting mitochondria from egg precursor and injecting it into mature eggs – lacks scientific validation. It is difficult to scientifically prove that OvaScience's therapy increases live birth rates; based on the nature of the therapy there can never be a control group.

33. Additionally, the size of the AUGMENT study groups are so small as to be statistically meaningless. The Company did not attempt to conduct scientifically meaningful trials of its product as evidenced by a statement of Defendant Dipp to Science Magazine: "The fertility [industry] just doesn't do trials."

34. On September 10, 2013, the Company issued a press release to provide an update on AUGMENT, which stated that OvaScience suspended enrollment in AUGMENT in the U.S. while moving forward with its plans for enrollment outside of the U.S. This decision came after it received an "untitled" letter from the U.S. Food and Drug Administration ("FDA") questioning the status of AUGMENT and advising the Company to file an Investigational New Drug ("IND") application. At that time, the Company stated "OvaScience anticipates having further discussions with the FDA to present details on AUGMENT and its qualifications . . . to determine the appropriate path forward." Upon information and belief, Plaintiffs allege that instead of continuing to develop AUGMENT to meet FDA standards, the Company took its IVF studies outside of the U.S. and never engaged in further discussions with the FDA.

35. On November 10, 2014, the Company filed a Form S-3 registration statement with the SEC for the registration of up to $150,000,000 of any combination of the Company's securities, including common stock, preferred stock, debt securities, warrants, rights, purchase

contracts and units (the "Registration Statement"). The SEC declared the Registration Statement effective on November 21, 2014.

36. On December 17, 2014, the Company issued a press release, announcing "AUGMENT Treatment Available in Four International Regions." The press release further stated in relevant part:

> The AUGMENT fertility treatment is available in select in vitro fertilization (IVF) clinics in Canada, the United Kingdom (UK), the United Arab Emirates (UAE) and Turkey.
>
> * * *
>
> OvaScience exceeded its AUGMENT patient treatment goal with more than 150 patients now receiving the treatment. The Company has started transitioning some of the IVF clinics to commercial centers.

37. In connection with the Registration Statement, on January 6, 2015, the Company filed a preliminary prospectus for the sale of its common stock and a final prospectus on January 8, 2015 (the "Prospectus," together with the Registration Statement, the "Offering Materials"), in which the Company offered 2,300,000 shares of its common stock at a public offering price of $50.00 per share (the "Offering").

38. Prior to the Company's January 8, 2015 Secondary Offering (the "Offering"), the Company aired the alleged science behind the AUGMENT procedure which involved the transfer of mitochondria from EggPCs to the same woman's egg in a traditional IVF process. This process and the existence of EggPCs was the creation of one of OvaScience' s founders and was greatly hyped by the Company as being able to improve egg quality and enhance IVF. The process served as the backbone of AUGMENT.

39. In reality, though, that science had not fully been tested -- and had not ever been tested on humans, so it was actually unknown whether it was effective or even safe. The FDA had already pointed this out to Defendants, saying that the process was "not well supported" while a number of scientists and academics had been highly critical of the mitochondrial transfer process. Indeed, the Company itself, in the patient application for AUGMENT, acknowledged that a similar process (mitochondria from donor eggs) had resulted in genetic mutations in offspring.

40. Not only were investors misled about the science behind AUGMENT, they were also led to believe that it would increase IVF success rates. This was done in Company filings and in a pre-Offering, December 17, 2014 "investor day" where Defendants touted the success rates of IVF with AUGMENT. After the Offering, the Company continued this false optimism when, in March 2015, it announced results from two international studies (in Turkey and in Canada) of AUGMENT and suggested they had found a 53% and a 25% success rate in IVF with AUGMENT. In fact, when the actual number of women tested in each clinic (26 in Canada and 8 in Turkey) was compared to the number of ongoing pregnancies (7 in Canada and one in Turkey), the "success rate" was actually below that for IVF. Additionally, the studies undertaken by OvaScience were actually entirely incapable of producing accurate success rates because they were faultily designed with too few subjects, no control arm, younger patients, and patients who underwent limited prior IVF procedures.

41. Defendants also went to great lengths to explain away or even congratulate their "decision" to launch AUGMENT outside of the United States when, in reality, this choice was

based solely on an attempt to avoid the costly regulatory procedures in the United States being imposed by the FDA. The FDA had long informed Defendants that AUGMENT could not be excepted from the regulatory procedures and, rather than comply, Defendants engaged in "regulatory arbitrage" by launching studies abroad. Despite their statements to the contrary, the very nature of AUGMENT dictates it is subject to FDA approval, as clearly evidenced by the lengthy paper trail between the FDA and OvaScience.

42. In connection with the Offering, the Company sold an aggregate of 2,645,000 shares of common stock at $50.00 per share, which included 345,000 shares that represented the full exercise of an option to purchase additional shares granted to the underwriters of the Offering.

43. The Offering resulted in $124.1 million on net proceeds, after deducting underwriting discounts and commissions and other offering expenses.

OVASCIENCE AND THE AUGMENT FERTILITY TREATMENT

44. OvaScience is a life science company working on the development and commercialization of new fertility treatments. The Company bases its procedures on "egg precursor cells" or "EggPCs" which are found in the lining of the ovaries. At the outset of the Relevant Period, the Company had three fertility treatments concerning EggPCs in development: AUGMENT, which aims to improve egg quality and increase the success of IVF; OvaPrime, designed to boost a woman's egg reserve using her own EggPCs; and OvaTure, which seeks to create mature fertilizable eggs from a woman's own EggPCs without the need for hormone injections.

45. As background, it is generally accepted that female mammals (including humans) are born with a fixed amount or supply of eggs. As those eggs age, they lose energy. Energy is stored in mitochondria, so the loss of energy relates to the decline in mitochondrial function. One often used analogy is to that of a flashlight: If an egg is seen as a flashlight and it has been sitting on the shelf for 38 years, it may still function, but will require new batteries (or mitochondria).

46.

47. One of OvaScience's founders, Jonathan Tilly, Ph.D. ("Tilly"), was involved in the discovery of EggPCs and began to study whether the mitochondria from those EggPCs in the lining of the ovaries could be injected into eggs, thereby using the same woman's mitochondria and eggs. This is the basis of the AUGMENT treatment whereby mitochondria are co-injected with the sperm during an IVF procedure.

48. The AUGMENT process works as follows: a woman undergoes a surgical procedure to remove a small piece of her ovary from which the mitochondria from Egg PCs are extracted. Then, in another procedure, mature eggs are removed from the same woman's ovaries and are injected with the previously withdrawn EggPC mitochondria as well as with sperm. The resulting embryo is then transferred back to the womb.

49. Therefore, the procedure is a traditional IVF process with the addition of the first extraction surgery and the injection of the mitochondria with the sperm.

50. The IVF market has grown dramatically over the past twenty years and is highly lucrative. In 2012, IVF market revenue was approximately $9.3 billion, and that number is

expected to grow up to $21.6 billion by 2020. World In Vitro Fertilization Market to Reach $21.6 Billion by 2020, ALLIED MARKET RESEARCH (Jan. 2014),https://www.alliedmarketresearch.com/press-release/global-in-vitro fertilization-market-to-each-216-billion-by-2020.html. Another analyst has projected that by 2022, the global IVF market will reach $27 billion. JVF Market Size Projected to Reach USD 27 Billion by 2022: Grand View Research, PR NEWSWIRE (May 3, 2016), http://www.pmewswire.com/news-releases/ivf-market-size-projected-to-reach-usd-27-billion-by-2022-grand-view-research-inc-577926061.html.

51. As women opt to have children later and later in life, and as infertility rates continue to rise, the IVF market is only expected to continue to rapidly grow in the future. Due to the personal and time-sensitive nature of the market, it can be described as frantic or reactive.

52. Recognizing the lucrative market and the frantic needs of patients, the Company quickly began attempting to commercialize AUGMENT. It began by launching trials in the United States. In late 2012, OvaScience initiated a study of AUGMENT in the United States. In the Company's February 25, 2013 annual report filed on Form 10-K with the SEC, OvaScience stated that it had "initiated commercial preparations for AUGMENT and, assuming the final results of the AUGMENT Study are positive, plan to begin generating revenues from AUGMENT in the second half of 2014. […] We do not believe we will be required to seek premarket approval or clearance of AUGMENT from regulatory authorities in the United States . . ."

OVASCIENCE OFFERS SHARES

53. On November 10, 2014, OvaScience filed a Registration Statement on Form S-3 with the SEC for a proposed offering of shares of its common stock. On November 21, 2014, the Registration Statement was declared effective with the SEC.

54. On January 6, 2015, OvaScience filed a Preliminary Prospectus Supplement on Form 424B5 with the SEC, which preliminarily announced an $85 million Offering, but which did not set the Offering price.

55. On January 8, 2015, the Company issued SEC Form 424B5, a Prospectus Supplement that announced the pricing of its Offering of 2,300,000 shares of common stock at an Offering price of $50.00 per share, for a total of $115 million. Underwriter Defendants J.P Morgan and Credit Suisse acted as joint book-runners and Leerink Partners LLC ("Leerink") acted as a co-manager for the Offering.

56. In the Prospectus Supplement dated January 8, 2015, OvaScience incorporated, by reference, the following documents, as part of its Offering materials: (1) the annual report on Form 10-K for the year ended December 31, 2013, filed on February 27, 2014; (2) portions of the Definitive Proxy Statement on Schedule 14A, filed on April 30, 2014; (3) quarterly reports on Form 10-Q, filed on May 8, 2014, August 7, 2014, and November 10, 2014; (4) current reports on Form 8-K, filed on January 9, 2014, January 13, 2014, January 13, 2014, February 7, 2014, March 6, 2014, March 18, 2014, June 19, 2014, September 18, 2014, December 11, 2014, December 17, 2014, December 24, 2014, and January 6, 2015; and (5) the description of the Company's common stock contained in the Registration Statement on Form 8-A, filed on April

25, 2013. These materials, along with the Registration Statement, Preliminary Prospectus Supplement, and Prospectus Supplement, are collectively referred to herein as the "Offering Materials."

57. On January 13, 2015, the Company announced the closing of the Offering, including the exercise in full by the underwriters of their option to purchase an additional 345,000 shares of common stock at the public offering price of $50.00 per share. The exercise of the underwriters' option brought the total number of shares of common stock sold by OvaScience to 2,645,000 shares and increased the total gross proceeds raised in the Offering to $132.3 million, before deducting the underwriting discounts, commissions, and estimated expenses.

58. Although it is difficult to discern, Longwood (comprised of Defendants Dipp and Aldrich, as well as a third co-founder of OvaScience) profited handsomely surrounding the Offering -- reducing their overall holdings drastically.

59. The money raised in the Offering was allegedly to be used to fund: (1) the expanded international commercial launch of the AUGMENT treatment; (2) the anticipated 2015 launch of the OvaPrime treatment in select international IVF clinics outside of the United States; (3) the optimization of the OvaTure treatment and pursuit of a potentially accelerated development pathway; (4) the establishment of an international headquarters in the United Kingdom and additional international subsidiaries; and (5) working capital, capital expenditures, general research and development, and other general corporate purposes.

60. Before the Offering, the Company did not have any revenue. It did not announce

any revenue until August 10, 2015, reporting for the second quarter of 2015, in which OvaScience recognized $30,000 in revenue. As one analyst would note, "this is not a typo." Meanwhile, net losses have steadily risen from $17.2 million from the first quarter of 2015 to $21.8 million for the first quarter of 2016. Many of these net losses were, according to the Company, attributable to "non-cash based stock compensation," as well as the accounting for "Founders' stock."

MATERIAL MISSTATEMENTS AND OMISSIONS DURING THE RELEVANT PERIOD

61. The Relevant Period begins on January 8, 2015, when the Company issued the Prospectus in connection with the Offering, which incorporated the Registration Statement. The Offering Materials contained false and misleading statements and/or omitted material information concerning the true results for the women who participated in the AUGMENT fertility treatment, including that the Company's AUGMENT procedure did not achieve a significant success rate of clinical pregnancies compared to previous rates achieved without the Company's AUGMENT procedure.

62. In particular, the Offering Materials emphasized that the Company's AUGMENT treatment had been launched in select international clinics as early as 2014, and stated, in pertinent part:

> ***The AUGMENT treatment***
>
> In 2014, we launched the AUGMENT treatment in select international IVF clinics through AUGMENT Centers of Excellence, or ACE clinics, in Canada, the United Kingdom, Turkey and the United Arab Emirates.

63. The Offering Materials were signed by Defendant Dipp and Jeffrey E. Young ("Young") (the Chief Financial Officer ("CFO")) of the Company from September 2014 until September 6, 2016).

64. On March 16, 2015, the Company filed its Annual Report on Form 10-K with the SEC for the fiscal year ended December 31, 2014 (the "2014 10-K"). Under the section entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations," the 2014 10-K stated in pertinent part:

> The AUGMENT treatment is not available in the United States. This treatment is specifically designed to improve egg health by supplementing a mitochondrial deficiency which may in turn offer the potential for enhanced IVF. With the AUGMENT treatment, energy-producing mitochondria from a patient's own EggPC cells are added to the patient's mature eggs during the IVF process to supplement the existing mitochondria. ***We expect 1,000 AUGMENT treatment cycles will be in process by the end of 2015***. [Emphasis added].

65. The 2014 10-K was signed by Defendant Dipp and non-party Young and contained signed certifications pursuant to the Sarbanes-Oxley Act of 2002 ("SOX") by Defendant Dipp and non-party Young. The SOX certifications state the following:

> I have reviewed this Annual Report on Form 10-K of OvaScience, Inc.;
>
> Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
>
> Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and

cash flows of the registrant as of, and for, the periods presented in this report;

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

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

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

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

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

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

> (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
>
> (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

66. Also, on March 16, 2015, the Company issued a press release and corresponding current report on Form 8-K with the SEC announcing its fourth quarter and year end 2014 financial results. In the press release, the Company stated, ***"[i]n 2015, OvaScience plans to have 1,000 AUGMENT treatment cycles in process."*** (Emphasis added).

67. Throughout the Relevant Period, Defendants issued false and misleading statements and failed to disclose material adverse facts about the Company's business, operations and prospects. In particular, Defendants caused the Company to issue false and misleading statements and/or failed to disclose, among other things, that: (a) the science behind AUGMENT had not been scientifically validated; (b) the Company was unable to achieve the purported success rates it claimed; (c) the reasons why the Company moved its studies outside of the United States (due to failure to achieve FDA approval); and (d) that at all relevant times, the Company's profitability and prospects was false and misleading.

68. As such, throughout the Relevant Period, Defendants failed to disclose that the approximately 150 patients that had received OvaScience's AUGMENT procedure in 2014 did not achieve a pregnancy success rate that was significantly higher than the rate achieved without the Company's AUGMENT procedure. As a result of the false and misleading statements issued

by defendants, the price of the Company's shares was artificially inflated throughout the Relevant Period.

FALSE AND MISLEADING STATEMENTS
CONCERNING THE SCIENCE BEHIND AUGMENT

69. The Offering Materials repeatedly emphasize the technology and scientific procedure behind AUGMENT and tout the revolutionary discovery of EggPCs and mitochondrial transfer.

70. For example, in the 2013 annual report filed on Form 10-K with the SEC (fully incorporated in the Registration Statement), the Company stated:

> Our patented technology is based on egg precursor cells ("EggPCSM"), which are found in the outer layer of a woman's own ovaries. ***The recent discovery of EggPCs countered a long-held belief that women are born with a set number of eggs, thereby enabling new possibilities in the treatment of female infertility.***
>
> * * *
>
> By applying our EggPC technology platform in unique ways, ***we are developing new fertility treatment options that are designed to improve egg quality and in vitro fertilization ("IVF").*** [Emphasis added.]

71. These statements are likewise found in the November 10, 2014 Registration Statement, the January 6, 2015 Preliminary Prospectus Supplement, and the January 8, 2015 Prospectus Supplement, and in the Company's quarterly reports for 2014, filed on Form 10-Q with the SEC on May 8, 2014, August 7, 2014, and November 10, 2014.

72. Meanwhile, many of the 2014 8-Ks (incorporated in the Registration Statement) contain the following similar statement:

> The Company's patented technology is based on the discovery of egg precursor cells (EggPCSM), which are found in the ovaries. By applying proprietary

> technology to identify and purify EggPCs, ***OvaScience is developing potential next generation in vitro fertilization (IVF) technologies.*** [Emphasis added.]

73. The November 10, 2014 Registration Statement, the January 6, 2015 Preliminary Prospectus Supplement, and the January 8, 2015 Prospectus Supplement all also state:

> By applying our EggPC technology platform in unique ways, we are developing and commercializing new fertility treatment options that are designed to improve egg health and in vitro fertilization, or IVF.

74. The above statements concerning the technology, platform, and science behind AUGMENT were materially untrue and misleading and omitted material information because the Company failed to disclose that the EggPC mitochondria transfer was not sufficiently proven or tested to be able to support its use in fertility treatments such as AUGMENT.

75. The Center for Human Reproduction ("CHR") wrote an article in 2015 (after the Offering) reminding that the mitochondrial transfer behind AUGMENT "remained unproven in humans" and was solely based on animal experiments. AUGMENTSM, a new experimental treatment for "older" eggs?, CENTER FOR HUMAN REPRODUCTION (July 2015), https://www.centerforhumanreprod.com/fertility/chr-voice-july-20l5/. (the "CHR article").

76. The same article notes: "[a]s of this point, it is important to understand that AUGMENT is only a hypothesis, with no evidence to support that (i) improving mitochondrial content in older eggs really improves pregnancy chances; and (ii) that ovarian precursor cells used in the procedure really exist and/or contain appropriate mitochondria when 'ground up' and used in the procedure."

77. The April 2015 CHR article likewise highlighted the debate on whether the EggPC mitochondrial transfer theory was even viable and cited to failed studies in mice. It

quoted one scientist as doubting the process behind AUGMENT and noting that "if there isn't proof of replicability for a claimed discovery or process, then the scientist has an obligation to note that, even though feelings are hurt." Another quoted scientist stated that there was "very little support" for the "science" behind the AUGMENT procedure.

78. Similarly, a March 2015 article in Science Magazine, entitled "Controversial fertility treatments focus on eggs' power plants," quoted a reproductive biologist as being "highly troubled" that OvaScience had "made the leap to human pregnancies" without animal studies and that no proper tests had been done to test "whether this approach can improve fertility-let alone whether it is safe for offspring . . . ."

79. Therefore, in stating that the EggPC mitochondria transfer procedure behind AUGMENT enabled new possibilities and developments in the fertility market, Defendants failed to disclose that the process was questionable, challenged, unproven, and potentially dangerous.

FALSE AND MISLEADING STATEMENTS CONCERNING SUCCESS RATES

80. The Offering Materials discuss the concept that use of AUGMENT can increase birth rates and decrease the number of IVF cycles required.

81. For example, the 2013 10-K clearly states: "We believe our EggPC technology could improve IVF by: Increasing live birth rates and reducing the number of IVF cycles. By improving egg quality, we believe we may be able to increase the percentage of IVC treatments which result in live births . . . ." This statement likewise appears in the Company's 10-Qs for 2014, filed on May 8, 2014, August 7, 2014, and November 10, 2014, in the November 10, 2014

Registration Statement, the January 6, 2015 Preliminary Prospectus Supplement, and the January 8, 2015 Prospectus Supplement.

82. The 2013 Form 10-K likewise states that "[a]s part of AUGMENT, a woman's eggs may be rejuvenated by injecting mitochondria prepared from her own EggPCs into her egg during IVF. This has the potential to improve egg quality and thereby increase the success of IVF." This statement also appears in the May 8, 2014 10-Q and a nearly identical one appears in the August 7, 2014 10-Q.

83. The November 10, 2014 10-Q, the the January 6, 2015 Preliminary Prospectus Supplement, and the January 8, 2015 Prospectus Supplement all state that AUGMENT "has the potential to improve egg health. Improved egg health may offer the potential for better IVF success rates."

84. The above statements concerning better success rates for IVF procedures using AUGMENT, rather than traditional IVF alone, were materially untrue and misleading and omitted material information because AUGMENT actually did not produce increased success rates for IVF and, in fact, the studies being undertaken by OvaScience to determine such a success rate were not even structured to be able to calculate that rate.

85. On a March 27, 2015 conference call to discuss the results of two studies of AUGMENT (in Canada and Turkey), the Company stated that, at the Canadian clinic, there had been 26 patients who underwent the AUGMENT procedure. Of those twenty-six, seventeen had embryo transfers and eleven became pregnant with nine ongoing pregnancies. In Turkey, there were eight patients and all eight had embryo transfers. Two of those patients became pregnant

(25% success rate), but only one was an ongoing pregnancy (12.5%). The Company touted the Canadian results as a 53% success rate (9/17), but as a March 27, 2015 Leerink report pointed out "different denominators suggest less robust benefit." For example, in a March 30, 2015 report, it was pointed out that including all IVF cycles as the denominator would result in 9/26 or a 35% success rate. Indeed, the Society for Reproductive Technology, which represents the majority of IVF clinics in the US, reports IVF pregnancy rates as a percentage of IVF cycles and not embryo transfers.

86. Therefore, using the proper (and recognized) equation, the results reported revealed at best a 35% and a 25% success rate (30% average) with use of AUGMENT. In fact, as pointed out in an article, only seven of the twenty-six women who got the AUGMENT treatment in Canada were able to maintain a pregnancy, for a 27% success rate. When combined with the one out of eight women who had an ongoing pregnancy using AUGMENT in Turkey (12.5% success rate), that makes an average success rate of under 20%.

87. While the success rate for traditional IVF varies, it is typically estimated to be around 30%. 2013 Assisted Reproductive Technology, National Summary Report, *NATIONAL CENTER FOR CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION, DIVISIONAL REPRODUCTIVE HEALTH, CENTER FOR DISEASE CONTROL* (Oct. 2015), www.cdc.gov/art/pdf/20l3-report/art_2013_national_summary_report.pdf at 7 (54,323 live birth deliveries divided by 190,773 total cycles = 28.5%).

88. Thus, the "success rate" of AUGMENT (20-30%) was not better than, but equal to or less than the success rate for traditional IVF. While the Company stated that AUGMENT

would help older women who had tried traditional IVF treatments prior, the median age for the Canadian study was actually only 33 with an average of only two previous IVF treatment failures.

89. As the 2015 above-referenced CHR article later pointed out, the average age (33) and the average number of previously failed IVF attempts (two) were very low and that, for both, CHR used higher numbers. CHR chided OvaScience for this manipulation, noting that: "If AUGMENT is meant as a treatment for 'older' ovaries, and women with truly poor prognosis, then the study of AUGMENT should, of course, primarily be conducted in older women with really poor prognosis, as evidenced by repeated failed IVF cycles and age in the 40s" *See* CHR article, *supra*. It therefore called the results reported from AUGMENT "anything but" excellent.

90. An article published in "Science," dated April 3, 2015, echoed this conclusion, citing a fertility specialist at the Weill Cornell Medical College in New York City as stating the results were "not that impressive," as he had a number of patients who had failed two IVF cycles prior to treatment by him who then got pregnant. *See* Jennifer Couzin-Frenkel, "Eggs' power plants energize new IVF debate", *Science Magazine*, April 3, 2015.

91. In fact, the very design of the studies the Company was undertaking made it impossible to demonstrate any such publicized "success rates." The study was extremely small (34 women total) and lacked a control group of those who would not receive the mitochondria, thereby running afoul of industry norms. For example, the following chart outlines clinical studies of IVF populations in recent years and clearly shows the appropriate sample size and use of a control group:

Date of Publication	Trial Title	Overview	Sample Size	Control Group
5-19-14	The effect of transcutaneous electrical acupoint stimulation on pregnancy rates in women undergoing in vitro fertilization: a study protocol for randomized controlled trial.	A multicenter, randomized controlled trial to explore the effect of transcutaneous electrical acupoint stimulation (TEAS) on the clinical pregnancy rate (CPR) and live birth rate (LBR) compared with real acupuncture and controls in women undergoing IVF. Involved women who had two or more previous unsuccessful ETs.	2,220	Yes.
12-3-09	A multi-centre randomized controlled study of pre-IVF outpatient hysteroscopy in women with recurrent IVF implantation failure.	A multi-centre randomized controlled trial to test the hypothesis that performing an outpatient hysteroscopy (OH) prior to starting an IVF cycle improves the live birth rate of subsequent IVF cycle in women who have experienced two to four failed IVF cycles.	758	Yes.
3-21-14	The impact of Maternal Body Mass in Index on In Vitro Fertilization Outcomes.	Goals of study to examine the effect of body mass index on gonadotropin does requirements for ovarian stimulation, as well as other clinical outcomes in women undergoing IVF.	752	Yes.
7-24-15	Clinical Outcomes of In Vitro Fertilization among Chinese Infertile Couples Treated for Syphilis Infection.	To compare the clinical outcomes of infertile patients with and without syphilis after in vitro fertilization and embryo transfer (IVF-ET). The primary IVF outcomes were the clinical pregnancy rate and the birth of a healthy baby.	320 couples	Yes.

92. In fact, one 2009 study, entitled "Neurological Condition of Infants Born After In Vitro Fertilization With Preimplantation Genetic Screeing (PGS)," looked at a study of children born to women randomly assigned to IVF with or without PGS. The study size was 46 women (12 more than the OvaScience studies) and included a control group, but still concluded that the

study was unable to reach a definitive conclusion due to the small sample size. Karin J. Middelburg, *et. al.*, "Neurological Condition of Infants Born After In VitroFertilization With Preimplantation Genetic Screening," PEDIATRIC RESEARCH (2010) 67, 430-434, available at http://www.nature.com/pr/joumal/v67/n4/full/pr20l 078a.html (accessed June 17, 2016).

93. Without the absolutely basic metrics of an appropriate sample size and a control group, OvaScience could not possibly calculate the success rate of AUGMENT versus traditional IVF. As concluded by the CHR in its July 2015 article:

> The sad news from all so far published data on AUGMENT^{SM}, therefore, is that ***these data offer no information whatsoever*** about what outcomes patients can expect from the procedure. The even sadder news, however, is that, even with accumulation of many more patients, ***the way this study is conducted, there is simply no way to determine the potential value of AUGMET^{SM}***. Pronouncements of "improved pregnancy rates in women with very poor prognoses" by the company, therefore, at least as of this point have to be considered as groundless and misleading.

See CHR Article, *supra* (Emphasis added).

94. The fallacy of the 2014 studies and their inability to show any sort of "success rates" has tacitly been admitted to by OvaScience. On February 25, 2016, the Company announced its year-end 2015 results and announced that it would be working with one of the largest IVF clinics to enroll patients in a "controlled, double-blind, prospective and randomized egg allocation study of the AUGMENT treatment" and that this study was "designed to evaluate the success rates of standard IVF and the AUGMENT treatment."

95. Therefore, the statements in the Offering Materials regarding AUGMENT's success rates were misleading and the Offering Materials omitted material information regarding these purported success rates.

FALSE AND MISLEADING STATEMENTS
REGARDING INTERNATIONAL OPERATIONS

96. The Offering Materials emphasized that the Company's AUGMENT treatment had been launched in select international clinics as early as 2014 and trumpeted the international component of AUGMENT, including that "we have always had a strategy to make our fertility treatments available to patients worldwide." *See, e.g.*, February 27, 2014 10- K; May 8, 2014 10-Q; August 7, 2014 10-Q; November 10, 2014 10-Q; January 6, 2015 Preliminary Prospectus Supplement. And further, "[t]he AUGMENT treatment is not available in the United States." *See, e.g.*, November 10, 2014 10-Q; December 17, 2014 8-K.

97. Only after discussing the alleged benefits to international development do the Offering Materials discuss the fact that the FDA had required further regulatory processes in order for AUGMENT to be offered in the United States, concluding that "[w]e anticipate having further discussions in 2014 with the FDA to present details on AUGMENT and to determine the appropriate path forward." *See* February 27, 2014 Form 10-K at 2.

98. Furthermore, in the "risk" disclosures in the 2014 10-K, the Company writes that "[w]e believe that AUGMENT meets the regulatory definition of a 361 HCT/P. ***AUGMENT involves mere isolation of mitochondria from egg precursor cells***, and injection of those mitochondria into the same woman's egg, which we believe constitutes minimal manipulation of both the mitochondria and the egg." (Emphasis added). The same Form 10-K also provides: "[w]e continue to believe that AUGMENT qualifies as a 361 HCT/P."

99. The above statements were materially untrue and misleading and omitted material information because the Company failed to disclose that the reason AUGMENT was being used

abroad was because the Company sought to avoid the steps and costs of an IND application to the FDA and there was simply no basis to believe that AUGMENT qualified as a 361 HCT/P. Indeed, the choice to make AUGMENT commercially available outside of the United States was referred to by H.C. Wainwright & Co. in a March 18, 2015 report as "a clever display of regulatory arbitrage . . . ."

100. The Company was informed that it was required to submit an IND application to the FDA in order to use AUGMENT in the United States. It chose, rather, to avoid this process and set up AUGMENT centers outside of the country as the IND process is costly and time consuming. The IND stage alone can take anywhere from six to eleven years and could cost tens or even hundreds of millions of dollars. *See, e.g.*, The Drug Development and Approval Process, FDAREVIEW.ORG, http://www.fdareview.org/03_drug_development.php (last visited June 17, 2016); *see also* Investigational New Drug (IND), INVESTOPEDIA, http://www.investopedia.com/terms/i/investigational-new-drug-ind.asp (last visited June 17, 2016). Rather than inform investors of these evasive tactics, Defendants touted the alleged benefits of international centers.

101. Furthermore, there was no basis for the statements that AUGMENT qualified as a 361 HCT/P. Section 361 of the Public Health Service Act allows some human cellular and tissue based products to be tested and marketed without FDA licensure. These are often referred to as "361 HCT/Ps." However, there is a list of criteria to classify as a 361 HCT/P, the main one being that the procedure or product involves "minimal manipulation."

102. Since 2001, products involving transfers of genetic materials, like AUGMENT,

have been subject to FDA regulation. That year, the FDA sent a letter to those companies performing mitochondria transfer procedures and stated that "[t]he use of such genetically manipulated cells (and/or their derivatives) in humans constitutes a clinical investigation and requires submission of an Investigational New Drug application (IND) to FDA." Kathryn C. Zoon, "Letter to Sponsors/Researchers - Human Cells Used in Therapy Involving the Transfer of Genetic Material By Means Other Than the Union of Gamete Nuclei", FDA.GOV (July 6, 2001), http://www.fda.gov/BiologicsBloodVaccines/SafetyAvailability/ucml05852.htm (last visited June 17, 2016). "[M]itochondrial genetic material" was explicitly included as an example of the genetic cells covered. In fact, no human trials of any such products have been allowed without submission of an IND.

103. In 2013, the FDA raised the same concerns about AUGMENT directly to OvaScience stating that it did not meet the criteria for regulation as a 361 HCT/P. On April 9, 2013, the FDA sent OvaScience a letter confirming that "the removal of mitochondria and introduction in other reproductive tissue appears to be more than minimal manipulation," thereby failing to meet the first requirement for classification as a 361 HCT/P. The letter further dictated that AUGMENT "may raise additional regulatory concerns" and that OvaScience should contact the FDA "[f]or more information about applicable regulations or to schedule a pre-IND meeting."

104. The FDA sent Defendants yet another letter on September 6, 2013, citing violations and recommending corrections. That letter was clear that "[t]he removal of mitochondria and the subsequent introduction of these organelles into other reproductive tissues

appear to be more than minimal manipulation" and therefore "does not meet all the criteria in 21 CFR 1271.10 for regulation solely under section 361 of the Public Health Service Act." It concluded by stating "it appears you are treating subjects under your clinical study protocol, even though you have not submitted an IND. We are taking this opportunity to advise you that ***an IND is required for this study***." (Emphasis added).

105. Therefore, at the time of the Offering, no doubt was left that AUGMENT, by its very nature (the transfer of genetic material), did not qualify as a 361 HCT/P.

PROFITABILITY STATEMENTS

106. The Offering Materials led investors to believe that the Company would be profitable imminently. For example, the January 6, 2015 Preliminary Prospectus Supplement, January 8, 2015 Form 8-K press release, and January 8, 2015 Prospectus Supplement all state that "[i]n 2015, we expect at least 1,000 additional patients to be receiving the AUGMENT treatment."

107. On May 8, 2014, the Company announced their first quarter of 2014 results and stated that they were confident they could "generate initial revenue by year end." *See* May 8, 2014 press release on Form 8-K.

108. Similarly, in the Form 10-Q for the third quarter of 2014 (filed November 10, 2014), the Company averred:

> We expect to transition these ACE clinics to commercial centers by the end of 2014, ***generating initial revenue***, and to expand the treatment's availability in additional IVF clinics in select international regions ***in 2015***. [Emphasis added].

109. Following these statements in the Offering Materials, Defendants consistently

allowed the Company to repeat its representations about enrolling 1,000 AUGMENT patients and that "significant AUGMENT revenue" would be recognized in 2015.

110. Indeed, a March 18, 2015 Oppenheimer analyst report stated that "[w]e confirmed with management that guidance remains on track and the company is confident in meeting the goal [of 1,000 Augment cycles in 2015]."

111. The above statements concerning revenue and profitability were materially untrue and misleading and omitted material information because OvaScience was nowhere near recognizing revenue, but was continually recording net losses due, in large part, to insider payments. Furthermore, the faulty process behind AUGMENT and the dubious trials being conducted that did not result in any heightened success rate ensured that 1,000 patients would not be enrolled to try AUGMENT in 2015.

112. In repeated quarterly and year end filings made by Defendants after the Offering, the Company recorded increased and large net losses, due often, in part, to "stock-based compensation" and accounting for "Founders' stock." *See, e.g.*, March 16, 2015 Form 8-K (net losses of $18.9 million in fourth quarter of 2014 that included "non-cash stock-based compensation expense of $6.4 million due in large part to accounting of certain Founders' stock"); August 10, 2015 Form 8-K (net losses of $17.5 million that included "non-cash stock-based compensation expense of $4.4 million"). Such expenses and accounting made it difficult to avoid net losses and to recognize revenue. Not surprisingly, therefore, on September 28, 2015, the Company announced it would miss this 1,000 cycle goal and ultimately only recorded any revenue from 14 patients in the fourth quarter o/2015. *See* September 29, 2015 Form 8-K;

February 25, 2016 Form 8-K.

113. The history of the Company reveals a propensity towards awarding insiders at the expense of investors. Defendants Dipp and Aldrich, along with non-party Christoph Westphal, OvaScience's other co-founder, are partners of Longwood, a venture capital firm that acquired its interest in OvaScience through a series of initial investments and private placements.

114. As of February 8, 2013, according to its Form 13D filing with the SEC, Longwood owned approximately 28.2% of all shares of OvaScience.

115. In the approach to the January 2015 Offering, however, Longwood began unloading its OvaScience shares. Then just three days after the Offering, Longwood filed another Form 13D in which it announced it had sold shares and reduced its ownership interest to 10.7% of all OvaScience shares.

116. While the stock price remained artificially inflated by the misstatements and omissions identified herein, Longwood continued to liquidate its OvaScience holdings, and by March 20, 2015 -- just days before the truth about the Company began to be revealed -- Longwood had reduced its total holdings to only 6.5% of all OvaScience shares.

117. Furthermore, by sheltering their ownership interests behind Longwood, Defendants Dipp and Aldrich were able to reap tremendous profits via the Offering, without having to disclose their own personal transactions in the Company. Indeed, Aldrich did not file any Form 4s with the SEC between September 19, 2014 and January 16, 2015.

AUGMENT WAS NOT COMMERCIALLY VIABLE AND DEFENDANTS WERE NOT ON TRACK TO HIT 1,000 COMMERCIAL CYCLES

118. Contrary to Defendants' indication to the market that the data generated from the

150 free cycles established AUGMENT's efficacy and demand for the treatment, Defendants had no basis to proclaim that AUGMENT was commercially viable. Nor were Defendants ever on track to reach 1,000 commercial cycles, despite their repeated assurances to the contrary. Indeed, Defendants' admissions and data released after the Relevant Period – data that Defendants knew of in real time but concealed from investors – confirmed that Defendants' Relevant Period statements concerning the 1,000-cycle metric, the demand for AUGMENT, and the Company's ability to commercialize AUGMENT were false when made.

119. On September 29, 2015, Defendants revealed that they had "approximately 35 . . . commercial patients with [the] majority of commercial patients occurring i[n] September [2015]." Given that the majority of the approximate 35 commercial cycles (*i.e.*, 18 or more) occurred in September 2015, according to Defendants, the remaining commercial cycles (*i.e.*, 17 or less) occurred from January through August 2015. Therefore, on August 11, 2015 – when Defendant Dipp reiterated that "[w]e do continue to expect to achieve our goal of 1,000 AUGMENT treatment cycles in process" – the Company had initiated, at best, 17 commercial cycles. At that point, Defendants' statements could have been true only if they were expecting 983 commercial cycles to initiate from August 11 through the end of 2015 – approximately 196 new cycles per month for 5 months. In other words, Defendants would have needed to increase their monthly average from less than 3 cycles to 196 cycles. But this was impossible, as Defendants had no means or history of initiating anything close to that number in such a short time frame.

120. Throughout all of 2015 and 2016, moreover, OvaScience ultimately recognized

revenue for only 129 total commercial cycles, and it sold those cycles at an average price point of $7,209.30.[3] In other words, it took Defendants two years to reach only 12.9% of their one-year goal, while selling AUGMENT at a substantial discount. By December 21, 2016, moreover, the Company announced that it had stopped its commercial expansion of AUGMENT, that its CEO was departing, and that its workforce was reducing by 30%. By June 21, 2017, the Company revealed that it was no longer planning to focus on its AUGMENT treatment and announced the layoffs of half of its remaining employees.

121. In sum, Defendants' repeated statements of being on track to enroll 1,000 AUGMENT commercial patients directly contradicted the data available to them at all times. Indeed, OvaScience performed all AUGMENT-related proprietary procedures and maintained laboratories that were within or contiguous to the IVF clinics. Defendants, therefore, were always privy to the exact numbers of AUGMENT cycles in progress, and they cannot claim that, as late as August 2015, they were unaware of the low AUGMENT numbers (*e.g.*, there were no more than 17 commercial cycles by that time). Nor can Defendants claim that they reasonably expected participating IVF clinics to suddenly ramp up and conduct 983 cycles from August through December 2015. Even after an additional year had passed, Defendants had not exceeded 129 cycles, and the average price per-cycle was less than half of the low end of the $15,000 to $25,000 range that Defendants had repeatedly stated.

[3] As stated in their Form 8-K filed on March 2, 2017, Defendants had 2015 revenue of $277,000 from 22 AUGMENT cycles and 2016 revenue of $653,000 from 107 AUGMENT cycles, for a total of $930,000 of revenue from 129 AUGMENT cycles.

DEFENDANTS KNOWINGLY MISLED THE MARKET ABOUT AUGMENT'S COMMERCIAL VIABILITY AND OVASCIENCE'S ABILITY TO REACH 1,000 COMMERCIAL CYCLES OF AUGMENT

122. Numerous facts support Defendants' knowledge of the materially false and misleading nature of their public statements and omissions during the Relevant Period. First, AUGMENT was OvaScience's only developed treatment throughout the Relevant Period, and, therefore, the commercialization of AUGMENT was OvaScience's core operation, garnering Defendants' full attention. Because AUGMENT was the Company's primary focus, coupled with the small size of the Company (fewer than 100 full-time employees during the Relevant Period), it would be absurd to suggest that Defendants were without knowledge of matters directly affecting AUGMENT's commercialization, including the treatment's lack of progress toward the projection of 1,000 commercial cycles in 2015. In particular, as an M.D., Ph.D., and co-founder of the Company, Defendant Dipp was closely involved with and responsible for developing AUGMENT's underlying science since the Company's formation, meaning she fully understood AUGMENT's disappointing clinical results and their negative implications on patient demand and commercial viability.

123. Moreover, the Company repeatedly stated that, in order to perform the proprietary procedures needed to isolate the mitochondria from EggPC cells, OvaScience developed laboratories that were within or contiguous to the IVF clinics that offered AUGMENT. The Company also trained personnel at its partner clinics to conduct AUGMENT treatments and stationed OvaScience employees within or contiguous to the clinics; therefore, OvaScience could report to Defendants and the market the number of AUGMENT treatments in process in real

time. Defendant Dipp and other OvaScience executives routinely visited those clinics to meet with doctors, embryologists, and nurses administering AUGMENT, and had access to an international registry reporting data on AUGMENT treatments. Accordingly, OvaScience was intimately involved in every AUGMENT cycle and Defendants were necessarily privy to all data arising from AUGMENT cycles performed at its partner clinics. As such, Defendants knew that the efficacy of AUGMENT was questionable, the demand for AUGMENT at $15,000 to $25,000 per cycle was minimal, and the Company was not on track to achieve, and could never achieve, 1,000 commercial treatment cycles in 2015. This was true throughout the Relevant Period. Remarkably, as late as August 2015, when the Company had many months of data demonstrating the poor clinical and commercial results of AUGMENT, the Company falsely reassured investors that it was on track to achieve the 1,000 commercial cycles in 2015.

124. Defendant Dipp's own public statements confirm these facts. Defendant Dipp routinely discussed AUGMENT throughout the Relevant Period, including statements regarding its commercialization, patient demand, efficacy, and the precise number of AUGMENT treatment cycles the Company was performing (*e.g.*, over 150 cycles as of December 17, 2014) and on pace to perform (*e.g.*, 1,000 commercial cycles). In fact, during every public conference call during the Relevant Period, Defendant Dipp and/or her colleagues at OvaScience discussed AUGMENT, typically in great detail. Defendant Dipp confirmed that such information was known through various sources, including patient case studies, an international data registry, and on-site clinical visits. Through these statements, Defendant Dipp conveyed that the Company had specific knowledge of the matters of which she spoke and led investors to believe that she

was speaking truthfully about them. For example, Defendant Dipp made the following statements about AUGMENT during the Relevant Period:

> **OvaScience Investor Day, 12/17/14**
>
> "The interest in AUGMENT in our global IVF clinic partners around the world has exceeded our expectations. We've met our goal of offering AUGMENT in select IVF clinics in four international regions. . . . ***We've exceeded our treatment goal of 40 to 60 patients, and now more than 150 patients are in AUGMENT treatment.*** And finally, the clinics have begun to transition to commercial, and we plan to expand the availability of AUGMENT internationally in 2015."
>
> "The IVF market is really interesting. And those of you that know the Company know that we think a lot about this and we talk a lot about this. So the market is actually dominated by a very small number of clinic groups globally. And because of this, it has allowed us to take a really focused approach to our [AUGMENT] launch, and that allows for a really efficient commercial model. So AUGMENT is being offered in four of the leading clinic networks.
>
> "More than 150 patients are now in AUGMENT treatment. ***That's more than double our original goal, and we plan to have at least 1,000 patients in treatment next year.*** Our partner clinics have begun to successfully transition to commercial and we have established a price range of $15,000 to $25,000, which we charge to the clinic for each AUGMENT cycle."
>
> "I actually want to give you a little bit of insight into the patients who are currently receiving the AUGMENT treatment. And I've had the pleasure of the last year of traveling all over the world." [Dipp then provided a lengthy, detailed discussion of case studies involving patients who received the AUGMENT treatment.]
>
> "***So we have started to collect data [on AUGMENT] similar to what you saw in the case studies, and that goes into an international registry.*** And it's actually the first international registry of its kind. So I am really excited that we are doing that. And so you're exactly right. We do plan to use that registry to be able to look to see not if AUGMENT is working. The doctors are

already using AUGMENT, and we believe that, as you saw with some of the case studies. So, it's not a question of does AUGMENT work. It's a question of in which population does AUGMENT work best? . . . . ***[W]e are a science-driven company, we are a data-driven company, and we look forward to sharing that data once we have it.***

"So demand driven from the patients, I would say that's not even close to the demand. So, we get, like I said, hundreds of inquiries every day, and so it's certainly demand driven to the extent that patients want AUGMENT. ***But there's no question that doctors are able to see, even patient by patient, what's happening. . . .*** [Data showing successful implementation of AUGMENT] is the kind of data that certainly has driven the uptake and the very rapid uptake, yes."

"***But I've spent the last year traveling to each of these clinics and meeting with these doctors. . . .*** So it is really important – I spend a lot of time and actually [OvaScience CCO] David Harding is at one of our sites now, we spend a lot of time talking to all the physicians. So I am typically with a group of 20 to 40 physicians. ***But it doesn't stop with a physician right? . . . And then we talked with the nurses [at clinics]. We talk with the embryologists [at clinics]. And in fact, the embryologists are the ones who are trained to do the AUGMENT procedure.***"

JP Morgan Healthcare Conference, 01/14/15

"[W]e have launched AUGMENT . . . . We converted [AUGMENT] to commercial, with a price range of $15,000 to $25,000. That is what the clinics pay OvaScience. And in 2015, we are planning to treat 1,000 patients. . . . And 2015 is a build year for us, where we are adding these labs at the clinics where we are active and we can add on what we need in order to be able to meet the demand. We anticipate there to be a great demand, not only for AUGMENT, but also for OvaPrime."

OvaScience 2Q15 Earnings Call, 08/11/15

"We are really pleased with our progress over the last six months as we've made AUGMENT available to patients in Canada, Europe, Latin America, the Middle East, and Asia through some of

> the most well-respected clinic groups in the world. We continue to expect to be operational in Japan and the UK by the end of this year, and we are focused on developing a broad global infrastructure by partnering with the top clinic groups in order to be able to provide patients with our fertility treatment. . . . The patient experience has been overwhelmingly positive, including this most recent publication of another approach to demonstrate the benefits of AUGMENT."
>
> "At the end of the year, that is when you will hear us talk about the total number [of biopsies], just like we did last year. ***We do continue to expect to achieve our goal of 1,000 AUGMENT treatment cycles in process.*** And, to your point, I'm glad you said biopsies, because that's exactly what we mean by 1,000 treatment cycles in process. So just as a reminder, the cycle begins when we actually receive the patient's tissue after the biopsy. That's also when we receive payment. But we defer revenue until we deliver the mitochondria to the clinic."

125. In addition to these statements, Defendants' knowledge is supported by a highly suspicious pattern of reporting commercial information regarding AUGMENT. In the second half of 2014, the Company publicly reported the specific number of AUGMENT treatment cycles that were in progress on a quarterly basis. However, after the Company's Investor Day on December 17, 2014, the Company changed course and stopped reporting the AUGMENT cycles in progress throughout the remainder of the Relevant Period, a period of over nine months. Instead, the Company repeatedly provided only one metric – their expectation of achieving 1,000 commercial cycles in 2015 – without reporting the Company's actual progress towards that goal. Indeed, when an analyst specifically questioned the number of commercial cycles rolled out in the second quarter of 2015, Defendant Dipp avoided the question and focused only on the 1,000-cycle target:

> **Zarak Khurshid – Wedbush Securities – Analyst**: Thanks for

> taking the questions. I have a two-parter as well. First, can you break out the number of biopsies or rolled commercial cases from Q2? . . . .
>
> **Defendant Dipp**: In terms of the biopsies [a.k.a cycles], ***we are not going to say the number of biopsies that we've achieved this quarter.*** At the end of the year, that is when you will hear us talk about the total number, just like we did last year. We do continue to expect to achieve our goal of 1,000 AUGMENT treatment cycles in process.

126. Thisc change in method of reporting shows that Defendants knowingly failed to reveal that AUGMENT's commercial cycles were far below their repeated target of 1,000 commercial cycles for 2015, and would not meet that projection, which Defendants knew would upset the market. In fact, on September 28, 2015, when Defendants admitted that only approximately 35 commercial cycles were completed or in progress (as opposed to the 1,000 commercial cycles repeatedly projected), investors were surprised and the Company's stock price plunged. The fact that Defendants had actual knowledge that the Company would not come close to making its promised 1,000 commercial cycles, is also supported by the close temporal proximity between their false commercial projections, as late as August 11, 2015, and the revelation that such projections would not be met on September 28, 2015.

127. In addition to Defendants' highly suspicious reporting of commercial cycles, during the Relevant Period they did not disclose the full results of the 150 free treatment cycles that were supposedly in progress as of December 2014. Defendants instead released data from only 34 patients who had received AUGMENT, and misleadingly couched those results as a success, hoping that such results would convey efficacy and commercial potential to the market.

128. Also suspicious was the fact that a number of OvaScience's senior executives left

the Company or suffered demotions in the wake of the material misrepresentations to the market. In total, six senior executives including Young departed the Company, while Defendant Dipp eventually relinquished her positions as CEO and Executive Chair and her seat on the OvaScience Board, moving to a reduced role as Company advisor. These sudden management changes, under highly questionable circumstances, provide additional support for Defendants' knowledge:

> **08/27/15**: CCO Harding suddenly departed the Company after only nine months in the position and approximately one month before Defendants stunned investors by revealing that the Company would not reach 1,000 commercial AUGMENT cycles in 2015.
>
> **01/06/16**: The Company announced that Defendant Dipp would be stepping down as CEO and replaced by Board member Harald Stock ("Stock"), effective July 1, 2016. Defendant Dipp was given the title of Executive Chairman of the Board in connection with this change.
>
> **03/31/16**: President and Chief Scientific Officer Arthur Tzianabos ("Tzianabos") resigned from the Company.
>
> **09/06/16**: Young resigned from the Company.
>
> **12/21/16**: CEO Stock (Defendant Dipp's replacement) and Chief Operating Officer ("COO") Paul Chapman ("Chapman") both resigned from the Company. Stock had served as CEO for less than six months, while Chapman had served as COO for less than ten months. According to the Company, both Stock and Chapman had been "brought on board to lead a global commercial expansion of AUGMENT."
>
> **06/21/17**: The Company announced that Defendant Dipp would once again be relinquishing senior leadership positions at the Company, stepping down from the Board and her role as Executive Chair and moving to Company advisor after September 1, 2017. On the same day, CFO Christophe Couturier ("Couturier") (Young's replacement) resigned, after serving in the position for a

short stint of just over seven months.

129. The Defendants were highly motivated to make the false and misleading statements and omissions alleged herein, including the bullish projection of 1,000 commercial AUGMENT cycles, in order to maintain the public perception that AUGMENT was an effective and commercially viable treatment within the multi-billion dollar IVF market. This perception was vitally important to Defendants because it validated, not only AUGMENT, but also the EggPC science upon which all of the Company's fertility treatments (AUGMENT, OvaPrime, and OvaTure) were based. Defendants knew that, if these problems were exposed to the market, they would badly undermine that science, all of the Company's fertility treatments, and the ongoing viability of the Company itself. Defendants sought to avoid that outcome by concealing those problems and giving the market a false impression of AUGMENT's efficacy and commercialization.

130. Defendants were also motivated to maintain a positive perception of AUGMENT in order to keep the Company's stock price afloat, enabling Defendants to conduct a highly lucrative SPO of the Company's stock during the Relevant Period. The SPO was completed on January 13, 2015, less than a month after Defendants began to falsely tell investors that "at least 1,000 additional patients to be receiving the AUGMENT treatment" in 2015. Through the offering, the Company was able to sell 2,645,000 shares of common stock (including the underwriters' overallotment option of 345,000 shares) at $50.00 per share, for gross proceeds of $132.25 million. Among other things, the money raised in the offering was earmarked for "further development and commercialization of the AUGMENT treatment." In other words,

Defendants used the offering as a way to obtain more seed money to continue funding AUGMENT and other treatments (which were generating little to no revenue) from investors who were duped into buying Company stock at an artificially inflated price of $50.00 per share based on the purported commercial success of AUGMENT. A few months later, the truth began to leak out that AUGMENT was a commercial failure with little market demand, causing the Company's stock price to fall well below the offering price in a series of declines ($8.57 per share as of September 29, 2015). Had investors known the truth, the SPO could not have been conducted at $50.00 per share, and OvaScience would not have been able to reap $132.25 million from the offering, with all Defendants remaining in their positions at that time, with all of their perks and income streams.

THE TRUTH EMERGES

131. The market first began to learn the truth concerning the success rate of the Company's AUGMENT fertility treatment when Company disclosed the results in press releases on March 26, 2015 and March 28, 2015.

132. On March 26, 2015, the Company issued a press release entitled "OvaScience AUGMENT Fertility Treatment Shows Improved Pregnancy Rates in Women with Prior Failed IVF Cycles." The press release stated in pertinent part:

> Robert F. Casper, M.D., F.R.C.S.(C), Medical Director of TCART Fertility Partners of Toronto, Canada, a mitochondrial expert and one of the first IVF specialists to use the AUGMENT treatment in clinical practice, reported initial patient experiences in women whose ages ranged from 28 to 40 years and who had one to three previous failed IVF cycles, often with poor embryo quality. ***In 26 women who received the AUGMENT treatment, there were 9 clinical pregnancies out of 17 embryo transfers (53%).***

> The results reported in the poster presentation represent experiences from a small number of patients with different diagnoses, ages and prior IVF history. ***As of this reporting, pregnancy rates across IVF clinics that offer the AUGMENT treatment currently range from 25% - 53%, which includes clinics that are treating some of the more challenging infertility patients.*** OvaScience is collecting AUGMENT patient experience in a first-of-its-kind international registry, and anticipates sharing information from a broader patient experience when it is available. [Emphasis added].

133. In the press release, Dr. Casper further stated:

> ***We are impressed with the pregnancy rate that we have seen with the AUGMENT treatment in women who tried IVF multiple times and never had a successful pregnancy . . . . We are encouraged by these results and believe the AUGMENT treatment may offer a much needed fertility treatment for women who are seeking new options.*** We look forward to continuing to report our clinical experiences in a wide range of patients who may benefit from the AUGMENT treatment. [Emphasis added].

134. On March 27, 2015, Gena Wang and Howard Liang, analysts for Leerink who covered the Company, stated that AUGMENT's "[o]verall pregnancy rate appears less robust with a different denominator" and "the magnitude of AUGMENT benefit is unclear given no clear benchmarks and lack of standardized metrics."

135. On March 28, 2015, the Company issued a press release entitled "Additional Clinical Reports of OvaScience AUGMENT Fertility Treatment Show Improved Pregnancy Rates in Women with Multiple Prior Failed IVF Cycles." The press release stated in pertinent part:

> Kutluk Oktay, M.D., F.A.C.O.G, of Gen-art IVF in Ankara, Turkey, and one of the initial IVF specialists to use the AUGMENT treatment in clinical practice, presented initial clinical

> experience in eight women whose ages ranged between 27 and 41 years with three or more IVF failures and poor egg and embryo quality. In eight women who received the AUGMENT treatment, ***there were two clinical pregnancies out of eight embryo transfers (25%).*** Most notably, the two pregnancies occurred with single embryo transfers in women aged 34 and 41 who had previously failed to become pregnant following seven and three IVF cycles, respectively. One patient has an ongoing clinical pregnancy. [Emphasis added].

136. On March 30, 2015, Andrew S. Fein, an analyst for H.C. Wainwright & Co., questioned the Company's AUGMENT data pregnancy rate calculation stating that "the data raised interesting questions regarding . . . the use of embryo transfer as the denominator in calculating success rates . . . ." Fein further explained that an alternative representation of the data would result in a 35% success rather than the 53% success rate declared, and this method is utilized by The Society for Reproductive Technology ("SART"). Mr. Fein further stated:

> Success rates for AUGMENT were presented as a fraction of the total number of embryo transfers, reporting a 53% pregnancy rate (9 pregnancies of 17 embryo transfers) for the Canadian site and 25% (2 pregnancies of 8 embryo transfers) at the site in Turkey. ***However, we note that an alternative representation of the data would have included all IVF cycles as the denominator (9 pregnancies form 26 cycles; 35% success rate)***. Due to the nature of the technology (requiring additional manipulation of the oocyte at time of ICSI), the denominator could have reflected those patients that failed fertilization and failed to produce viable blastocysts. ***This method is not without precedent: we note that The Society for Reproductive Technology (SART), which represents the majority of IVF clinics in the US, reports IVF pregnancy rates as a percentage of IVF cycles,*** which are further delineated by fresh and frozen transfers. [Emphasis added].

137. After the truth began to emerge concerning the AUGMENT treatment results, the Company's shares plummeted $17.14 from $48.29 on March 26, 2015 to $31.15 on April 1,

2015, a loss of approximately 35% on unusually heavy volume of approximately 1.9 million shares.

138. On April 2, 2015, Oppenheimer analyst Rohit Vanjani opined that "[s]hares of OvaScience have traded down over 40% over the last week" because investors were stuck on one metric, AUGMENT's reported pregnancy rate. Mr. Vanjani also added that "[m]uch has been made about the correct denominator to use in calculating the AUGMENT pregnancy rate . . ." and "[w]e certainly understand why investors have put the pregnancy rate metric in focus. Investors are still trying to understand if the AUGMENT technology works and if it will get adopted, and that metric is undoubtedly important."

139. On April 6, 2015, the Southern Investigative Reporting Foundation ("SIRF") published an article entitled "Irreproducible Results, Inc." which challenged the reported 53% clinical pregnancy rate observed from the Canadian physician's data and countered that ***"26 women got the treatment (AUGMENT) and, of them, 7 were able to successfully maintain a pregnancy for just under a 27 percent success rate."*** (Emphasis added).

140. In addition, the SIRF article suggests that the AUGMENT procedure data presented did not achieve a significant success rate of clinical pregnancies compared to previous rates achieved without the Company's AUGMENT procedure (rates provided by the CDC). The article stated the following:

> . . . the Centers for Disease Control's archive of assisted reproductive technology statistics suggests at least a broad idea of what the press release's reported effects mean.
>
> The median age of the women receiving OvaScience's treatment in the Toronto clinic was 33 years old, with an average of two

previous IVF treatment cycle failures.

> ***According to the CDC in 2012 – the most recent year available for data – of the women studied who were 35 and under who failed two prior IVF treatment cycles and received IVF with fresh non-donor eggs or embryos, 33 percent were expected to deliver a live birth.*** [Emphasis added].

141. Other analyst reports opined that the SIRF article was partly responsible for investor doubt that led to material drops in the price of OvaScience stock. After this news was revealed, the Company's share price dropped $5.47, from $35.06 on April 2, 2015, to close at $29.59 on April 7, 2015, a loss of approximately 15%, on unusually heavy volume.

THE COMPANY ATTEMPTS TO BLAME ITS FAILURE TO ACHIEVE THE 1,000 COMMERCIAL TREATMENT CYCLE TARGET ON EVOLVING MARKET DYNAMICS IN THE FERTILITY SPACE, INCLUDING RECENT MERGER AND ACQUISITION ACTIVITIES

142. The Company attempted to blame its failure to achieve the 1,000 commercial treatment cycle target on "evolving market dynamics in the fertility space, including recent merger and acquisition activities at the key commercial IVF clinics where the AUGMENT treatment is offered" as having "hindered the Company's ability to drive major volume that was anticipated in the fourth quarter."

143. Indeed, Defendant Dipp stated:

> We are adapting our regional commercial operations and infrastructure as well as addressing an even more dynamic global IVF landscape. In addition, ***we recently became aware of M&A activities in our key clinics***. We believe these factors will prevent us from achieving our goal as we had anticipated the majority of AUGMENT treatment cycles would initiate in the fourth quarter. While disappointing in the short-term, the expanding clinic networks may enable more patients to have access to the AUGMENT treatment. With the positive patient experience to

> date, including multiple healthy births, ***we remain confident in the commercial potential of the AUGMENT treatment and our future fertility treatments***. [Emphasis added].

144. The Company hosted a conference call on September 29, 2015, the very next day to provide an update on its corporate goals for the AUGMENT treatment. Defendant Dipp made the opening remarks during which she revealed that the Company "do[es] not to expect to meet the goal of a 1,000 augment-treatment cycles established at the end of 2014." She stated, in part:

> At this point in time, more than 200 patients with poor prognoses have undergone, or are currently in, AUGMENT treatment, and approximately ***35 of these are commercial patients with majority of commercial patients occurring is September***.
>
> We have been successful in building a high-quality, technical operation and manufacturing globally for the augment treatment, however, we realize that we need to enhance our commercial operations and infrastructure to better position the company for commercial success.
>
> In addition, ***the [IVF] market is changing even more rapidly than we initially anticipated, and we recently learned of merger and acquisition activities at each of our main clinics, and this will prevent us from cycle-volume in the fourth quarter that we previously anticipated***. [Emphasis added].

145. During the question and answer session that followed the Company's prepared remarks, Defendant Dipp responded to analysts who asked for more clarification and details regarding the Company's revelation that it had only conducted approximately 35 commercial cycles to date despite the Company's prior promises of greater achievements, and questioned the Company's expectations going forward:

> **Paul Matteis - Leerink Swann – Analyst**
>
> I have a couple, so. My first one is just on looking at the ramp over

the next, say, 18 to 24 months. I know that this is new territory for everybody and there's no good comps and your burning a lot as you go, but you talked about expecting to do major volume in 4Q, so I guess ***does that major volume move into 1Q of 2016***? I mean, right now -- right now analysts have about 16 million in sales next year, so there's obviously an expectation that major volume is going to happen pretty imminently.

Do you see that as realistic, or should we be more patient on our end?

Michelle Dipp - OvaScience, Inc. – CEO

Thanks Paul, I appreciate the question.

So in a word, ***I would say we'd ask you to be more patient***. At this point in time it's really difficult to project the timing; we don't want to get ahead of ourselves. As you said, we're building the business and we're bringing a new treatment to a market that hasn't seen major innovation in quite a long time. And as we've just recently stated with the recent M&A activity, this is a very dynamic market. But let's not forget that it's also a market that is large and growing.

* * *

So, you know, our mission is unchanged, we'll continue to deliver but, to your point, you know, ***we're not at this point in time going to be projecting the timing of the ramp***.

Paul Matteis - Leerink Swann – Analyst

OK. And I think you said that -- so you said about 35 -- correct me if I'm wrong, I -- I think you said about 35 commercial cycles so far this year, and most in September. ***With all the changes going on do you still, month over month this year, expect some linear growth or does the trajectory in the very near-term change***?

Michelle Dipp - OvaScience, Inc. – CEO

It's really difficult to project it at this point in time, mainly the short-term is really difficult to predict mainly because of the

> ***M&A, so just that, we are expecting a, you know, a short-term delay because of the inconvenience***. [Emphasis added].

146. Other analysts questioned the Company's stated reasoning, requesting elaboration on the "M&A dynamic" and its effect on AUGMENT cycles, some incredulous of the revelation, given that earlier in the month the Company was reiterating the 1,000-cycle forecast:

> **Tycho Peterson - JPMorgan – Analyst**
>
> Michelle, I'm just wondering if you can elaborate a little bit more on the M&A dynamic, I mean, it feels like the adoption of augment at this stage is really dependent on, you know, individual physician rather than broader idea systems. So just wondering, you know, ***why this is so disruptive and -- and also maybe why, you know, you didn't see this coming.***
>
> ***I can just -- even earlier this month we talked about reiterating the thousand cycle forecast***.
>
> **Michelle Dipp - OvaScience, Inc. – CEO**
>
> So ultimately, and you know, one of the things that we always try to keep in the front of our mind is, we think this is really great for patients. So patients will have more access to the augment treatment through these expanded clinic networks. And our initial decision with the inquirers or with those who are merging with the clinics have been positive, and they plan to also offer augment.
>
> And as you can imagine, you know, some of these inquirers we may have been speaking with completely independent of the M&A, ***so we've always known that the [IVF] market is a dynamic market; you've seen a lot of consolidation in the market, but what we did not participate is that all of the currently commercial clinics would be in this position at the same time***.
>
> ***So that, you know, that is -- that was not anticipated. And sort -- it -- we've learned of this very recently***.
>
> **Tycho Peterson - JPMorgan – Analyst**

> Okay, but can you address the point? I mean at this stage it's really about the individual docks, right, then the broader [IVF] systems. I mean, if you got buying from the physicians I'm just wondering why, you know, some of the consolidation is -- is -- is disruptive as it is.
>
> **Michelle Dipp - OvaScience, Inc. – CEO**
>
> Yes, I mean, the individual doctors at the original clinics, and then there's also interest from doctors at the acquiring clinics, but bear in mind in some cases our clinics are actually moving, so they're moving to new sites. So in some cases we may have to move our lab. ***But quite frankly it's just that any M&A, whether it's [IVF] clinics or anything else, the integration process always takes times and it always, you know, moves the focus away, you know, from -- from the business for a short period of time***. [Emphasis added].

147. Still unsatisfied with the Defendants' responses, analysts continued to ask the Company about the number of cycles it had performed to date, and whether there were any others in the pipeline:

> **Rohit Vanjani - Oppenheimer – Analyst**
>
> So you said there were 35 commercial cycle, most in September. ***Can you speak to how many cycles were committed to for 2015 either through prepayment or insurance reimbursement in the UAE, and will those cycles still happen in 2015***?
>
> **Michelle Dipp - OvaScience, Inc. – CEO**
>
> I mean, when we stated the thousand goal, so just to take you back, the thousand goal that we stated last year was to be able to demonstrate our ability to establish global operation that consistently deliver high-quality treatment. We feel that we've been very successful at achieving this.
>
> And we stated the goal early on in our business, we've learned a lot in a short period of time, but yes, we did have a plan with the clinics to ramp significantly in the fourth quarter, so you may

> remember that we spoke al of about the ramp taking place not only in the second half, but also the majority of the ramps taking place in the fourth quarter.
>
> And a lot of that, as we stated in our last Q, was in fact due to what you're describing. So program as well as reimbursement. ***But in terms of, you know, what percentage of those we think we can deliver on; it is difficult at this point in time for us to be able to project how many of those we'll still be able to do. We're still continuing to work with the clinics, but again, since they're, you know, in this integration process it is tough for us to project at this point in time***. [Emphasis added].

148. And, when further questioned about the Company's post-M&A relationships with these clinics and whether "augment [sic] will definitely be offered in the new merged-entity clinic," Defendants were unable to provide a response, stating only that it "look forward to providing . . . more detail. . . when we have it," despite having repeatedly promised a specific 1,000-cycle target.

149. On this news, the Company's stock price dropped 40.98% in a single trading day, falling from a close of $14.52 per share on September 28, 2015 to a close of $8.57 per share on September 29, 2015, on unusually high trading volume, and continued to fall the next trading day.

150. Analysts updated their financial models, ratings and price targets following the Company's revelations. For example, on September 29, 2015, J.P. Morgan dropped its price target by $25 to $15 per share (from $40 to $25) "to account for a significantly slower AUGMENT ramp relative to our prior expectations."

151. Ladenburg Thalmann issued a report on September 30, 2015 entitled, "Poor AUGMENT Commercial Execution Underscores Platform Risk: Target to $14" wherein it

reduced its price target to approximately $14 per share from nearly $50, reporting "[t]his announcement sheds light on a recent lack of transparency, as the company has chosen not to conduct quarterly results calls despite being in the throes of AUGMENT's launch (and on the verge of a second), and noted in an 8-K filing the recent departure of its recently-hired chief commercial officer."

152. Furthermore, although Defendants finally revealed the truth that they were not going to reach 1,000 cycles, they continued to lie about the true reason why they had not come close to that number of cycles. Defendants blamed their failure on "merger and acquisition activities," that prevented them from reaching the volume they anticipated in the fourth quarter of 2015. This made little sense. Defendants essentially suggested that, as of August 11, 2015 – even assuming they had initiated all of the approximate 35 commercial cycles for the year – they had a commitment to perform an additional 965 cycles before the end of the year, but that commitment suddenly disappeared as of September 28th because of "mergers and acquisition" activity.

153. However, if mergers had logistically delayed clinics from performing more than 900 commercial cycles that had previously been planned for the last three months of 2015, then those cycles still should have taken place in 2016. If, as Defendants suggested, AUGMENT was effective and in demand, such extensive demand (more than 900 planned cycles) for this fertility treatment, targeted to women with many failed IVF cycles, would hardly have disappeared because of merger activity. Yet, when asked about whether the missed treatments would still happen and how many treatments the Company had planned for the first quarter of 2016,

Defendant Dipp could not provide any meaningful information to investors, instead asking them "to be more patient . . . we're not at this point in time going to be projecting the timing of the ramp" and stating "[b]ut in terms of, you know, what percentage of those we think we can deliver on: it is difficult at this point in time for us to be able to project how many of those we'll still be able to deliver on." Ultimately, there was no ramp of treatments, because OvaScience recognized revenue for only 129 commercial AUGMENT treatments in total for 2015 and 2016 and effectively discontinued the treatment in 2017. Thus, merger activity among clinics, which existed even at the start of the Class Period, was not a recent phenomenon nor the driver of Defendants' failure to achieve 1,000 commercial cycles in 2015.

PARTIAL DISCLOSURES AS THE TRUTH EMERGES

154. On July 6, 2015, the Company published on its webpage a blog entitled "Women Receiving AUGMENT Treatment had Improved Pregnancy Rates and Healthy Births." The blog post stated:

> **07/06/15 | MICHELLE DIPP, M.D., PH.D.**
>
> The European Society of Human Reproduction and Embryology (ESHRE) conference is where new fertility innovations and treatments take center stage and collaboration within the fertility community is fostered. During this year's ESHRE in Lisbon, Portugal, OvaScience hosted the scientific symposium, "Experts in Egg Health: Advancing Fertility Patient Care." We were fortunate to have fertility specialists from more than forty countries in attendance -- all united by the goal of bringing new fertility treatment options to patients. The scientific session featured leading physicians, some of whom have experience using the AUGMENTSM fertility treatment in their clinics. The AUGMENT treatment is not available in the United States.
>
> In addition to presentations on the importance of egg health and its

> important role in fertility, the scientific session also included the patient experiences of women who have used the AUGMENT treatment.
>
> Of note, Michael Fakih, M.D., Founder and Chairman of Fakih IVF in the United Arab Emirates, reported his patients' experiences for the first time.
>
> - He showed positive results from 59 women with poor egg health and embryo quality who were given the AUGMENT treatment during IVF.
>
> - Before using the AUGMENT treatment, these women had a combined four percent clinical pregnancy rate and a two percent live birth rate based on a combined total of 257 previous IVF cycles.
>
> - With the AUGMENT treatment, the women's clinical pregnancy rates increased at least five-fold.
>
> Additionally, Kutluk Oktay, M.D., F.A.C.O.G, of Gen-Art IVF in Ankara, Turkey, shared the exciting news of the second birth by a woman who received the AUGMENT treatment. The healthy baby girl was born to a mother in Turkey who had failed seven previous IVF cycles and had never before had a successful pregnancy.
>
> Robert F. Casper, M.D., F.R.C.S.(C), Medical Director of TCART Fertility Partners in Toronto, Ontario, also presented his patient experiences, as were previously reported during the 21st COGI Congress: Innovation in Reproductive Medicine, including the first birth with the AUGMENT treatment.

155. On August 27, 2015, Mr. David Harding resigned as Chief Commercial Officer of the Company, effective August 28, 2015. Harding had been CCO since December 11, 2014 – less than 9 months. This sudden departure of Harding, who was hired to assist in rolling out AUGMENT, was a prelude to Defendants' revelation that their statements about reaching 1,000 commercial cycles were fraudulent and indicated to the market that the commercialization of

AUGMENT was not as successful as Defendants had promised.

156. Then, on September 28, 2015, the Company issued a press release entitled "OvaScience Provides Update on Corporate Goal for AUGMENT Treatment" announcing "the Company does not expect to meet the 2015 goal of 1,000 AUGMENT treatment cycles."

157. On this news, the Company's shares fell from $14.52 on September 28, 2015 to close at $8.57 on September 29, a drop of over 40%, on unusually heavy volume.

158.

159. On March 31, 2016, Arthur Tzianabos, Ph.D., stepped down as the President and Chief Scientific Officer of OvaScience. Dr. Tzianabos and the Company entered into a consulting agreement which provides for Dr. Tzianabos to act as an advisor to the Company through December 31, 2016.

160. On July 1, 2016, Defendant Dipp resigned as Company CEO.

161. Running low on money and even lower on credibility, on December 21, 2016, OvaScience announced that it would continue to make the AUGMENT treatment available to patients at partner clinics in Canada and Japan and maintain its current commercial footprint, but would slow its commercial expansion, reassess its ongoing and planned clinical studies of AUGMENT, and undertake a corporate restructuring, including a workforce reduction to better align its workforce to its revised corporate strategy and to carefully manage the Company's cash burn.

162. On December 21, 2016, Harald Stock resigned from his positions as President and CEO and director and Paul Chapman resigned from his position as Chief Operating Officer.

163. As of December 31, 2016, the Company reported having only 118 employees left and announced a further corporate restructuring that would take place in January 2017, in which the Company would be reducing its workforce even more so by approximately 30%.

164. By December 2016, the Company's stock traded, and continues to trade, at under $2.00 per share, down from a Relevant Period high of $53.46 per share.

DERIVATIVE AND DEMAND FUTILITY ALLEGATIONS

165. Plaintiffs bring this action derivatively in the right and for the benefit of the Company to redress injuries suffered and to be suffered as a direct and proximate result of the breaches of fiduciary duties and gross mismanagement by Defendants.

166. Plaintiffs will adequately and fairly represent the interests of the Company and its shareholders in enforcing and prosecuting its rights and has retained counsel competent and experienced in derivative litigation.

167. Plaintiffs are current owners of OvaScience stock and have continuously been an owner of the stock during all times relevant to Defendants' illegal and wrongful course of conduct alleged herein. Plaintiffs understand their obligation to hold stock throughout the duration of this action and are prepared to do so.

168. During wrongful course of conduct at the Company, the Board consisted of the Director Defendants. Because of the facts set forth throughout this Complaint, demand on the Board to institute this action is not necessary because such a demand would have been a futile and useless act.

169. At the time suit was filed, the Board was comprised of seven (7) members: Dipp,

Aldrich, Capello, Kozin, Sexton, Howe, and non-party Mary Fisher ("Fisher"). Thus, Plaintiffs are required to show that a majority of the Director Defendants, *i.e.*, four (4) cannot exercise independent objective judgment about whether to bring this action or whether to vigorously prosecute this action.

170. Defendants face a substantial likelihood of liability in this action because they caused the Company to issue false and misleading statements concerning its future prospects. Because of their advisory, executive, managerial, and directorial positions with the Company, each of the Defendants had knowledge of material non-public information regarding the Company and was directly involved in the operations of the Company at the highest levels.

171. Defendants either knew or should have known of the false and misleading statements that were issued on the Company's behalf and took no steps in a good faith effort to prevent or remedy that situation.

172. Defendants (or at the very least a majority of them) cannot exercise independent objective judgment about whether to bring this action or whether to vigorously prosecute this action. For the reasons that follow, and for reasons detailed elsewhere in this complaint, Plaintiffs have not made (and should be excused from making) a pre-filing demand on the Board to initiate this action because making a demand would be a futile and useless act.

173. Defendants approved and/or permitted the wrongs alleged herein to have occurred and participated in efforts to conceal or disguise those wrongs from the Company's stockholders or recklessly and/or with gross negligence disregarded the wrongs complained of herein and are therefore not disinterested parties.

174. Defendants authorized and/or permitted the false statements to be disseminated directly to the public and made available and distributed to shareholders, authorized and/or permitted the issuance of various false and misleading statements, and are principal beneficiaries of the wrongdoing alleged herein, and thus, could not fairly and fully prosecute such a suit even if they instituted it.

175. Because of their participation in the gross dereliction of fiduciary duties, and breaches of the duties of due care, good faith, and loyalty, Defendants are unable to comply with their fiduciary duties and prosecute this action. Each of them is in a position of irreconcilable conflict of interest in terms of the prosecution of this action and defending themselves in the securities fraud class action lawsuit brought under the Securities Exchange Act of 1934.

176. Additionally, each of the Defendants received payments, benefits, stock options, and other emoluments by virtue of their membership on the Board and their control of the Company.

THE DIRECTOR DEFENDANTS ARE NOT INDEPENDENT OR DISINTERESTED

Defendant Dipp

177. Defendant Dipp is not disinterested or independent, which is admitted by the Company in its 2017 Proxy, and therefore, is incapable of considering any demand. Defendant Dipp is the Executive Chair of the Company and derives substantially all of her income from her employment with the Company, making her not independent. As such, Defendant Dipp cannot independently consider any demand to sue herself for breaching her fiduciary duties to the Company, because that would expose her to liability and threaten her livelihood.

178. Additionally, Dipp and Aldrich are partners at Longwood Fund, LP. Longwood Fund GP, LLC, an affiliate of Longwood Fund, LP, is an approximately 7% holder of OvaScience.

179. Based on the forgoing and on the other facts alleged herein, Dipp cannot be considered independent or disinterested, and any demand on her would be futile.

180. Furthermore, Defendant Dipp signed OvaScience's Offering Materials during the Relevant Period and was largely responsible for the Company's operations, internal controls and false and misleading statements and omissions made, and the failure to correct them, throughout the Relevant Period. In her executive capacity, Defendant Dipp met directly with investors and securities analysts to discuss Company operations and business. As the maker of the false and misleading statements of material fact as alleged herein, Defendant Dipp breached her fiduciary duties. As the most plausible inference is that the misconduct alleged herein was widespread and systemic at the Company, Dipp knowingly engaged in, facilitated, concealed, and failed to disclose the truth, or recklessly turned a blind eye to it. Moreover, Defendant Dipp is beholden to Longwood, a controlling shareholder, as she depends on the controlling shareholder for her primary source of income. Due to her experience working in several executive capacities at the Company and her service on the Board, Defendant Dipp knew, or should have known that: (1) the very science behind AUGMENT was untested and in doubt; (2) the patients that had received OvaScience's AUGMENT procedure in 2014 did not achieve a pregnancy success rate that was significantly higher than the rate achieved without the Company's AUGMENT procedure; (3) the Company had not chosen to undertake its studies outside of the United States, but was

compelled to do so to avoid being subject to more stringent and expensive federal regulations; and (4) the Company was far from profitable, not even approaching profitability. As a result of the foregoing, Dipp's statements about OvaScience's business, operations and prospects, were inaccurate and misleading and/or lacked a reasonable basis. In complete abdication of her fiduciary duties, Defendant Dipp was complicit in the misconduct to make, and to fail to correct, the inaccurate and misleading statements of material fact, which she knew to have been not truthful at the time they were made in order to make the stock as high as possible. Additionally, Defendant Dipp is a defendant in the securities fraud class actions. As Defendant Dipp is not independent or disinterested, and therefore faces a substantial likelihood of liability, demand upon her is futile and, therefore, excused.

Defendant Aldrich

181. Defendant Aldrich and Dipp are partners at Longwood Fund, LP. Longwood Fund GP, LLC, an affiliate of Longwood Fund, LP, is an approximately 7% holder of OvaScience.

182. As a Director of OvaScience, Aldrich was required to comply with its Code of Business Conduct, which includes that he comply with all laws, rules and regulations applicable to the Company wherever it does business, and further comply with its mandate of honest and ethical conduct and fair dealing as stated herein.

183. Additionally, as a member of the Nominating and Corporate Governance Committee, Aldrich was required to develop, recommend, and reassess corporate governance guidelines, and oversee an annual self-evaluation of the Board. Aldrich failed to meet his

responsibilities as evidenced by the corporate misconduct as alleged herein.

184. Based on the forgoing and on the other facts alleged herein, Aldrich cannot be considered independent or disinterested, and any demand on him would be futile.

185. Furthermore, Defendant Aldrich signed OvaScience's Offering Materials during the Relevant Period. As the most plausible inference is that the misconduct alleged herein was widespread and systemic at the Company, Defendant Aldrich knowingly engaged in, facilitated, concealed, and failed to disclose the truth, including the making of and the failure to correct the misrepresentations alleged herein, or recklessly turned a blind eye to it. Due to his experience working in an executive capacity as well as on the Board, Defendant Aldrich knew, or should have known that: (1) the very science behind AUGMENT was untested and in doubt; (2) the patients that had received OvaScience's AUGMENT procedure in 2014 did not achieve a pregnancy success rate that was significantly higher than the rate achieved without the Company's AUGMENT procedure; (3) the Company had not chosen to undertake its studies outside of the United States, but was compelled to do so to avoid being subject to more stringent and expensive federal regulations; and (4) the Company was far from profitable, not even approaching profitability. As a result of the foregoing, OvaScience's statements about its business, operations and prospects, were inaccurate and misleading and/or lacked a reasonable basis. In complete abdication of his fiduciary duties, Defendant Aldrich was complicit in the misconduct to make, and to fail to correct, the inaccurate and misleading statements of material fact, which he knew to have been not truthful at the time they were made in order to make the stock as high as possible. Additionally, Defendant Aldrich is a defendant in the securities fraud

state class action. Thus, as Defendant Aldrich is not independent or disinterested, and therefore faces a substantial likelihood of liability, demand upon him is futile and, therefore, excused.

Defendant Capello

186. As a Director of OvaScience, Capello was required to comply with its Code of Business Conduct, which includes that he comply with all laws, rules and regulations applicable to the Company wherever it does business, and further comply with its mandate of honest and ethical conduct and fair dealing as stated herein.

187. As a member of the Company's Audit Committee, Capello was responsible to monitor internal control over financial reporting, disclosure controls and procedures and code of business conduct and ethics, and oversee risk assessment and risk management policies. Capello failed to meet his responsibilities as evidenced by the corporate misconduct as alleged herein.

188. Based on the forgoing and on the other facts alleged herein, Capello cannot be considered independent or disinterested, and any demand on him would be futile.

189. Furthermore, Defendant Capello signed OvaScience's Offering Materials during the Relevant Period. Significantly, as Chairman of the Audit Committee, Defendant Capello is charged with reviewing the Company's accounting practices and systems of internal accounting controls as well as the objectivity of its financial reporting. Also, as Audit Chairman, Defendant Capello knew, or should have known that: (1) the very science behind AUGMENT was untested and in doubt; (2) the patients that had received OvaScience's AUGMENT procedure in 2014 did not achieve a pregnancy success rate that was significantly higher than the rate achieved without the Company's AUGMENT procedure; (3) the Company had not chosen to undertake its studies

outside of the United States, but was compelled to do so to avoid being subject to more stringent and expensive federal regulations; and (4) the Company was far from profitable, not even approaching profitability. As a result of the foregoing, OvaScience's statements about its business, operations and prospects, were inaccurate and misleading and/or lacked a reasonable basis. In complete abdication of his fiduciary duties, Defendant Capello was complicit in the misconduct to make, and to fail to correct, the inaccurate and misleading statements of material fact, which he knew, or should have known, to have been not truthful at the time they were made in order to make the stock as high as possible. Additionally, Defendant Capello is a defendant in the securities fraud state class action. Moreover, Capello, along with the other members of the committee, is answerable to the Company and the shareholders to review to review OvaScience's audited consolidated financial statements and discuss with management the financial results for the fiscal years during which he sits on the committee. Thus, as Defendant Capello is not a disinterested or an independent director, and as he faces a substantial likelihood of liability, demand upon him is futile and, therefore, excused.

Defendant Kozin

190. As a Director of OvaScience, Kozin was required to comply with its Code of Business Conduct, which includes that he comply with all laws, rules and regulations applicable to the Company wherever it does business, and further comply with its mandate of honest and ethical conduct and fair dealing as stated herein.

191. Additionally, as a member of the Nominating and Corporate Governance Committee, Kozin was required to develop, recommend, and reassess corporate governance

guidelines, and oversee an annual self-evaluation of the Board. Kozin failed to meet his responsibilities as evidenced by the corporate misconduct as alleged herein.

192. Based on the forgoing and on the other facts alleged herein, Kozin cannot be considered independent or disinterested, and any demand on him would be futile.

193. Furthermore, Defendant Kozin signed the Offering Materials during the Relevant Period. As the maker of the inaccurate and misleading statements of material fact as alleged herein, Defendant Kozin breached his fiduciary duties. Due to his experience working in several executive capacities at the Company and his service on the Board, Defendant Kozin knew, or should have known that: (1) the very science behind AUGMENT was untested and in doubt; (2) the patients that had received OvaScience's AUGMENT procedure in 2014 did not achieve a pregnancy success rate that was significantly higher than the rate achieved without the Company's AUGMENT procedure; (3) the Company had not chosen to undertake its studies outside of the United States, but was compelled to do so to avoid being subject to more stringent and expensive federal regulations; and (4) the Company was far from profitable, not even approaching profitability. As a result of the foregoing, OvaScience's statements about its business, operations and prospects, were inaccurate and misleading and/or lacked a reasonable basis. In complete abdication of his fiduciary duties, Defendant Kozin was complicit in the misconduct to make, and to fail to correct, the inaccurate and misleading statements of material fact, which she knew, or should have known, to have been not truthful at the time they were made in order to make the stock as high as possible. Additionally, Defendant Kozin is a defendant in the securities fraud state class action. Thus, Kozin faces a substantial likelihood of

liability, and demand upon him is futile and, therefore, excused.

Defendant Sexton

194. As a Director of OvaScience, Sexton was required to comply with its Code of Business Conduct, which includes that he comply with all laws, rules and regulations applicable to the Company wherever it does business, and further comply with its mandate of honest and ethical conduct and fair dealing as stated herein. Sexton failed to meet his responsibilities as evidenced by the corporate misconduct as alleged herein.

195. Based on the forgoing and on the other facts alleged herein, Sexton cannot be considered independent or disinterested, and any demand on him would be futile.

196. Furthermore, Defendant Sexton has served on the Board of OvaScience since April 2015. Defendant Sexton has been a member of the Company's Board since June 2015. Due to his service on the Board, Defendant Sexton knew, or should have known that: (1) the very science behind AUGMENT was untested and in doubt; (2) the patients that had received OvaScience's AUGMENT procedure in 2014 did not achieve a pregnancy success rate that was significantly higher than the rate achieved without the Company's AUGMENT procedure; (3) the Company had not chosen to undertake its studies outside of the United States, but was compelled to do so to avoid being subject to more stringent and expensive federal regulations; and (4) the Company was far from profitable, not even approaching profitability. As a result of the foregoing, OvaScience's statements about its business, operations and prospects, were inaccurate and misleading and/or lacked a reasonable basis. In complete abdication of his fiduciary duties, Defendant Sexton was complicit in the misconduct to make, and to fail to

correct, the inaccurate and misleading statements of material fact, which he knew, or should have known, to have been not truthful at the time they were made in order to make the stock as high as possible. As the most plausible inference is that the misconduct alleged herein was widespread and systemic at the Company, Sexton knowingly engaged in, facilitated, concealed, and failed to disclose the truth, or recklessly turned a blind eye to it. Thus, Sexton faces a substantial likelihood of liability, and demand upon him is futile and, therefore, excused.

Defendant Howe

197. As a Director of OvaScience, Howe was required to comply with its Code of Business Conduct, which includes that he comply with all laws, rules and regulations applicable to the Company wherever it does business, and further comply with its mandate of honest and ethical conduct and fair dealing as stated herein.

198. As a member of the Company's Compensation Committee, Howe was responsible to oversee evaluation of the Company's senior executives. Howe failed to meet these responsibilities as evidenced by the executive turnover and corporate misconduct as alleged herein.

199. Based on the forgoing and on the other facts alleged herein, Howe cannot be considered independent or disinterested, and any demand on him would be futile.

200. Defendant Howe has served on the Company's Board of Directors since June 2015, and currently sits on the Audit and Compensation Committees. Significantly, as a member of the Audit Committee, Defendant Howe was charged with reviewing the Company's accounting practices and systems of internal accounting controls as well as the objectivity of its

financial reporting. Also, as a member of the Audit Committee, Defendant Howe knew, or should have known that: (1) the very science behind AUGMENT was untested and in doubt; (2) the patients that had received OvaScience's AUGMENT procedure in 2014 did not achieve a pregnancy success rate that was significantly higher than the rate achieved without the Company's AUGMENT procedure; (3) the Company had not chosen to undertake its studies outside of the United States, but was compelled to do so to avoid being subject to more stringent and expensive federal regulations; and (4) the Company was far from profitable, not even approaching profitability. As a result of the foregoing, OvaScience's statements about its business, operations and prospects, were inaccurate and misleading and/or lacked a reasonable basis. In complete abdication of his fiduciary duties, Defendant Howe was complicit in the misconductt scheme to make, and to fail to correct, the inaccurate and misleading statements of material fact, which he knew, or should have known, to have been not truthful at the time they were made in order to make the stock as high as possible. Moreover, Howe, along with the other members of the committee, is answerable to the Company and the shareholders to review to review OvaScience's audited consolidated financial statements and discuss with management the financial results for the fiscal years during which he sits on the committee. As the most plausible inference is that the misconduct alleged herein was widespread and systemic at the Company, Howe knowingly engaged in, facilitated, concealed, and failed to disclose the truth, or recklessly turned a blind eye to it. Thus, as Defendant Howe is not a disinterested or an independent director, and as he faces a substantial likelihood of liability, demand upon him is futile and, therefore, excused.

FIRST CAUSE OF ACTION

Against Defendants for Breach of Fiduciary Duties

201. Plaintiffs incorporate by reference and re-allege each and every allegation contained above, as though fully set forth herein.

202. Defendants owe the Company fiduciary obligations. By reason of their fiduciary relationships, Defendants owed and owe the Company the highest obligation of good faith, fair dealing, loyalty, and due care.

203. Defendants violated and breached their fiduciary duties of care, loyalty, reasonable inquiry, and good faith.

204. Defendants engaged in a sustained and systematic failure to properly exercise their fiduciary duties. In breach of their fiduciary duties owed to the Company, Defendants made inaccurate and/or misleading statements and/or failed to disclose that: (a) the science behind AUGMENT had not been scientifically validated; (b) the Company was unable to achieve the purported success rates it claimed; (c) the reasons why the Company moved its studies outside of the United States; (d) that at all relevant times, the Company's profitability and prospects were false and misleading; and (e) resultantly, the Company lacked adequate internal controls over its publicly issued statements and financial reporting, rendering them personally liable to the Company for breaching their fiduciary duties.

205. Defendants had actual or constructive knowledge of the weaknesses of the Company's internal controls. Defendants had actual knowledge of the above misrepresentations and omissions of material facts set forth herein, or acted with reckless disregard for the truth, in

that they failed to ascertain and to disclose such facts, even though such facts were available to them.

206. As a direct and proximate result of Defendants' failure to perform their fiduciary obligations, the Company has sustained significant damages. As a result of the misconduct alleged herein, Defendants are liable to the Company.

207. As a direct and proximate result of Defendants' breach of their fiduciary duties, the Company has suffered damage, not only monetarily, but also to its corporate image and goodwill. Such damage includes, among other things, costs associated with defending securities lawsuits, severe damage to the share price of the Company, resulting in an increased cost of capital, the waste of corporate assets, and reputational harm.

SECOND CAUSE OF ACTION

(Against the Director Defendants for Unjust Enrichment)

208. Plaintiffs incorporate by reference and re-allege each and every allegation above as though fully set forth herein.

209. By their wrongful acts and omissions, as alleged herein, the Non-Employee Director Defendants were unjustly enriched at the expense of, and to the detriment of, the Company.

210. Plaintiffs, as shareholders and representatives of the Company, seek restitution from Defendants, and each of them, and seek an order from this Court requiring the Defendants to disgorge all profits, benefits, and other compensation obtained by these Defendants, and each of them, from their wrongful conduct and fiduciary breaches.

211. Plaintiffs, on the Company's behalf, have no adequate remedy at law.

REQUEST FOR RELIEF

WHEREFORE, Plaintiffs demand judgment as follows:

A. Determining that this action is a proper derivative action maintainable under law, and that demand is excused;

B. Awarding, against all Defendants and in favor of the Company, the damages sustained by the Company as a result of Defendants' breaches of their fiduciary duties;

C. Directing the Company to take all necessary actions to reform and improve its corporate governance and internal procedures, to comply with the Company's existing governance obligations and all applicable laws and to protect the Company and its investors from a recurrence of the damaging events described herein;

D. Requiring the Company to issue a corrective disclosure to shareholders; disclosing that the Company relied upon an inappropriate option value calculation method in its 2015, 2016, and 2017 SEC public filings;

E. Awarding to Plaintiffs the costs and disbursements of the action, including reasonable attorneys' fees, accountants' and experts' fees, costs, and expenses; and

F. Granting such other and further relief as the Court deems just and proper.

JURY DEMAND

Plaintiffs demand a trial by jury.

DATED: April 24, 2018

By: */s/ Thomas J. McKenna*

GAINEY McKENNA & EGLESTON
Thomas J. McKenna
Gregory M. Egleston
440 Park Avenue South
New York, NY 10016
Telephone: (212) 983-1300
Facsimile: (212) 983-0383
Email: tjmckenna@gme-law.com
Email: gegleston@gme-law.com

SMOOT LAW OFFICE, P.C.

Steven F. Smoot
P.O. Box 120-245
Boston, MA 02112-0245
Telephone: (617) 345-9600
Facsimile: (617) 507-8383
Email: smoot@smootlaw.com

Attorneys for Plaintiffs

CERTIFICATE OF SERVICE

I hereby certify that on this thirtieth day of April 2018 this document filed through the ECF system will be sent electronically to the registered participants as identified on the Notice of Electronic Filing (NEF) and paper copies will be sent to those indicated as non-registered participants.

/s/ Thomas J. McKenna
Thomas J. McKenna

VERIFICATION

I, AMANDA KIM, declare that I have reviewed the Amended Shareholder Derivative Complaint ("Amended Complaint") prepared on behalf of OvaScience, Inc. and authorize its filing. I have reviewed the allegations made in the Amended Complaint, and to those allegations of which I have personal knowledge, I believe those allegations to be true. As to those allegations of which I do not have personal knowledge, I rely on my counsel and their investigation and for that reason believe them to be true. I further declare that I am a current holder of OvaScience, Inc. common stock.

4/24/18
Date

AMANDA KIM