

ZIOPHARM ONCOLOGY INC

Form 10-K/A

April 30, 2018

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**UNITED STATES**

**SECURITIES AND EXCHANGE COMMISSION**

**Washington, DC 20549**

**FORM 10-K/A**

**(Amendment No. 1)**

**(Mark One)**

**ANNUAL REPORT UNDER SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934  
For the fiscal year ended December 31, 2017**

**OR**

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

**For the transition period from \_\_\_\_\_ to \_\_\_\_\_**

**Commission File Number 001-33038**

**ZIOPHARM Oncology, Inc.**

**(Exact Name of Registrant as Specified in Its Charter)**

**Delaware**  
**(State or Other Jurisdiction of**  
**Incorporation or Organization)**

**84-1475642**  
**(IRS Employer**  
**Identification No.)**

**One First Avenue, Parris Building 34, Navy Yard Plaza**

**Boston, Massachusetts**  
**(Address of Principal Executive Offices)**

**02129**  
**(Zip Code)**

**(617) 259-1970**

**(Registrant's Telephone Number, Including Area Code)**

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

**Common Stock (par value \$0.001 per share)**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Act. Yes No

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See definition of large accelerated filer, accelerate filer and smaller reporting company in Rule 12b-2 of the Exchange Act. (Check one):

Large Accelerated Filer

Accelerated Filer

Non-Accelerated Filer

Smaller Reporting Company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

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

The aggregate market value of the registrant's common stock held by non-affiliates was \$808,804,937 as of June 30, 2017 (the last business day of the registrant's most recently completed second fiscal quarter), based on a total of 130,032,948 shares of common stock held by non-affiliates and a closing price of \$6.22 as reported on the Nasdaq Capital Market on June 30, 2017. For purposes of this computation, all officers, directors, and 10% beneficial owners of the registrant are deemed to be affiliates. Such determination should not be deemed to be an admission that such officers, directors or 10% beneficial owners, are, in fact, affiliates of the registrant.

As of April 17, 2018, there were 142,651,612 shares of the registrant's common stock, \$0.001 par value per share, outstanding.

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**EXPLANATORY NOTE**

Ziopharm Oncology, Inc. (which may be referred to herein as we, us or the Company) is filing this Amendment No. 1 to Annual Report on Form 10-K/A (this Amended Filing) to amend its Annual Report on Form 10-K for the fiscal year ended December 31, 2017 (the Original Filing), as originally filed with the U.S. Securities and Exchange Commission (the SEC) on March 1, 2018 (the Original Filing Date), to include the information required by Items 10 through 14 of Part III of Form 10-K (the Part III Information). The Part III Information was previously omitted from the Original Filing in reliance on General Instruction G(3) to Form 10-K, which permits the Part III Information to be incorporated by reference in the Form 10-K by reference from the Company's definitive proxy statement if such statement is filed no later than 120 days after the end of the fiscal year covered by the Original Filing. The Company is filing this Amended Filing to include the Part III Information because it may not file a definitive proxy statement containing such information within 120 days after the end of the fiscal year covered by the Original Filing. The reference on the cover of the Original Filing to the incorporation by reference to portions of the Company's definitive proxy statement into Part III of the Original Filing is hereby deleted.

This Amendment hereby amends Part III, Items 10 through 14, and Part IV, Item 15 of the Original Filing. In addition, pursuant to Rule 12b-15 under Securities Exchange Act of 1934, as amended, this Amended Filing also contains new certifications pursuant to Section 302 of the Sarbanes-Oxley Act of 2002, which are attached hereto. Because no financial statements have been amended by or included in this Amended Filing and this Amended Filing does not contain or amend any disclosure with respect to Items 307 and 308 of Regulation S-K, paragraphs 3, 4 and 5 of the certifications have been omitted.

The Amended Filing does not amend, modify or otherwise update any other information in the Original Filing. Accordingly, this Amended Filing should be read in conjunction with the Original Filing. In addition, this Amended Filing does not reflect events that may have occurred subsequent to the Original Filing Date.

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**ZIOPHARM Oncology, Inc.**

ANNUAL REPORT ON FORM 10-K/A

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2017

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*All trademarks, trade names and service marks appearing in this Amendment No. 1 to Annual Report on Form 10-K are the property of their respective owners.*

**Table of Contents****PART III*****Item 10. Directors, Executive Officers and Corporate Governance*****CURRENT DIRECTORS AND EXECUTIVE OFFICERS**

Our board of directors currently consists of five directors. On March 12, 2018, Michael Weiser, M.D., Ph.D. resigned from our board of directors and all committees thereof. Following Dr. Weiser's resignation, there are two vacancies on our board of directors. The following table contains biographical information, as of April 17, 2018, of each of our current directors and executive officers.

There are no family relationships among any of our current directors, director nominees or executive officers. None of the executive officers is related by blood, marriage or adoption to any of our other directors, director nominees or executive officers.

Sir Murray Brennan, M.D., GNZM

*Lead Director*

Dr. Brennan, who currently serves as the board's non-executive Lead Director, has been one of our directors since our September 2005 acquisition of Ziopharm, Inc. and previously served as a director of Ziopharm, Inc. since December 2004. Dr. Brennan is Emeritus Chairman of Memorial Sloan-Kettering's Department of Surgery and previously served as its Chairman from 1985 to 2007. Dr. Brennan is the Benno C. Schmidt Chair in Clinical Oncology at the Memorial Sloan Kettering Cancer Center, and currently serves as its Vice President for International Programs. Dr. Brennan also is a member of the Institute of Medicine of The National Academy of Sciences. He actively lectures at major institutions throughout the world and has authored or co-authored more than 1,000 scientific papers. He previously served as a director of the American Board of Surgery, Chairman of the American College of Surgeons Commission on Cancer, President of the Society of Surgical Oncology, President of the American Surgical Association, President of the Society of Clinical Surgery and Vice President of the American College of Surgeons. He is the recipient of numerous honors, honorary degrees and fellowships for his leadership role in surgery and oncology worldwide. He serves on the board of directors of the de Beaumont Foundation, a charitable foundation designed to support public health in the United States and elsewhere. He received a knighthood from her Majesty the Queen of England in January 2015. Dr. Brennan is 78 years old.

Dr. Brennan's credentials and standing in the medical community worldwide, and the oncology community specifically, along with the leadership roles in which he has served at various esteemed organizations, provide experience and credibility that the board believes make him well suited to serve on the board and as its non-executive Lead Director.

James A. Cannon

*Director*

Mr. Cannon has been one of our directors since our September 2005 acquisition of Ziopharm, Inc. and previously served as a director of Ziopharm, Inc. since December 2004. Mr. Cannon is currently Vice Chairman, Chief Financial Officer and a member of the board of directors of BBDO Worldwide, an advertising agency. In these capacities, he oversees the financial management of BBDO operations in 77 countries. Mr. Cannon joined BBDO in 1967, was promoted to Chief Financial Officer of the agency in 1984, and was elected to its board of directors one year later. An integral member of the team that formed Omnicom via a unique three-agency merger of BBDO, DDB and Needham Harper & Steers, Mr. Cannon became Comptroller of the new group and a member of its board of directors in 1986, a position he held through 2002. In 1987, he was appointed Director of Financial Operations of the Omnicom Group, serving in this capacity until early 1989 when he rejoined BBDO Worldwide as Executive Vice President and Chief Financial Officer. His return was concurrent with that of Allen Rosenshine who became Chairman and Chief Executive Officer of BBDO after heading Omnicom. Mr. Cannon was promoted to Vice Chairman of the agency in 1990. Mr. Cannon is a graduate of Pace University and served in the U.S. Marine Corps. Mr. Cannon is 79 years old.

The board believes that Mr. Cannon is qualified to serve as one of our directors based on his financial skills and overall business judgment. In addition, the role played by Mr. Cannon at BBDO, where he oversees the financial management of that company's international operations, uniquely qualifies him to serve as Chair of our audit committee.

Senator Wyche Fowler, Jr.

*Director*

Senator Fowler has been one of our directors since our September 2005 acquisition of Ziopharm, Inc. and previously served as a director of Ziopharm, Inc. since December 2004. Senator Fowler served for 16 years in the United States Congress representing the state of Georgia, from April 1977 to January 1993. In the U.S. Senate he served as assistant floor leader, helping mold a bipartisan consensus for major public policy issues. Senator Fowler

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was a member of the U.S. Senate Appropriations, Budget, Energy and Agriculture Committees. First elected to the U.S. House of Representatives, he was a member of the Ways and Means and Foreign Affairs Committees, as well as the Select Committee on Intelligence. Following his service in the United States Congress, Senator Fowler served as U.S. Ambassador to the Kingdom of Saudi Arabia from 1996 through 2001. On his return, the FBI awarded him its highest civilian honor, The Jefferson Cup, for his assistance in combating terrorism and for helping solve terrorism crimes against the U.S. military in Saudi Arabia. He was named Lion of Judah by the State of Israel for successfully freeing Soviet Jew Yakov Gluzman. Senator Fowler is currently engaged in an international business and law practice, and serves as Chairman Emeritus of the Board of the Middle East Institute, a non-profit foundation in Washington, D.C. Senator Fowler also serves on the board of directors of Shubert Theaters, the Shubert Foundation and Brandywine Realty Trust. Senator Fowler holds an A.B. in English from Davidson College and a J.D. from Emory University School of Law. Senator Fowler is 77 years old.

Senator Fowler's background and experience in the United States Congress, and the leadership qualities exemplified during and since his tenure in Congress, are attributes that the board believes benefit our overall board operations. In addition, we believe his international business and law experience qualify him to serve on the board.

Randal J. Kirk

*Director*

Mr. Kirk has been one of our directors since January 2011. Mr. Kirk is the Senior Managing Director and Chief Executive Officer of Third Security, LLC, an investment management firm founded by Mr. Kirk. Additionally, Mr. Kirk founded and became Chairman of the board of directors of New River Pharmaceuticals Inc. (previously traded on Nasdaq prior to its acquisition by Shire plc in 2007) in 1996, and was President and Chief Executive Officer between October 2001 and April 2007. Mr. Kirk began his professional career in the private practice of law. Previously, Mr. Kirk served as a member of the board of directors of Scios, Inc. (previously traded on Nasdaq prior to its acquisition by Johnson & Johnson) between February 2000 and May 2002, and as a member of the board of directors of Clinical Data, Inc. (previously traded on Nasdaq prior to its acquisition by Forest Laboratories, Inc. in April 2011) from September 2002 to April 2011, and was Chairman of the board from December 2004 to April 2011. Mr. Kirk currently serves in a number of additional capacities, including as a member of the board of directors of Halozyme Therapeutics, Inc., since May 2007 and as Chairman of the board of directors of Intrexon Corporation since February 2008 and Chief Executive Officer since April 2009. Mr. Kirk served on the Board of Visitors of Radford University from July 2003 to June 2009, was Rector of the board from September 2006 to September 2008, and has served on the board of directors of the Radford University Foundation, Inc. from September 1998 to May 2011. He served on the Board

of Visitors of the University of Virginia and Affiliated Schools from July 2009 to October 2012, on the Virginia Advisory Council on Revenue Estimates from July 2006 to October 2012, and on the Governor's Economic Development and Jobs Creation Commission from April 2010 to October 2012. Mr. Kirk received a B.A. in business from Radford University and a J.D. from the University of Virginia. Mr. Kirk is 64 years old.

Mr. Kirk has demonstrated an ability to dedicate sufficient time and focus on his duties as a director of Ziopharm. The board believes that Mr. Kirk's extensive experience and long-term record of achievement as an entrepreneur, investor, top executive and board member of numerous leading pharmaceutical and other health care companies qualifies him to serve on the board.

Scott Tarriff

*Director*

Mr. Tarriff has been one of our directors since September 2015. Mr. Tarriff has served as the Chief Executive Officer and as a member of the Board of Directors of Eagle Pharmaceuticals, Inc. since its inception in January 2007. Prior to joining Eagle, Mr. Tarriff held various executive positions at Par Pharmaceutical Companies, Inc., a publicly-traded developer, manufacturer and marketer of specialty pharmaceuticals, including as President and Chief Executive Officer from September 2003 to September 2006, after joining Par in 1998. Prior to that, Mr. Tarriff held various positions with Bristol-Meyers Squibb, a publicly-traded biopharmaceutical company, including senior director-marketing. Mr. Tarriff has served as a member of the board of directors of Synthetic Biologics, Inc., a publicly-traded biotechnology company, since February 2012 and previously served on the board of directors of Clinical Data, Inc., a publicly-traded pharmaceutical company, from September 2009 until its acquisition by Forest Laboratories, Inc. in April 2011. Mr. Tarriff holds a B.S. in marketing from Pennsylvania State University and an M.B.A. from Rider College. Mr. Tarriff is 58 years old.

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Mr. Tarriff has demonstrated an ability to dedicate sufficient time and focus on his duties as a director of Ziopharm. The board believes that Mr. Tarriff's long-term record of achievement and extensive experience as a board member and senior executive in the pharmaceutical and biotechnology industries, coupled with his extensive expertise in company operations and management, including his knowledge of the clinical development and regulatory process, qualifies him to serve on the board.

Laurence James Neil Cooper, M.D.,  
Ph.D.

*Chief Executive Officer*

Dr. Cooper has served as our Chief Executive Officer since May 2015. Prior to joining us, Dr. Cooper led the Pediatric Cell Therapy service (formally named the BMT program) as a tenured professor at the University of Texas M.D. Anderson Cancer Center, or MD Anderson, where he had worked since 2006. In addition to caring for children, adolescents and young adults undergoing autologous and allogeneic hematopoietic stem-cell transplantation, referred to as HSCT, at MD Anderson, he ran a laboratory translating immunology into clinical practice. His program had multiple investigator-initiated trials that infuse T cells and NK cells to target malignancies. Dr. Cooper also holds an appointment as a Visiting Scientist at MD Anderson and as Adjunct Professor of Pathology & Laboratory Medicine at the Perelman School of Medicine at the University of Pennsylvania. Dr. Cooper obtained his B.A. at Kenyon College in Gambier, Ohio and M.D. and Ph.D. degrees at Case Western Reserve University in Cleveland before training in Pediatric Oncology and Bone Marrow Transplantation at the Fred Hutchinson Cancer Research Center in Seattle. Dr. Cooper is 53 years old.

David M. Mauney, M.D.

*Executive Vice President, Chief  
Business Officer and Interim Chief  
Operating Officer*

Dr. Mauney has served as our Executive Vice President and Chief Business Officer since September 2017 and as our Interim Chief Operating Officer since November 2017. Prior to joining the Company, he served as managing director of Harvest Capital Strategies LLC, where he had worked since 2015. From 2000 to 2015, Dr. Mauney served as managing director of De Novo Ventures, a health care investment firm he co-founded. Dr. Mauney holds a B.A. from Duke University and an M.D. from Dartmouth Medical School. Dr. Mauney is 50 years old.

Francois Lebel, M.D.

*Executive Vice President, Research  
and Development and Chief Medical  
Officer*

Dr. Lebel has served as our Executive Vice President, Research and Development and Chief Medical Officer since February 2015. Previously, Dr. Lebel served as our Vice President, Medical Operations from February 2013 until February 2015. From 2011 to July 2012, Dr. Lebel served as Vice President, Research & Development at Baxter Healthcare International, a global healthcare company with expertise in medical devices, pharmaceuticals and biotechnology, and from April 2007 to July 2011, Dr. Lebel served as Vice President, Global Clinical and Medical Affairs for Baxter, Medication Delivery. From October 2004 to September 2006 Dr. Lebel was Vice President, Medical & Scientific Affairs for Medimmune, Inc., a biotechnology company that was acquired by AstraZeneca plc in 2007. Prior to Medimmune, Dr. Lebel gained leadership experience in development, medical affairs, regulatory and pharmacovigilance in various roles of increasing responsibilities at Chiron, Warner-Lambert and

Burroughs Wellcome. Dr. Lebel holds an M.D. and B.S. from the University of Ottawa and is Board Certified in Internal Medicine and an Infectious Diseases specialist trained at McGill University and Harvard Medical School. Dr. Lebel is 66 years old.

Kevin G. Lafond

*Sr. Vice President Finance, Chief Accounting Officer and Treasurer*

Mr. Lafond has served as our Sr. Vice President Finance, Chief Accounting Officer and Treasurer since June 2013 and is our principal financial and accounting officer. Previously, Mr. Lafond served as our Corporate Controller since he joined us in February 2009 until June 2013. Prior to joining us, Mr. Lafond served as Controller of Helicos Biosciences Corporation, a public life sciences equipment manufacturer, from February 2007 to October 2008. Mr. Lafond holds a bachelor's degree from Plymouth State University, master's degrees in both accounting and taxation from Bentley University and is a Certified Public Accountant. Mr. Lafond is 62 years old.

### **Section 16(a) Beneficial Ownership Reporting Compliance**

Section 16(a) of the Securities Exchange Act of 1934, as amended, or Exchange Act, requires our directors and executive officers, as well as stockholders beneficially owning more than ten percent of the outstanding common stock, to file with the SEC initial reports of ownership and reports of changes in ownership with respect to common stock. All of these reporting persons are required by SEC regulations to furnish us with copies of all reports they file with the SEC pursuant to Section 16(a).

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Based solely on our review of the copies of such forms received by us and written representations of our directors and executive officers received by us, we believe each reporting person filed on a timely basis all of the reports required to be filed pursuant to Section 16(a) in 2017.

**INFORMATION REGARDING THE BOARD OF DIRECTORS AND CORPORATE GOVERNANCE**

This section provides further information regarding the board of directors and the independence of our directors and describes key corporate governance guidelines and practices that we have adopted.

**Independence of the Board of Directors**

The board of directors uses the definition of independence established by The Nasdaq Stock Market. Under applicable Nasdaq rules, a director qualifies as an independent director if, in the opinion of the board, he or she does not have a relationship that would interfere with the exercise of independent judgment in carrying out the responsibilities of a director. The board has determined that Dr. Murray Brennan, Mr. James A. Cannon, Senator Wyche Fowler, Jr. and Mr. Scott Tarriff are independent directors, as such term is defined in Nasdaq Rule 5605(a)(2). The board previously determined that Dr. Michael Weiser, who resigned from the board of directors in March 2018, was an independent director during the time he served on the board of directors.

**Board Leadership Structure**

The board of directors has appointed an independent director, Dr. Murray Brennan, to serve as its non-executive Lead Director. The board has elected to separate the Lead Director function from that of the Chief Executive Officer, who serves as our principal executive officer, due to a belief that separating these functions, and empowering an independent director to chair the board meetings, will result in increased board oversight of management activities.

**Board Committees**

The board of directors has established three standing committees: an audit committee, a compensation committee and a corporate governance and nominating committee. Each committee operates under a charter that has been approved by the board. Current copies of each committee's charter are posted on the Investors Corporate Governance section of our website, [www.ziopharm.com](http://www.ziopharm.com). Our website and its contents are not incorporated into this filing.

The current members of the committees are as follows:

	Audit	Compensation	Nominating
Murray Brennan, M.D.*			
James A. Cannon			
Senator Wyche Fowler, Jr., J.D.			
Randal J. Kirk			
Scott Tarriff			

\* = Lead Director = Chair = Member

*Audit Committee*

The current members of the audit committee are Mr. James A. Cannon, who serves as the committee's Chairman, Senator Wyche Fowler, Jr. and Mr. Scott Tarriff. Dr. Michael Weiser previously served on the audit committee until his resignation on March 12, 2018. As set forth in the audit committee charter, the primary responsibility of the audit committee is to oversee our financial reporting processes and internal control system on behalf of the board. In that regard, the audit committee is responsible for, among other things, the appointment, compensation, retention and oversight of the work performed by the independent registered public accounting firm employed by us.

Each member of the audit committee is an independent director, as such term is defined in Nasdaq Rule 5605(a)(2), and meets the criteria for independence set forth in Rule 10A-3(b)(1) under the Exchange Act. The board of directors has also determined that each of the audit committee members is able to read and understand fundamental financial statements and that at least one member of the audit committee has past employment experience in finance or accounting. The board has determined that at least one member of the audit committee, Mr. James A. Cannon, is an audit committee financial expert, as that term is defined in Item 407(d)(5)(ii) of Regulation S-K promulgated under the Exchange Act. Mr. Cannon's relevant experience includes his current service as the Chief Financial Officer of BBDO Worldwide, a position he has held for the past 20 years, and his past service as director of financial operations of the Omnicom Group.

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### *Compensation Committee*

The current members of the compensation committee are Mr. Scott Tarriff, who serves as the committee's Chairman, Dr. Murray Brennan and Mr. James A. Cannon. Dr. Michael Weiser previously served as the Chairman of the compensation committee until his resignation on March 12, 2018. Upon his resignation, the board of directors appointed Mr. Cannon to the compensation committee and appointed Mr. Tarriff as the Chairman. As set forth in the compensation committee charter, the compensation committee reviews our compensation policies and practices and makes recommendations to the board of directors in connection with all compensation matters affecting our executive officers.

Each member of the compensation committee is an independent director, as such term is defined in Nasdaq Rule 5605(a)(2), and meets the criteria for independence set forth in Rule 10A-3(b)(1) under the Exchange Act.

### *Corporate Governance and Nominating Committee*

The current members of the corporate governance and nominating committee are Dr. Murray Brennan, who currently serves as the committee's Chairman, and Senator Wyche Fowler, Jr. Dr. Michael Weiser previously served on the corporate governance and nominating committee until his resignation on March 12, 2018. As set forth in the corporate governance and nominating committee charter, the primary responsibility of the corporate governance and nominating committee is to consider and make recommendations to the board of directors concerning the appropriate size, function and needs of the board and its committees. In that regard, the corporate governance and nominating committee is, among other things, responsible for establishing criteria for membership on board, recruiting and recommending candidates to fill newly created or vacant positions on the board and reviewing any candidates recommended by stockholders. In addition, the corporate governance and nominating committee evaluates and assesses the performance of the board as a whole and its committees.

Each member of the corporate governance and nominating committee is an independent director, as such term is defined in Nasdaq Rule 5605(a)(2), and meets the criteria for independence set forth in Rule 10A-3(b)(1) under the Exchange Act.

## **Risk Management and Oversight**

One of the board's key functions is informed oversight of the Company's risk management process. The board does not have a standing risk management committee, but rather administers this oversight function directly through the board as a whole, as well as through various Board standing committees that address risks inherent in their respective areas of oversight. In particular, our board is responsible for monitoring and assessing strategic risk exposure, including a determination of the nature and level of risk appropriate for the Company. Our audit committee has the responsibility to consider and discuss our major financial risk exposures and the steps our management has taken to monitor and control these exposures, including guidelines and policies to govern the process by which risk assessment and management is undertaken. Our corporate governance and nominating committee monitors the effectiveness of our corporate governance guidelines. Our compensation committee assesses and monitors whether any of our compensation policies and programs has the potential to encourage excessive risk-taking. The Board has delegated to the Board's lead independent director the responsibility of coordinating between the Board and management with regard to the determination and implementation of responses to any problematic risk management issues.

## **Compensation Committee Interlocks and Insider Participation**

During 2017, the members of the compensation committee were Mr. Scott Tarriff, Dr. Murray Brennan and Dr. Michael Weiser. None of them has ever been an officer or employee of the Company or any subsidiary of ours and no member of the compensation committee had any relationship with us during 2017 requiring disclosure under Item 404 of Regulation S-K of the SEC.

None of our executive officers has served as a director or member of the compensation committee (or other committee serving an equivalent function) of any other entity that has an executive officer serving as a member of our board of directors or our compensation committee.

### **Code of Ethics and Business Conduct**

The board of directors adopted a Code of Ethics and Business Conduct to be applicable to all officers, directors and employees. The Code of Ethics and Business Conduct is intended to be designed to deter wrong-doing and promote honest and ethical behavior, full, fair, timely, accurate and understandable disclosure, and compliance with applicable laws. In addition to provisions that are applicable to officers, directors and employees generally, the Code of Ethics and Business Conduct contains provisions that are specifically applicable to our Chief Executive Officer and senior financial officer(s). The Code of Ethics and Business Conduct is available on our website at [www.ziopharm.com](http://www.ziopharm.com) and a copy may be obtained without charge upon written request to our Legal Affairs department at our principal executive offices at One First Avenue, Parris Building 34, Navy Yard Plaza, Third Floor, Boston, Massachusetts 02129. Our website and its contents are not incorporated into this filing.

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***Item 11. Executive Compensation***

**EXECUTIVE COMPENSATION**

**Compensation Discussion and Analysis**

*Overview*

This Compensation Discussion and Analysis explains our executive compensation philosophy and objectives, programs and practices, compensation setting process and the 2017 compensation of our named executive officers.

For 2017, our named executive officers were:

Dr. Laurence James Neil Cooper, our Chief Executive Officer

Dr. David Mauney, our Executive Vice President, Chief Business Officer and Interim Chief Operating Officer<sup>(1)</sup>

Dr. Francois Lebel, our Executive Vice President, Research and Development and Chief Medical Officer

Kevin G. Lafond, our Senior Vice President Finance, Chief Accounting Officer and Treasurer

Caesar J. Belbel, our former Executive Vice President, Chief Legal Officer and Secretary<sup>(2)</sup>

<sup>(1)</sup> Dr. Mauney joined us on September 28, 2017.

<sup>(2)</sup> Mr. Belbel's employment with us terminated effective February 15, 2018.

*Executive Summary Key Objectives and Compensation Elements*

We believe that our executive compensation programs should:

- (i) be tied to overall Company performance;
- (ii) reflect each executive's level of responsibility, performance and contributions;
- (iii) include a significant equity component to ensure alignment with our stockholders; and

(iv) provide fully competitive total compensation opportunities, consistent with our performance, that allow us to attract, retain and motivate talented employees, including our named executive officers.

We believe that by structuring the executive compensation program so that a significant portion of each of our named executive officers' pay is at risk, including a significant equity-based component, we can best ensure our named executive officers are incentivized to maximize our performance and increase value for our stockholders. To this end, our program is comprised of three primary elements:

## Compensation

<b>Element</b>	<b>Fixed or Variable</b>	<b>Description</b>
Base Salary	Fixed	To attract and retain executives by offering fixed compensation that is competitive with market opportunities and that recognizes each executive's position, role, responsibility and experience.
Annual Performance Bonus	Variable	To motivate and reward the achievement of our annual performance, including objectives related to our strategic development, research and clinical development programs and stockholder return.
Equity Awards	Variable	To align executives' interests with the interests of stockholders through equity-based compensation and promote the long-term retention of our executives and key management personnel.

Our executive compensation program places a significant percentage of our executives' target pay at risk and ties to achievement of our corporate performance goals and/or is dependent upon our stock price performance.

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\* Excludes Dr. Mauney who joined us in late September 2017 and received an inducement equity award at the time of his hire.

*2017 Company Performance Highlights*

The highlights of our performance for 2017 include:

In January 2017, we and Intrexon Corporation, or Intrexon, announced the signing of a Cooperative Research and Development Agreement with the National Cancer Institute for the development of adoptive cell transfer-based immunotherapies genetically modified using the *Sleeping Beauty* transposon/transposase system to express T-cell receptors for the treatment of solid tumors.

In January 2017, we announced treating the first patient with genetically modified CAR<sup>+</sup> T cells manufactured in two weeks using the non-viral *Sleeping Beauty* platform.

In June 2017, we presented data showing median overall survival of 12.5 months at 9.2 months mean follow-up time for patients treated with 20 mg of veledimex in our phase 1 study of Ad-RTS-hIL-12 plus veledimex in patients with recurrent or progressive glioblastoma, or rGBM, at the annual meeting of the American Society of Clinical Oncology.

In June 2017, we announced the initiation of enrollment in the stereotactic arm of our Phase 1 multicenter study of Ad-RTS-hIL-12 plus veledimex, a gene therapy for controlled expression of IL-12, in patients with rGBM.

In October 2017, we announced that the first patient had been dosed in our new Phase 1 Study of Ad-RTS-hIL-12 plus veledimex for the treatment of pediatric brain tumors.

In November 2017, we delivered four presentations at the 22<sup>nd</sup> Annual Meeting and Education Day of the Society for Neuro-Oncology showing that Controlled IL-12 gene therapy turns cold tumors hot, decreased the size of brain tumor lesions in several patients based on MRI evidence and showed that median overall survival for patients with rGBM treated with Ad-RTS-hIL-12 plus veledimex was maintained at 12.5 months in 20mg cohort with longer follow-up time.

In November 2017, we made four presentations at the 59<sup>th</sup> American Society of Hematology (ASH) Annual Meeting: clinical data from our first- and second-generation trials showed *Sleeping Beauty* modified CAR<sup>+</sup> T cells had demonstrated safety, tolerability, disease response, long-term survival, and persistence; preclinical data showed that CAR<sup>+</sup> T cells co-expressing membrane-bound interleukin-15 (mbIL15) and a control switch manufactured within two days under point-of-care do not require *ex vivo* activation or propagation to

achieve anti-tumor effects and prolonged T-cell survival.

*Compensation Highlights*

A substantial portion of our executive pay is structured to be at risk and dependent upon our performance, in the form of performance-based bonuses and equity incentive awards. For 2017, approximately 70% of our Chief Executive Officer's actual total compensation was paid in the form of such at-risk compensation, as reported in our Summary Compensation Table.

Our annual bonuses are based on two variously-weighted corporate goals related to key operational objectives and stockholder return. For 2017, because we met a substantial portion of our operational objectives, our named executive officers were, accordingly, awarded 87.5% of their target bonuses.

Our compensation committee retains an outside compensation consultant for guidance in making executive compensation decisions, annually evaluates our compensation against market practices and develops a peer group of companies each year who are comparable to our company and appropriate reference points in evaluating the appropriateness of our executive compensation program.

Our severance payments are reasonable in amount and we do not provide our named executive officers with any 280G tax gross ups in connection with a change in control.

*Stockholder Advisory Vote*

At the 2017 annual meeting of stockholders, approximately 84.9% of the votes cast on the say-on-pay vote were in favor of our named executive officer compensation as disclosed in our 2017 proxy statement and, as a result, our named executive officer compensation was approved. The compensation committee carefully considered the final vote results as well as the proxy advisory firm analyses of our executive pay program to evaluate whether changes to the program were advisable for 2017. The compensation committee did not make any specific changes to our 2017 executive compensation policies and decisions as a result of the vote. We aim to continue to maintain clear and concise executive compensation disclosures to promote transparency and understanding of our executive compensation programs.

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### **Role of our Compensation Committee, Management and Consultant**

#### *Compensation Committee*

Our compensation committee is responsible for reviewing, evaluating, approving, administering and interpreting our executive compensation and benefits policies, programs and plans, including our equity compensation plans. In particular, with respect to the compensation of our named executive officers, our compensation committee is responsible for reviewing and recommending to the outside, independent and non-employee members of the board of directors the compensation levels and performance goals relevant to the compensation of these officers, and for evaluating the officers' performance in light of those goals and objectives. The outside, independent and non-employee members of the board of directors approved the compensation committee's recommendations for the 2017 compensation of our named executive officers.

#### *Management*

Our human resources, finance and legal departments work with our Chief Executive Officer to design and develop new executive compensation programs, to recommend changes to existing compensation programs, to recommend financial and other performance targets to be achieved under those programs, to prepare analyses of financial data, to prepare peer group data comparisons and other briefing materials for consideration by the compensation committee and ultimately, to implement the decisions of the compensation committee.

The Chief Executive Officer recommends to the compensation committee for its discussion and ultimately, approval, proposed corporate performance and strategic goals and their relative weighting for the upcoming fiscal year, and provides input on the level of attainment of the prior year's strategic goals, for purposes of determining awards under the annual performance bonus plan for all our executives, including the Chief Executive Officer. For executives other than the Chief Executive Officer, the compensation committee considers the individual performance of the executives, as assessed by the Chief Executive Officer, and the compensation recommendations submitted to the compensation committee by the Chief Executive Officer. Our Chief Executive Officer and other members of management generally attend our compensation committee meetings for a portion of the meeting. No executive officer was present or voted in the compensation committee or the board of directors' final determinations regarding the amount of any component of his own 2017 compensation package.

#### *Consultant*

In the fourth quarter of 2016 and again during the fourth quarter of 2017, the compensation committee re-engaged W.T Haigh and Company, or Haigh, as an independent compensation consultant. The compensation committee originally retained Haigh in 2012 after considering a number of other national compensation consulting firms because of Haigh's strong reputation and record in advising similarly situated biopharmaceutical and biotechnology companies in the Greater Boston/Cambridge, Massachusetts area. Haigh is engaged by and reports directly to the compensation committee.

As part of its duties, Haigh provided the compensation committee with the following services:

completed a competitive analysis of our executive compensation program;

prepared a competitive analysis of the board of directors' compensation program, including observations and recommendations;

reviewed and updated our peer group for use in determining executive compensation; and

reviewed our 2017 proxy statement and CD&A.

During 2017, the compensation committee conducted a performance and independence assessment of Haigh with respect to Haigh's role in recommending or determining the amount and form of executive compensation during the fiscal year ended December 31, 2017, and to determine whether it would continue to serve as the compensation committee's independent advisor for 2018. Other than providing limited advice to our management regarding competitive salary data and broad-based stock plan share reserve modeling, Haigh did not provide any other services to us in 2017. The compensation committee also considered that the individual representative of Haigh who works directly with the compensation committee has no other business relationships with the board, management or the Company, Haigh's own policies on ethics, stock ownership and conflicts of interest, and the total revenue that Haigh received from us in 2017 and how this amount compared to Haigh's 2017 total gross revenues. As a result, the compensation committee concluded that Haigh's services to the compensation committee during 2017 did not raise any conflict of interest.

## **Peer Group, Survey Sources and Market Benchmarking**

### *Peer Group*

In November 2016, in consultation with Haigh, the compensation committee reviewed the list of companies that should be included in the peer group used as a reference point for setting base salary and target annual incentive recommendations for 2017, which we refer to as the Early 2017 peer group. This Early 2017 peer group consisted of U.S.-headquartered, public biopharmaceutical companies that were similar in size and development stage to us based upon the following selection criteria:

companies with 20 to 100 employees with a median of 67 employees;

companies with market values between \$200 million to \$2 billion with a median of \$509.9 million;

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companies with R&D expense greater than \$50 million annually with a median of \$64.4 million; and

companies with accumulated deficits from operations between \$100 million and \$500 million with a median of \$486.2 million.

The compensation committee determined that the foregoing selection criteria were appropriate in selecting the Early 2017 peer group because at such time we had approximately 28 employees, a market value of approximately \$1.0 billion, an R&D expense forecast of approximately \$164.5 million and accumulated deficits from operations of approximately \$635.9 million. The following 20 companies were approved by the compensation committee as the Early 2017 peer group for purposes of making its recommendations for the 2017 base salary and target annual incentive compensation:

Accelaron Pharma Inc.	Geron Corporation
Achillion Pharmaceuticals, Inc.	Heron Therapeutics, Inc.
Agenus Inc.	Idera Pharmaceuticals, Inc.
Akebia Therapeutics, Inc.	Intra-Cellular Therapies, Inc.
Biocryst Pharmaceuticals, Inc.	Lexicon Pharmaceuticals, Inc.
Celldex Therapeutics, Inc.	Mirati Therapeutics, Inc.
Concert Pharmaceuticals, Inc.	Molecular Templates, Inc.
Curis, Inc.	Portola Pharmaceuticals, Inc.
Dicerna Pharmaceuticals, Inc.	Sage Therapeutics, Inc.
Flexion Therapeutics, Inc.	Spark Therapeutics, Inc.

In November 2017, in consultation with Haigh, the compensation committee reevaluated the list of companies that should be included in the peer group used as a reference point in determining the levels of December 2017 equity compensation grants, which we refer to as the Late 2017 peer group. Similar to the Early 2017 peer group, the Late 2017 peer group considered many of the same scope measures, location and stage of development characteristics as listed above. The selected Late 2017 peer group companies were chosen upon the following selection criteria:

companies with 20 to 100 employees with a median of 74 employees;

companies with market values between \$200 million to \$2 billion with a median of \$635.6 million;

companies with R&D expense greater than \$50 million annually with a median of \$59.1 million; and

companies with accumulated deficits from operations between \$100 million and \$500 million with a median of \$391.4 million.

The compensation committee determined that the foregoing selection criteria were appropriate in selecting the Late 2017 peer group because at such time we had approximately 40 employees, a market value of approximately \$917.0 million, an R&D expense forecast of approximately \$41.2 million and accumulated deficits from operations of approximately \$686.5 million. The following 18 companies were approved by the compensation committee as the Late 2017 peer group for purposes of determining December 2017 equity grants:

Accelaron Pharma Inc.  
Achillion Pharmaceuticals, Inc.  
Akebia Therapeutics, Inc.  
Biocryst Pharmaceuticals, Inc  
Blueprint Medicines Corporation  
Calithera Biosciences, Inc.  
Celldex Therapeutics, Inc.  
Concert Pharmaceuticals, Inc.  
Curis, Inc.

CytomX Therapeutics, Inc.  
Editas Medicine, Inc.  
Geron Corporation  
Heron Therapeutics, Inc.  
Idera Pharmaceuticals, Inc.  
Selecta Biosciences, Inc.  
Syros Pharmaceuticals, Inc.  
Xencor, Inc.  
Zogenix, Inc.

*Other Survey Sources*

In making its decisions for recommended 2017 compensation levels, the compensation committee also reviewed Radford survey data as an additional market frame of reference.

## **2017 Compensation Decisions**

### *Base Salary*

Our compensation committee generally reviews base salaries in the fourth quarter of the preceding fiscal year with adjusted salaries becoming effective January 1 of the following fiscal year. As a general approach, the compensation committee references approximately the 50<sup>th</sup> percentile of our peer group in setting base salary compensation. In addition to considering the peer group and/or other survey market data, the compensation committee also considers, among other factors, the Company's performance; stock price appreciation; individual performance; experience; and breadth of each position's role.

In December 2016, our compensation committee recommended for approval, and the board of directors approved, 2017 base salaries for our named executive officers, as described in the table below. In making its determination, the compensation committee considered the Chief Executive Officer's review of and recommendation for Dr. Lebel and Messrs. Belbel and Lafond as well as a competitive analysis

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prepared by Haigh for all executive officers. The compensation committee determined Dr. Mauney's base salary as the result of negotiations in connection with his recruitment in September 2017. The compensation committee believed that the 2017 base salary levels set forth below were appropriate in light of our performance during fiscal year 2016 and in order to maintain or make our named executive officers' base salaries competitive versus mid-market salary levels of the early 2017 peer group. Based on these considerations, the compensation committee determined that no increase to the base salaries of Dr. Cooper or Mr. Belbel were necessary, in part because their base salary levels were already at or above mid-market levels. The compensation committee determined to increase Mr. Lafond's 2017 base salary by 12.2% and Dr. Lebel's 2017 base salary by 3.0% in order to position their respective salaries in line with the mid-market salary levels of the early 2017 peer group and Radford survey data.

<b>Executive Officer</b>	<b>2016 Base Salary</b>	<b>2017 Base Salary</b>	<b>% Increase</b>
Dr. Laurence James Neil Cooper	\$ 500,000	\$ 500,000	N/A
Dr. David Mauney <sup>(1)</sup>	N/A	\$ 400,000	N/A
Dr. Francois Lebel	\$ 410,000	\$ 422,300	3.0%
Kevin G. Lafond	\$ 245,000	\$ 275,000	12.2%
Caesar J. Belbel	\$ 375,000	\$ 375,000	N/A

<sup>(1)</sup> Represents Dr. Mauney's annual base salary rate. Dr. Mauney's actual 2017 base salary was pro-rated based on his September 28, 2017 hire date.

*Annual Incentive Compensation*

An important component of our total compensation program is the annual cash incentive, which is based on the achievement of annual company performance objectives, stock price appreciation as measured by the absolute increase in market capitalization on a year-over-year basis, and individual executive performance. Our compensation committee recognizes the important role that variable cash compensation plays in attracting and retaining executives, as well as focusing executives (and all other employees) on the achievement of key annual financial, research, clinical, business development and individual goals.

*2017 Annual Performance Bonus Target Levels*

The compensation committee generally provides annual cash incentive compensation at levels well above the 50<sup>th</sup> percentile of our peer group in order to provide additional incentives for our executives to achieve our short-term corporate goals and put a greater percentage of their target cash compensation at risk and tied to achievement of our performance goals. This also serves as an important incentive and retention purpose in the highly competitive Greater Boston/Cambridge, Massachusetts area and national and international biopharmaceutical and biotechnology employment marketplace within which we compete for top executive talent. The 2017 target bonus amounts for Drs. Cooper and Lebel and Mr. Belbel, as a percentage of base salary, remained unchanged from 2016 levels as the compensation committee determined that such levels continued to be appropriate to provide adequate performance incentives and were consistent with external benchmarks and reflective of the executive's level of responsibility for attaining our corporate performance objectives. Mr. Lafond's target bonus was increased from 30% of his base salary to 35% of his base salary, consistent with internal and external benchmarks. In connection with his commencement of employment in September 2017 and consistent with internal and external benchmarks, Dr. Mauney's target bonus was set at 35% of his base salary.

*2017 Annual Performance Objectives*

The annual incentive bonus plan for our named executive officers and our other senior executives was determined by variously weighted components. Our 2017 performance objectives, which we refer to collectively as the Objective Component, included regulatory goals relating to our pivotal trial programs, progress across several of our ongoing and planned clinical trials and studies, advancement of our pre-clinical programs and the success of our fundraising efforts. In addition to these objective performance measures, the board's discretionary evaluation of our executive officer's performance was included as a significant component of the bonus plan. The compensation committee believes that the performance objectives reviewed under the Objective Component were appropriate objectives for 2017 as the core focus for the year was the advancement of both our pre-clinical and clinical immuno-oncology programs, while giving the board of directors the discretion to evaluate our executive officer's performance based on changes in our business.

For 2017, the compensation committee also considered our stock price performance as compared to our peer group, which we refer to as the Stockholder Return Component, as a modifying factor of our performance. The compensation committee believes this is an appropriate measure to use as a modifier to our Objective Component as it reinforces alignment with stockholders and ensures that creating stockholder value significantly impacts annual variable compensation.

The year-end cash bonus award for executives was developed by determining the percent achievement versus the Objective Component. We then used the Stockholder Return Component to modify the percent achievement of the Objective Component. This approach yielded overall performance versus target at a level of 87.5% for 2017.

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The compensation committee determined that 2017 annual incentive payout levels of 87.5% of the targeted cash bonus were appropriate for each of Drs. Cooper, Lebel and Mauney (prorated for his start date) and Messrs. Belbel and Lafond as a result of our agreement on protocol design for a pivotal trial following discussions with regulatory agencies in the United States and Europe, advancements in our pediatric trial using our Ad-RTS-IL-12 + vedimex platform, progress in our CD19 and CD33 clinical studies, the success of our early pre-clinical efforts in TCR and the completion of our financing in May 2017. The compensation committee also reviewed our stock price performance during 2017. Finally, the compensation committee considered that certain programs and strategic initiatives were poised to contribute value to the Company in 2018.

The target short-term incentive compensation amounts for 2017, expressed as a percentage of 2017 base salaries, for each of our named executive officers, are set forth in the following table. In addition, the compensation committee recommended, and the board of directors approved, the following cash bonuses for 2017 performance:

Name	2017 Target Bonus		2017 Actual Bonus		
	%	\$	%	\$	%
Dr. Laurence James Neil Cooper	200%	\$ 1,000,000	175.0%	\$ 875,000	87.5%
Dr. David Mauney <sup>(1)</sup>	35%	\$ 140,000	30.6%	\$ 36,158	87.5%
Dr. Francois Lebel	40%	\$ 168,920	35.0%	\$ 147,805	87.5%
Kevin G. Lafond	35%	\$ 96,250	30.6%	\$ 84,219	87.5%
Caesar J. Belbel	100%	\$ 375,000	87.5%	\$ 328,125	87.5%

<sup>(1)</sup> Dr. Mauney's actual 2017 bonus represents a pro-rated amount based on his September 28, 2017 hire date.

*Long-Term Incentive Compensation*

We award equity incentives in order to directly link the interests of our named executive officers with those of our stockholders and create incentives for them to maximize the long-term value of our stock. In 2017, we granted our named executive officers restricted stock that vests annually over three years. In determining the aggregate size of equity grants, the compensation committee may consider, in any given year, the peer group or survey data and one or more other factors, including the internal pay equity among our named executive officers other than our Chief Executive Officer, and ensuring that the Chief Executive Officer's award appropriately reflects the importance of his or her responsibilities for our success. The compensation committee has historically referenced equity awards at the 50<sup>th</sup> to 75<sup>th</sup> percentile level of those granted by the peer group in determining annual equity grant levels for our executive officers.

*Equity Grants during 2017*

In December 2017, as part of our annual equity grant program, the compensation committee granted restricted stock to certain members of our senior management team, including Drs. Cooper and Lebel and Messrs. Belbel and Lafond. The equity awards granted in December 2017 were approximate to the 50<sup>th</sup> percentile of our peer group, and believed to be at a reasonable level to continue to align our executives' interests with those of our stockholders and to motivate their performance to increase our share value, while effectively managing our burn rate and dilution. The use of restricted stock is consistent with our annual equity award grant practices starting in 2015 and is less dilutive to our stockholders than stock options, as fewer shares of our common stock are granted to achieve an equivalent value relative to stock options.

Dr. Mauney joined us in September 2017. As part of our negotiations with Dr. Mauney and as an inducement to have him join the Company, we granted him a stock option to purchase 500,000 shares of our common stock outside of the terms of our 2012 Equity Plan. We determined to grant Dr. Mauney a stock option instead of restricted stock because our general practice is to grant stock options to our newly hired employees.

For 2017, the following equity incentive grants were made to our named executive officers:

<b>Name</b>	<b>Restricted Stock</b>	<b>Stock Options</b>
Dr. Laurence James Neil Cooper	348,000	
Dr. David Mauney		500,000
Dr. Francois Lebel	116,000	
Kevin G. Lafond	53,000	
Caesar J. Belbel	87,000	

The restricted stock and stock options granted to our named executive officers vest in three annual installments. Vesting of all awards is subject to continued service. These vesting schedules are designed to promote retention and encourage executives to consider the long-term stock price effects of their decisions.

*Equity Compensation Policies*

Our policy is to generally make annual, new-hire and promotion equity grants as follows:

annual equity grants are generally recommended by the compensation committee and approved by the board of directors, or approved by the compensation committee on a regularly scheduled meeting of the compensation committee and/or the board of directors preceding the first quarter of each year; and

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new-hire and promotion grants are generally approved by the compensation committee; our Chief Executive Officer has been granted authority to grant stock options and other equity awards to our non-executive employees at a certain level, which grants are reviewed by the board of directors on a regular basis at a subsequent meeting.

In the event that the equity award is in the form of options, as is the case with new hires and grants made to our non-executive employees, the exercise price is not less than the closing price of our common stock on the Nasdaq Capital Market on the grant date of the option. It is our policy not to purposely accelerate or delay the public release of material information in consideration of a pending equity grant to allow the grantee to benefit from a more favorable stock price. To avoid our release of information in close proximity to an equity grant, which may appear to be an effort to time the announcement to a grantee's benefit (even if no such benefit was intended), it is our policy for our management to make a good faith effort to advise the compensation committee whenever it is aware that material non-public information is planned to be released to the public in close proximity to the grant of equity awards.

We encourage our executive officers to hold a significant equity interest in us, but we have not set specific share ownership guidelines. Because our executive officers already have a significant equity stake in us, we have not found it necessary to adopt such guidelines. As of December 29, 2017, our executives had beneficial ownership of our equity values equal to the following multiples of their 2017 annual base salaries, based on our stock price as of December 29, 2017:

<b>Executive Officer</b>	<b>Beneficial Ownership Value as 2017 Base Salary Multiple</b>
Dr. Laurence James Neil Cooper	11.5x
Dr. David Mauney	0.61x
Dr. Francois Lebel	2.0x
Kevin G. Lafond	1.3x
Caesar J. Belbel	2.3x

We have a policy that prohibits our executive officers, directors and other members of management from engaging in short sales, transactions in put or call options, hedging transactions or other inherently speculative transactions with respect to our stock.

*Severance and Change in Control Benefits*

We have agreements with each of our named executive officers providing them with severance benefits, as further described in *Employment and Change in Control Agreements* below. The amounts and terms and conditions of these severance rights reflect the negotiations between each of our named executive officers and us at the time these documents were entered into, the benefits provided by our peer companies to similarly situated executives at the time they were negotiated, as well as our desire for internal pay equity among our executive officers. We believe that these existing arrangements are consistent with market practices and are critical to attracting and retaining high quality executives. We also believe the involuntary termination benefits allow our executives to focus on normal business operations rather than worrying about how business decisions that may be in our best interest will impact their own financial security. We do not provide golden parachute excise tax gross ups.

*401(k) Plan*

Our employees, including our named executive officers, are eligible to participate in our 401(k) plan. Our 401(k) plan is intended to qualify as a tax qualified plan under Section 401 of the Internal Revenue Code of 1986, as amended, or the Code. Our 401(k) plan provides that each participant may contribute a portion of his or her pretax compensation, up to a statutory limit, which for most employees was \$18,000 in 2017, with an additional catch up contribution of up to \$6,000 permitted for employees age 50 and older, to the 401(k) plan. Employee contributions are held and invested by the 401(k) plan's trustee. In 2017, we matched employee contributions at a rate of 100% up to 4% of an employee's base salary contributed to the plan, capped at \$2,000 matching contributions annually. We believe that this benefit is consistent with the practices of our peer companies, and therefore helps us to recruit and retain key talent at a minimal cost to us.

*Other Benefits and Perquisites*

We provide medical insurance, dental insurance, life insurance and disability insurance benefits to our U.S. employees, including our named executive officers based in the United States. These benefits are available to all employees on the same terms and conditions and are subject to applicable laws.

Our executive officers generally do not receive any perquisites, except for limited perquisites provided on a case by case basis. In considering potential perquisites, the compensation committee reviews our cost of such benefits, as compared to the perceived value we receive. We provided certain transportation and housing perquisites to Dr. Cooper under the terms of his employment agreement which reflects the terms of the individual negotiations with Dr. Cooper at the time the agreement was entered into. We view the overall cost of these benefits to be minimal in light of the benefit of continuing to retain Dr. Cooper's services and focus his efforts on attaining our performance objectives.

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We do not sponsor any defined benefit pension plan or nonqualified deferred compensation plan or arrangement for our employees.

### **Tax Deductibility of Executive Compensation**

Prior to December 22, 2017, when the Tax Cuts and Jobs Act of 2017, or TCJA, was signed into law, Section 162(m) of the Code limited our deduction for federal income tax purposes to not more than \$1 million of compensation paid to certain executive officers in a calendar year. Compensation above \$1 million could be deducted if it was performance-based compensation. Under the TCJA, the performance-based exception has been repealed and the \$1 million deduction limit now applies to anyone serving as the Chief Executive Officer or the chief financial officer at any time during the taxable year and the top three other highest compensated executive officers serving at fiscal year-end. The new rules generally apply to taxable years beginning after December 31, 2017.

The TCJA also provides for transitional guidance that will allow certain payments made under written and binding agreements entered into prior to November 2, 2017, to be treated as if they were made under the provisions of Section 162(m) that were in effect prior to enactment of the TCJA. We are in the process of gathering information on our existing compensation arrangements for covered employees as well as assessing the impact of transitional guidance. Prior to the TCJA, we had not adopted a policy requiring all compensation to be deductible, in order to maintain flexibility in compensating our executive officers in a manner designed to promote our objectives. Going forward, while we intend to evaluate the effects of the revised compensation limits of Section 162(m), we intend to continue to provide future compensation in a manner consistent with our best interests and those of our stockholders, including compensation that is potentially not deductible.

### **Accounting Considerations**

We account for equity compensation paid to our employees under the Financial Accounting Standards Board Accounting Standards Codification Topic 718, or ASC 718, which requires us to estimate and record an expense over the service period of the equity award. Our cash compensation is recorded as an expense over the period the bonus is earned. The accounting impact of our compensation programs are one of many factors that the compensation committee considers in determining the structure and size of our executive compensation programs.

### **Compensation Recovery Policy**

As a public company subject to the provisions of Section 304 of the Sarbanes-Oxley Act of 2002, if we are required as a result of misconduct to restate our financial results due to our material noncompliance with any financial reporting requirements under the federal securities laws, our Chief Executive Officer and chief financial officer may be legally required to reimburse us for any bonus or other incentive-based or equity-based compensation they receive. We have considered, and are aware that some companies, a small portion of our peer companies, have voluntarily adopted clawback policies to attempt to recover cash bonus payments to executive officers if performance objectives that led to the determination of such payments are restated or found not to have been met to the extent the compensation committee originally believed. We have not currently adopted such a policy but we will comply with the requirements of the Dodd-Frank Act and will adopt a compensation recovery policy once the SEC adopts final regulations on the subject.

### **Risk Analysis of Our Compensation Program**

Our compensation committee has reviewed our compensation policies as generally applicable to our employees and believes that our policies do not encourage excessive or inappropriate risk taking and that the level of risk that they do

encourage is not reasonably likely to have a material adverse effect on us. As part of its assessment, the compensation committee considered, among other factors, the allocation of compensation among base salary and short- and long-term compensation, our approach to establishing company-wide and individual financial, operational and other performance targets, our bonus structure of payouts at multiple levels of performance (including maximum payout caps and payments for performance below target levels), and the nature of our key performance metrics.

### **Compensation Committee Report**

The compensation committee has reviewed and discussed the Compensation Discussion and Analysis with management. Based on this review and discussion, the compensation committee has recommended to the board of directors, and the board has agreed, that the section titled "Compensation Discussion and Analysis" as it appears above be included in this Amendment No. 1 to our Annual Report on Form 10-K for the fiscal year ended December 31, 2017 and in our proxy statement for the 2018 Annual Meeting of Stockholders.

COMPENSATION COMMITTEE

Scott Tariff, Chairman

Murray Brennan

James Cannon

*This report is not soliciting material, is not deemed filed with the Securities and Exchange Commission and is not to be incorporated by reference in any of our filings under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended, whether before or after the date hereof and irrespective of any general incorporation language in any such filing.*

**Table of Contents****Executive Compensation Tables***Summary Compensation Table*

The following table sets forth information regarding compensation awarded to or earned by our named executive officers, who consist of our principal executive officer, our principal financial officer and three other executive officers who were serving as of December 31, 2017, for the years covered in the table:

<b>Name and Principal Position</b>	<b>Year</b>	<b>Salary (\$)</b>	<b>Bonus (\$)</b>	<b>Stock Awards (\$)<sup>(1)</sup></b>	<b>Option Awards (\$)<sup>(1)</sup></b>	<b>All Other Compensation (\$)</b>	<b>Total (\$)</b>
Laurence James	2017	\$ 500,000	\$ 875,000	1,140,720	\$	\$ 78,524 <sup>(3)</sup>	\$ 2,894,244
Neil Cooper, M.D., Ph.D. <sup>(2)</sup>	2016	\$ 500,000	\$ 700,000	1,135,538	\$	\$ 77,071 <sup>(4)</sup>	\$ 2,412,609
	2015	\$ 328,605	\$ 1,657,533	10,438,610	\$	\$ 40,611 <sup>(5)</sup>	\$ 12,465,359
<i>Chief Executive Officer</i>							
David M. Mauney, M.D. <sup>(6)</sup>	2017	\$ 103,077	\$ 36,158		\$ 2,156,550	\$ 2,189 <sup>(7)</sup>	\$ 2,297,974
<i>Executive Vice President, Chief Business Officer and Interim Chief Operating Officer</i>							
Francois Lebel, M.D.	2017	\$ 422,300	\$ 147,805	480,240	\$	\$ 2,745 <sup>(8)</sup>	\$ 1,053,090
	2016	\$ 410,000	\$ 114,800	504,773	\$	\$ 2,713 <sup>(9)</sup>	\$ 1,032,286
<i>Executive Vice President, Research and Development and Chief Medical Officer</i>	2015	\$ 378,219	\$ 114,000	540,150	\$	\$ 2,685 <sup>(10)</sup>	\$ 1,035,054
Kevin G. Lafond	2017	\$ 275,000	\$ 84,219	219,420	\$	\$ 2,585 <sup>(11)</sup>	\$ 581,224
<i>Sr. Vice President Finance, Chief Accounting Officer and Treasurer</i>	2016	\$ 245,000	\$ 51,450	210,255	\$	\$ 2,469 <sup>(12)</sup>	\$ 509,174
	2015	\$ 225,000	\$ 56,250	232,680	\$	\$ 2,440 <sup>(13)</sup>	\$ 516,370
Caesar J. Belbel <sup>(14)</sup>	2017	\$ 375,000	\$ 328,125	360,180	\$	\$ 2,745 <sup>(15)</sup>	\$ 1,066,050
<i>Former Executive Vice President, Chief Legal Officer and Secretary</i>	2016	\$ 375,000	\$ 262,500	504,773	\$	\$ 2,713 <sup>(16)</sup>	\$ 1,144,986
	2015	\$ 364,583	\$ 375,000	1,011,650	\$	\$ 2,685 <sup>(17)</sup>	\$ 1,753,918

- (1) These amounts have been calculated in accordance with ASC Topic 718. Pursuant to SEC rules, the amounts shown exclude the impact of estimated forfeitures related to service-based vesting conditions. For a discussion of the assumptions relating to our valuations of these restricted stock awards and stock options, please see Note 3 to the financial statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017 filed with the SEC on March 1, 2018. These amounts reflect our accounting expense for these restricted stock awards and stock options and do not correspond to the actual value that may be recognized by our named executive officers.

- (2) Dr. Cooper joined us in May 2015.
- (3) Of such amount, (i) \$756 represents the dollar value of group term life insurance premiums we paid for the benefit of Dr. Cooper during 2017, (ii) \$75,768 represents taxable perquisites, including \$71,990 for housing expenses, \$3,118 for commuting expenses and \$660 for parking, and (iii) \$2,000 represents the amount we contributed to Dr. Cooper's 401(k) pursuant to our matching program.
- (4) Of such amount, (i) \$421 represents the dollar value of group term life insurance premiums we paid for the benefit of Dr. Cooper during 2016, (ii) \$72,915 represents taxable perquisites, including \$65,577 for housing expenses, \$6,538 for commuting expenses and \$800 for parking, (iii) \$1,735 represents gross up amounts reimbursed to Dr. Cooper for the payment of taxes on such perquisites, and (iv) \$2,000 represents the amount we contributed to Dr. Cooper's 401(k) pursuant to our matching program.
- (5) Of such amount, (i) \$404 represents the dollar value of group term life insurance premiums we paid for the benefit of Dr. Cooper during 2015, (ii) \$29,710 represents taxable perquisites, including \$18,000 for legal fees, \$11,320 for relocation costs and \$390 for parking, and (iii) \$8,497 represents gross up amounts reimbursed to Dr. Cooper for the payment of taxes on such perquisites.

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- (6) Dr. Mauney joined us as Chief Business Officer in September 2017 and was appointed our Interim Chief Operating Officer in November 2017.
- (7) Of such amount, (i) \$189 represents the dollar value of group term life insurance premiums we paid for the benefit of Dr. Mauney during 2017 and (ii) \$2,000 represents the amount we contributed to Dr. Mauney's 401(k) pursuant to our matching program.
- (8) Of such amount, (i) \$745 represents the dollar value of group term life insurance premiums we paid for the benefit of Dr. Lebel during 2017 and (ii) \$2,000 represents the amount we contributed to Dr. Lebel's 401(k) pursuant to our matching program.
- (9) Of such amount, (i) \$713 represents the dollar value of group term life insurance premiums we paid for the benefit of Dr. Lebel during 2016 and (ii) \$2,000 represents the amount we contributed to Dr. Lebel's 401(k) pursuant to our matching program.
- (10) Of such amount, (i) \$685 represents the dollar value of group term life insurance premiums we paid for the benefit of Dr. Lebel during 2015 and (ii) \$2,000 represents the amount we contributed to Dr. Lebel's 401(k) pursuant to our matching program.
- (11) Of such amount, (i) \$585 represents the dollar value of group term life insurance premiums we paid for the benefit of Mr. Lafond during 2017 and (ii) \$2,000 represents the amount we contributed to Mr. Lafond's 401(k) pursuant to our matching program.
- (12) Of such amount, (i) \$469 represents the dollar value of group term life insurance premiums we paid for the benefit of Mr. Lafond during 2016 and (ii) \$2,000 represents the amount we contributed to Mr. Lafond's 401(k) pursuant to our matching program.
- (13) Of such amount, (i) \$440 represents the dollar value of group term life insurance premiums we paid for the benefit of Mr. Lafond during 2015 and (ii) \$2,000 represents the amount we contributed to Mr. Lafond's 401(k) pursuant to our matching program.
- (14) Mr. Belbel's employment with us terminated effective February 15, 2018.
- (15) Of such amount, (i) \$745 represents the dollar value of group term life insurance premiums we paid for the benefit of Mr. Belbel during 2017 and (ii) \$2,000 represents the amount we contributed to Mr. Belbel's 401(k) pursuant to our matching program.
- (16) Of such amount, (i) \$713 represents the dollar value of group term life insurance premiums we paid for the benefit of Mr. Belbel during 2016 and (ii) \$2,000 represents the amount we contributed to Mr. Belbel's 401(k) pursuant to our matching program.
- (17) Of such amount, (i) \$685 represents the dollar value of group term life insurance premiums we paid for the benefit of Mr. Belbel during 2015 and (ii) \$2,000 represents the amount we contributed to Mr. Belbel's 401(k) pursuant to our matching program.

**Table of Contents***Grants of Plan-Based Awards for Fiscal 2017*

The following table sets forth information regarding grants of compensation in the form of plan-based awards made during 2017 to our named executive officers. The equity awards granted in 2017 identified in the table below are also reported in the table titled Outstanding Equity Awards at 2017 Fiscal Year-End :

Name	Grant Date	Estimated Future Payouts Under Stock Awards:			All Other Option Awards: Number of Securities Underlying of Option Awards	Exercise Price or Base Price of Option Awards (\$/Sh)	Grant Date Fair Value of Stock and Option Awards (\$) <sup>(2)</sup>
		Threshold (\$)	Target (\$)	Maximum (\$)			
Laurence James Neil Cooper, M.D., Ph.D	N/A 12/29/17		1,000,000				1,440,720
David M. Mauney, M.D.	N/A 9/28/17		140,000		500,000	6.19	2,156,550
Francois Lebel, M.D.	N/A 12/29/17		164,000		116,000		480,240
Kevin G. Lafond	N/A 12/29/17		96,250		53,000		219,420
Caesar J. Belbel	N/A 12/29/17		375,000		87,000		360,180

- (1) Reflects performance-based cash bonuses that our named executive officers were eligible to earn in 2017 if certain performance metrics were achieved whether pursuant to an employment agreement with us or otherwise. See Employment and Change in Control Agreements for a description of our performance-based compensation arrangements with our named executive officers. For amounts actually earned and paid for 2017 performance, see the Bonus column of the Summary Compensation Table above.
- (2) The amounts shown represent compensation expense recognized for financial statement purposes under ASC Topic 718. Pursuant to SEC rules, the amounts shown exclude the impact of estimated forfeitures related to service-based vesting conditions. For a discussion of the assumptions relating to our valuations of restricted stock awards and option awards, see Note 3 to the financial statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017 filed with the SEC on March 1, 2018. These amounts reflect our accounting expense for these restricted stock awards and do not correspond to the actual value that may be recognized by our named executive officers.

**Table of Contents***Outstanding Equity Awards at 2017 Fiscal Year-End*

The following table sets forth information regarding option awards and restricted stock awards held as of December 31, 2017 by our named executive officers.

Name	Option Awards			Stock Awards		
	Number of Securities Underlying Unexercised Options		Option Exercise Price (\$) <sup>(1)</sup>	Option Expiration Date	Shares or Units of Stock That Have Not Vested Market Value (\$) <sup>(2)</sup>	
	Exercisable (#)	Unexercisable (#)			Number (#)	Value (\$) <sup>(2)</sup>
Laurence James Neil Cooper, M.D., Ph.D.					333,333 <sup>(3)</sup>	1,379,999
					43,667 <sup>(4)</sup>	180,782
					141,500 <sup>(5)</sup>	586,845
					348,000 <sup>(6)</sup>	1,440,720
David M. Mauney, M.D.		500,000 <sup>(7)</sup>	6.19	9/28/27		
Francois Lebel, M.D.	45,000		5.71	3/17/23		
	110,000		2.30	6/26/23		
	100,000		4.34	12/30/23		
	175,000		5.07	12/30/24		
					21,667 <sup>(8)</sup>	89,702
					62,900 <sup>(9)</sup>	260,406
					116,000 <sup>(10)</sup>	480,240
Kevin G. Lafond	11,667		2.85	12/31/19		
	25,000		4.77	12/31/20		
	20,000		4.16	12/31/22		
	55,000		2.30	6/27/23		
	35,000		4.34	12/31/23		
	75,000		5.07	12/31/24		
					9,333 <sup>(11)</sup>	38,639
					26,200 <sup>(12)</sup>	108,468
					53,000 <sup>(13)</sup>	219,420
Caesar J. Belbel	200,000		5.17	9/6/21		
	150,000		4.16	12/31/22		
	76,666		2.30	6/27/23		
	150,000		4.34	12/31/23		
	175,000		5.07	12/31/24		
					16,666 <sup>(14)</sup>	68,998
					21,667 <sup>(15)</sup>	89,702
					62,900 <sup>(16)</sup>	260,406
					87,000 <sup>(17)</sup>	360,180

- (1) Each stock option was granted with an exercise price equal to the fair market value of our common stock on the grant date.
- (2) Market values are calculated based on the closing market price of our common stock as reported on the Nasdaq Capital Market on December 29, 2017, the last trading day of 2017, which was \$4.14 per share.
- (3) Such shares are subject to transfer and forfeiture restrictions that lapse with respect to 333,333 shares on May 5, 2018.
- (4) Such shares are subject to transfer and forfeiture restrictions that lapse with respect to 43,667 shares on December 31, 2018.
- (5) Such shares are subject to transfer and forfeiture restrictions that lapse with respect to 70,750 shares on each of December 30, 2018 and December 30, 2019.
- (6) Such shares are subject to transfer and forfeiture restrictions that lapse with respect to 116,000 shares on each of December 29, 2018, December 29, 2019 and December 29, 2020.
- (7) Vests with respect to 166,667 shares on each of September 28, 2018 and September 28, 2019, and with respect to 166,666 shares on September 28, 2020.
- (8) Such shares are subject to transfer and forfeiture restrictions that lapse with respect to 21,667 shares on December 31, 2018.

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- (9) Such shares are subject to transfer and forfeiture restrictions that lapse with respect to 31,450 shares on each of December 30, 2018 and December 30, 2019.
- (10) Such shares are subject to transfer and forfeiture restrictions that lapse with respect to 38,667 shares on each of December 29, 2018 and December 29, 2019, and with respect to 38,666 shares on December 29, 2020.
- (11) Such shares are subject to transfer and forfeiture restrictions that lapse with respect to 9,333 shares on December 31, 2018.
- (12) Such shares are subject to transfer and forfeiture restrictions that lapse with respect to 13,100 shares on each of December 30, 2018 and December 30, 2019.
- (13) Such shares are subject to transfer and forfeiture restrictions that lapse with respect to 17,667 shares on each of December 29, 2018 and December 29, 2019, and with respect to 17,666 shares on December 29, 2020.
- (14) Such shares are subject to transfer and forfeiture restrictions that lapse with respect to 16,666 shares on June 1, 2018.
- (15) Such shares are subject to transfer and forfeiture restrictions that lapse with respect to 21,667 shares on December 31, 2018.
- (16) Such shares are subject to transfer and forfeiture restrictions that lapse with respect to 31,450 shares on each of December 30, 2018 and December 30, 2019.
- (17) Such shares are subject to transfer and forfeiture restrictions that lapse with respect to 29,000 shares on each of December 29, 2018, December 29, 2019 and December 29, 2020.

*Option Exercises and Stock Awards Vested during Fiscal 2017*

None of our named executive officers exercised stock options during 2017.

The following table provides certain information regarding restricted stock that vested during the fiscal year ended December 31, 2017 with respect to our named executive officers.

<b>Name</b>	<b>Stock Awards</b>	
	<b>Number of Shares Acquired on Vesting(#)<sup>(1)</sup></b>	<b>Value Realized on Vesting(\$)<sup>(2)</sup></b>
Laurence James Neil Cooper	447,750	\$ 2,847,018
David M. Mauney		
Francois Lebel	53,117	\$ 219,905
Kevin G. Lafond	22,433	\$ 92,873
Caesar J. Belbel	69,784	\$ 321,740

- (1) Each of the named executive officers in the table above, other than Dr. Mauney, elected to have shares withheld to pay associated income taxes. The number of shares reported represents the gross number prior to withholding of such shares.
- (2) Value realized is calculated by multiplying the number of shares vested on the applicable date during 2017 by the closing market price of our common stock as reported on the Nasdaq Capital Market on such date. These amounts do not correspond to the actual value that may be recognized by our named executive officers.

**Employment and Change in Control Agreements**

***Employment Agreement with Laurence James Neil Cooper, M.D., Ph.D.***

Dr. Laurence James Neil Cooper has served as our Chief Executive Officer since May 5, 2015, the date of his written employment agreement. Dr. Cooper has an at-will employment relationship with us.

*Base Salary.* In 2017, Dr. Cooper received a base salary of \$500,000. Under his employment agreement, his base salary is subject to review by the board of directors or the compensation committee at least annually. The board did not increase Dr. Cooper's base salary for 2018.

*Annual Performance Bonus.* Under his employment agreement, Dr. Cooper is eligible to receive an annual bonus based on his performance as determined by the board or the compensation committee. The target amount of the annual performance bonus is 200% of his base salary, with the actual amount to be received determined by the board or the compensation committee. Dr. Cooper is also eligible to receive an additional annual discretionary bonus in such amount as may be determined by the board. Effective as of December 29, 2017, the board adopted the compensation committee's recommendations for end-of-year cash bonuses pursuant to which Dr. Cooper received a cash bonus of \$875,000.

*Equity Incentive Grants.* Dr. Cooper is eligible under his employment agreement to receive equity awards as determined by the board in its discretion from time to time. Effective as of December 29, 2017, the board adopted the compensation committee's recommendations for 2017 end-of-year awards of restricted stock and grants of stock options under our 2012 Equity Plan pursuant to which Dr. Cooper was awarded 348,000 shares of restricted common stock, which restricted stock vests in equal annual installments over three years commencing on the one-year anniversary of the grant date. Under certain circumstances, the vesting of Dr. Cooper's equity awards may be accelerated in the event of a change in control or if Dr. Cooper's employment with us is terminated. See *Severance Provisions and Potential Payments Upon Termination or Change in Control* below for further discussion on Dr. Cooper's severance benefits.

*Expense Reimbursement.* Under his agreement, Dr. Cooper is eligible for reimbursement of normal, usual and necessary expenses incurred by him in furtherance of our business and affairs, including reasonable travel and entertainment expenses and the ordinary and necessary expenses incurred in connection with his commute and relocation from Houston, Texas to the Philadelphia or Boston metropolitan area (as applicable).

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*Severance Provisions.* If (i) we terminate Dr. Cooper for a reason other than death, disability or Cause (as that term is defined in his employment agreement), or (ii) Dr. Cooper resigns for Good Reason (as that term is defined in his employment agreement), Dr. Cooper will be entitled to receive continuing payments of his then-current base salary for a period of twelve months, plus a portion of the target amount of his annual performance bonus for the calendar year in which such termination occurs (which portion will be determined pro rata based on the number of days in such calendar year during which we employed Dr. Cooper), plus payment of our portion of the contributions for medical and dental insurance coverage for twelve months, subject to Dr. Cooper's execution and delivery of a general release in favor of the Company. In this situation, Dr. Cooper's stock options that have vested as of the date of termination shall remain exercisable for a period of 90 days, the restricted stock award of 1,000,000 shares granted to Dr. Cooper in connection with his employment shall vest through the next scheduled vesting date immediately following the effective date of termination, and any other unvested stock options and unvested awards of restricted stock held by Dr. Cooper shall be deemed to have expired as of the date of termination. In the case of either (i) a termination by us for a reason other than death, disability or Cause, or (ii) a resignation for Good Reason, in each case that occurs within 90 days prior to and in connection with a Change in Control (as that term is defined in his employment agreement), or within 18 months after the occurrence of a Change in Control, all unvested stock options and unvested awards of restricted stock held by Dr. Cooper at the time that such termination occurs will be accelerated and deemed to have vested as of his employment termination date, and in lieu of the pro-rata bonus described above, Dr. Cooper will be entitled to full target amount of his annual performance bonus for the calendar year in which such termination occurs.

*Non-competition and Non-solicitation.* Dr. Cooper has entered into an Invention, Non-Disclosure and Non-Competition Agreement, which provides that he will not compete with us or solicit our clients or customers for a year after the termination or cessation of his employment with us, and further provides that he will not solicit our employees for one year after the termination or cessation of his employment with us.

***Offer Letter with David M. Mauney, M.D.***

Dr. David M. Mauney has served as our Executive Vice President and Chief Business Officer since September 28, 2017, the date of his offer letter, and as our Interim Chief Operating Officer since November 6, 2017. Dr. Mauney has an at-will employment relationship with us.

*Base Salary.* Pursuant to his offer letter, Dr. Mauney's initial annual base salary is \$400,000, subject to review by the board of directors or the compensation committee at least annually. The board did not increase Dr. Mauney's base salary for 2018.

*Annual Performance Bonus.* Pursuant to his offer letter, Dr. Mauney is eligible to receive an annual bonus based on his performance as determined by the board or the compensation committee. The target amount of the annual performance bonus is 35% of his base salary, with the actual amount to be received determined by the board or the compensation committee. For 2017, the board adopted the compensation committee's recommendations for end-of-year cash bonuses pursuant to which Dr. Mauney received a cash bonus of \$36,158, which represented 87.5% of his target bonus, pro-rated for the number of days worked in 2017.

*Equity Incentive Grants.* Dr. Mauney is eligible to receive equity awards as determined by the board in its sole discretion from time to time. In connection with his appointment as our Chief Business Officer and pursuant to his offer letter, on September 28, 2017, the board granted to Dr. Mauney an inducement award consisting of an option to purchase 500,000 shares of our common stock, which option vests in equal annual installments over three years and will fully vest in the event of a change in control in which Dr. Mauney's employment is subsequently terminated without cause. See *Severance Provisions* and *Potential Payments Upon Termination or Change in Control* below for further information on Dr. Mauney's severance benefits.

*Severance Provisions.* If Dr. Mauney is terminated by us for a reason other than for Cause (as defined in Dr. Mauney's severance agreement), Dr. Mauney will be entitled to receive a lump-sum severance payment equal to six months of his then-current annualized base salary plus payment of our portion of the contributions for medical and dental insurance coverage for six months, subject to Dr. Mauney's execution and delivery of a general release in favor of us.

*Non-competition and Non-solicitation.* Dr. Mauney has entered into an Invention, Non-Disclosure and Non-Competition Agreement, which provides that he will not compete with us or solicit our clients or customers for a year after the termination or cessation of his employment with us, and further provides that he will not solicit our employees for one year after the termination or cessation of his employment with us.

***Employment Relationship with Francois Lebel, M.D.***

*Base Salary.* In 2017, Dr. Lebel received an annual base salary of \$422,300, which is subject to review by the board of directors or the compensation committee at least annually. The board did not increase Dr. Lebel's base salary for 2018.

*Annual Performance Bonus.* Dr. Lebel is eligible to receive an annual bonus based on his performance as determined by the board or the compensation committee. For 2017, the board adopted the compensation committee's recommendations for end-of-year cash bonuses pursuant to which Dr. Lebel received a cash bonus of \$147,805.

*Equity Incentive Grants.* Effective as of December 29, 2017, the board adopted the compensation committee's recommendations for 2017 end-of-year awards of restricted stock and grants of stock options under our 2012 Equity Plan pursuant to which Dr. Lebel was awarded 117,000 shares of restricted common stock, which restricted stock vests in equal annual installments over three years commencing on the

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one-year anniversary of the grant date. The vesting of certain of Dr. Lebel's equity awards may be accelerated if Dr. Lebel's employment with us is terminated under certain circumstances. See *Severance Provisions* and *Potential Payments Upon Termination or Change in Control* below for further information regarding Dr. Lebel's severance benefits.

*Severance Provisions.* If Dr. Lebel is terminated by us for a reason other than for *Cause* (as that term is defined in his severance agreement), or other than for retirement, death or disability, Dr. Lebel will be entitled to receive a severance payment in a single lump sum equal to six months of his then-current annualized base salary, subject to Dr. Lebel's execution and delivery of a general release in favor of us.

### ***Employment Relationship with Kevin G. Lafond***

*Base Salary.* In 2017, Mr. Lafond received an annual base salary of \$275,000, which is subject to review by the board of directors or the compensation committee at least annually. The board increased Mr. Lafond's base salary to \$283,250 for 2018.

*Annual Performance Bonus.* Mr. Lafond is eligible to receive an annual bonus based on his performance as determined by the board or the compensation committee. For 2017, the board adopted the compensation committee's recommendations for end-of-year cash bonuses pursuant to which Mr. Lafond received a cash bonus of \$84,219.

*Equity Incentive Grants.* Mr. Lafond is eligible to receive equity awards as determined by the board in its sole discretion from time to time. Effective as of December 29, 2017, the board adopted the compensation committee's recommendations for 2017 end-of-year awards of restricted stock and grants of stock options under our 2012 Equity Plan pursuant to which Mr. Lafond was awarded 53,000 shares of restricted common stock, which restricted stock vests in equal annual installments over three years commencing on the one-year anniversary of the grant date. The vesting of certain of Mr. Lafond's equity awards may be accelerated if Mr. Lafond's employment with us is terminated under certain circumstances. See *Severance Provisions* and *Potential Payments Upon Termination or Change in Control* below for further information regarding Mr. Lafond's severance benefits.

*Severance Provisions.* If Mr. Lafond is terminated by us for a reason other than for *Cause* (as that term is defined in his severance agreement), or other than for retirement, death or disability, Mr. Lafond will be entitled to receive a severance payment in a single lump sum equal to six months of his then-current annualized base salary, subject to Mr. Lafond's execution and delivery of a general release in favor of us.

### ***Amended and Restated Employment Agreement and Separation Agreement with Caesar J. Belbel***

Mr. Belbel served as our Executive Vice President, Chief Legal Officer and Secretary from September 6, 2011 to February 15, 2018, and as our Chief Operating Officer from June 1, 2015 to November 6, 2017. We entered into an employment agreement with Mr. Belbel on September 6, 2011, which was amended and restated on June 1, 2015, in connection with his appointment as our Chief Operating Officer. In connection with his departure from us on February 15, 2018, we entered into a separation agreement with Mr. Belbel, as discussed further below under *Separation Agreement*.

*Base Salary.* Under his amended and restated employment agreement, Mr. Belbel received an initial annual base salary of \$375,000, subject to review of the board of directors or the compensation committee at least annually, provided that the base salary would not be subject to reduction. The board did not increase Mr. Belbel's base salary for 2018.

*Annual Performance Bonus.* While he served as our Executive Vice President, Chief Legal Officer and Secretary, Mr. Belbel was eligible under his amended and restated employment agreement to receive an annual bonus based on his performance as determined by the board or the compensation committee. The target amount of the annual performance bonus was 100% of his base salary, with the actual amount to be received determined by the board or the compensation committee. Mr. Belbel was also eligible to receive an additional annual discretionary bonus in such amount as may be determined by the board. For 2017, the board adopted the compensation committee's recommendations for end-of-year cash bonuses pursuant to which Mr. Belbel received a cash bonus of \$328,125.

*Equity Incentive Grants.* While he served as our Executive Vice President, Chief Legal Officer and Secretary, Mr. Belbel was eligible under his amended and restated employment agreement to receive equity awards as determined by the board in its sole discretion from time to time. Effective as of December 29, 2017, the board adopted the compensation committee's recommendations for 2017 end-of-year awards of restricted stock and grants of stock options under our 2012 Equity Plan pursuant to which Mr. Belbel was awarded 87,000 shares of restricted stock.

*Non-competition and Non-solicitation.* Mr. Belbel entered into an Invention, Non-Disclosure and Non-Competition Agreement, which provided that he would not compete with us or solicit our clients or customers for a year after the termination or cessation of his employment with us, and further provided that he would not solicit our employees for two years after the termination or cessation of his employment with us.

*Separation Agreement.* In connection with his departure from the Company on February 15, 2018, we entered into a separation agreement with Mr. Belbel. Pursuant to the terms of the separation agreement, among other things, (i) we agreed to pay to Mr. Belbel a severance payment of \$375,000, which is equal to 100% of his annual base salary at the time of his departure, (ii) we agreed to pay to Mr. Belbel an additional severance payment of \$47,260.27, which is equal to his 2018 target bonus amount, prorated based upon the number of days he worked in 2018, (iii) we agreed to pay the employer portion of the premium cost of COBRA continuation coverage for Mr. Belbel and his dependents for twelve months following his separation, if he so elects, (iv) all unvested shares of restricted stock and all unvested stock options held by Mr. Belbel as of February 15, 2018 were accelerated and deemed to have fully vested as of such date and (v) the post-separation exercise period of all vested stock options held by Mr. Belbel was extended to twelve months following his separation date.

**Table of Contents***Potential Payments Upon Termination or Change in Control*

The following table sets forth estimated compensation that would have been payable to each of our named executive officers as severance or upon a change in control of the Company under three alternative scenarios, assuming the termination triggering severance payments or a change in control took place on December 29, 2017, the last business day of our fiscal year ended December 31, 2017.

Name and Principal Position	Cash Payment (\$) <sup>(1)</sup>	Accelerated Vesting of Stock Options (\$) <sup>(2)</sup>	Accelerated	Welfare Benefits (\$) <sup>(4)</sup>	Total (\$)
			Vesting of Restricted Stock Awards (\$) <sup>(3)</sup>		
<b>Laurence James Neil Cooper, M.D., Ph.D.</b>					
Termination without cause or with good reason prior to change in control	1,500,000		3,587,306	20,438	5,107,744
Change in control only					
Change in control with termination without cause or good reason	1,500,000		3,587,306	20,438	5,107,744
<b>David M. Mauney, M.D.</b>					
Termination without cause or with good reason prior to change in control	200,000			10,359	210,359
Change in control only					
Change in control with termination without cause or good reason	200,000			10,359	210,359
<b>Francois Lebel, M.D.</b>					
Termination without cause or with good reason prior to change in control	211,150		830,343	10,359	1,051,852
Change in control only			830,343		830,343
Change in control with termination without cause or good reason	211,150		830,343	10,359	1,051,852
<b>Kevin G. Lafond</b>					
Termination without cause or with good reason prior to change in control	137,500			10,359	150,331
Change in control only					
Change in control with termination without cause or good reason	137,500		473,657	10,359	623,998
<b>Caesar J. Belbel<sup>(5)</sup></b>					
Termination without cause or with good reason prior to change in control	750,000		779,285	14,562	1,543,847
Change in control only			779,285		779,285
Change in control with termination without cause or good reason	750,000		779,285	14,562	1,543,847

(1) Amounts shown reflect payments based on salary and bonus as well as payment of estimated cost of life, disability and accident insurance benefits during the agreement period.



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- (2) Amounts shown represent the value of unvested stock options upon the applicable triggering event described in the first column. The value of stock options is based on the difference between the exercise price of the options and \$4.14, which was the closing price of our common stock on the Nasdaq Capital Market on December 29, 2017, the last trading day of 2017.
- (3) Amounts shown represent the value of unvested restricted stock awards upon the applicable triggering event described in the first column, based on the closing price of our common stock on the Nasdaq Capital Market on December 29, 2017, the last trading day of 2017.
- (4) Amounts shown represent the estimated cost of providing employment-related benefits during the agreement period.
- (5) As described above, amounts shown represent the value that would have been payable to Mr. Belbel assuming the applicable trigger event took place on December 29, 2017. Mr. Belbel ceased serving as an employee of the Company as of February 15, 2018 and received severance payments pursuant to his separation agreement, as described above under Separation Agreement.

## **Pay Ratio Disclosure**

Under SEC rules, we are required to calculate and disclose the annual total compensation of our median employee, as well as the ratio of the annual total compensation of our median employee as compared to the annual total compensation of our Chief Executive Officer, Laurence J.N. Cooper, M.D., Ph.D., for our last fiscal year. To identify our median employee, as permitted under SEC rules, we used the following methodology:

To determine our total population of employees, we included all our employees as of December 29, 2017 regardless of their FTE schedule or anticipated employment duration and all individuals classified by us as independent contractors for tax reporting and employee benefits eligibility purposes but whose compensation we arguably control.

To identify our median employee from our employee population, excluding our Chief Executive Officer, we calculated the total direct compensation paid as of December 29, 2017. Total direct compensation included 2017 base salary, actual annual bonus paid for 2017 performance (paid in December) and the fair value of stock options and/or restricted stock awards granted during 2017 (using the same methodology we use for estimating the value of the equity awards granted to our named executive officers and reported in our Summary Compensation Table). For part-time employees and/or independent contractors, we used actual compensation paid as of December 29, 2017.

Using this approach to determine the median employee, we then calculated the annual total compensation of this employee for 2017 using the same methodology we used for calculation of annual total compensation of our named executive officers in accordance with the requirements of the Summary Compensation Table. For the fiscal year ended December 31, 2017, the median of the annual total compensation of our employees (other than our Chief Executive Officer) was \$177,922 and the annual total compensation of our Chief Executive Officer, as reported in our 2017 Summary Compensation Table, was \$2,894,244. Based on this information, the ratio of the annual total compensation of our Chief Executive Officer to the median of the annual total compensation of all our employees was 16.3 to 1. We believe this ratio is a reasonable estimate calculated in a manner consistent with Item 402(u) of Regulation S-K under the Exchange Act.



Table of Contents**DIRECTOR COMPENSATION****Compensatory Arrangements with Outside Directors**

Under our director compensation policy, each non-employee director is entitled to the following:

an annual retainer fee of \$40,000 for service on the board; and

additional annual retainer fees for board committee service as follows:

	<b>Chair</b>	<b>Other Member</b>
Audit Committee	\$ 15,000	\$ 8,000
Compensation Committee	12,500	7,000
Corporate Governance and Nominating Committee	8,500	5,000

The non-executive Lead Director also receives further annualized cash compensation of \$15,000. All cash retainers are paid on a quarterly basis in arrears to non-employee directors who continue to serve as members of the board on the last business day of each calendar quarter.

At the end of each calendar year, each non-employee director receives annual equity incentive grants comprised of restricted shares of our common stock and/or options to purchase shares of our common stock. The number of restricted shares and options comprising each grant is determined by the board prior to the end of each calendar year upon recommendation from the compensation committee. On December 29, 2017, the board determined to make an annual equity incentive grant to each non-employee director of, at each director's election, either options to purchase 25,000 shares of our common stock with an exercise price of \$4.14 per share, the fair market value of our common stock on the grant date, or such number of restricted shares of our common stock with a value equal to the foregoing options to purchase 25,000 shares of our common stock using the Black-Scholes methodology. Mr. Tarriff and Mr. Kirk elected to receive an option to purchase 25,000 shares of our common stock. Drs. Brennan and Weiser, Senator Fowler and Mr. Cannon each elected to receive 17,258 shares of restricted stock. The stock options vest on the one-year anniversary of the grant date and the restricted stock is subject to transfer and forfeiture restrictions that lapse on the one-year anniversary of the grant date.

In addition, effective upon a director's initial election to the board, he or she receives, at the director's option, either an option to purchase 25,000 shares of our common stock (pro-rated for partial years of service) with an exercise price equal to the fair market value of the common stock on the grant date, or such number of restricted shares of our common stock with a value equal to the foregoing option to purchase 25,000 shares of our common stock (or such pro-rated amount) using the Black-Scholes methodology. The restricted stock are subject to transfer and forfeiture restrictions that lapse on December 31 of the year in which such restricted stock is granted and the stock option vests according to the same schedule.

As set forth in its written charter, the compensation committee annually reviews director compensation practices in consultation with the Company's compensation consultant and recommends any changes for adoption by the full board. As such, the director compensation described above is subject to change at the discretion of the board.

**2017 Non-Employee Director Compensation**

The following table provides information regarding non-employee director compensation for 2017.

Name	Fees Earned or Paid in			Total (\$)
	Cash (\$)	Option Awards <sup>(1)</sup> (\$)	Stock Awards <sup>(1)</sup> (\$)	
Murray Brennan, M.D.	\$ 70,500	\$	\$ 71,448	\$ 141,948
James A. Cannon	\$ 58,000	\$	\$ 71,448	\$ 129,448
Wyche Fowler, Jr.	\$ 54,000	\$	\$ 71,448	\$ 125,448
Randal J. Kirk	\$ 40,000	\$ 72,178	\$	\$ 112,178
Michael Weiser, M.D., Ph.D. <sup>(2)</sup>	\$ 66,500	\$	\$ 71,448	\$ 137,948
Scott Tarriff	\$ 56,000	\$ 72,178	\$	\$ 128,178

- (1) The amounts shown represent compensation expense recognized for financial statement purposes under ASC Topic 718. Pursuant to SEC rules, the amounts shown exclude the impact of estimated forfeitures related to service-based vesting conditions. For a discussion of the assumptions relating to our valuations of these restricted stock awards and stock options, please see Note 3 to the financial statements included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2017 filed with the SEC on March 1, 2018. These amounts reflect our accounting expense for these restricted stock awards and stock options and do not correspond to the actual value that may be recognized by the directors. As of December 31, 2017:

Dr. Brennan held options to purchase 167,500 shares at a weighted average exercise price of \$4.18 per share, of which 167,500 shares had vested. In addition, Dr. Brennan held 56,252 shares of restricted stock, of which 38,994 shares have had transfer and forfeiture restrictions lapse.

Mr. Cannon held options to purchase 67,500 shares at a weighted average exercise price of \$3.72 per share, of which 67,500 shares had vested. In addition, Mr. Cannon held 170,642 shares of restricted stock, of which 153,384 shares have had transfer and forfeiture restrictions lapse.

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Senator Fowler held options to purchase 92,500 shares at a weighted average exercise price of \$3.91 per share, of which 92,500 shares had vested. In addition, Senator Fowler held 142,920 shares of restricted stock, of which 125,662 shares have had transfer and forfeiture restrictions lapse.

Mr. Kirk held options to purchase 50,000 shares at a weighted average exercise price of \$4.68 per share, of which 25,000 shares had vested. In addition, Mr. Kirk held 139,513 shares of restricted stock, of which 139,513 shares have had transfer and forfeiture restrictions lapse.

Dr. Weiser held options to purchase 117,500 shares at a weighted average exercise price of \$4.14 per share, of which 117,500 shares had vested. In addition, Dr. Weiser held 119,941 shares of restricted stock, of which 102,233 shares have had transfer and forfeiture restrictions lapse.

Mr. Tarriff held options to purchase 90,000 shares at a weighted average exercise price of \$6.33 per share, of which 65,000 shares had vested. In addition, Mr. Tarriff held 4,186 shares of restricted stock, of which 4,186 shares have had transfer and forfeiture restrictions lapse.

(2) Dr. Weiser resigned from the board of directors and all committees thereof on March 12, 2018.

**Table of Contents****Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters  
Securities Authorized for Issuance under Equity Compensation Plans**

Our Amended and Restated 2003 Stock Option Plan, or the 2003 Plan, and our 2012 Stock Option Plan, as amended, or the 2012 Plan, are our only equity compensation plans approved by our stockholders. The following table sets forth certain information as of December 31, 2017 with respect to the 2003 and 2012 Plans:

<b>Plan Category</b>	<b>Number of Securities to be Issued Upon Exercise of Outstanding Options (A)</b>	<b>Weighted-Average Exercise Price of Outstanding Options (B)</b>	<b>Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (A)) (C)</b>
<b>Equity compensation plans approved by stockholders:</b>			
2003 Stock Option Plan	674,167	\$ 4.31	
2012 Stock Option Plan	3,177,968	5.30	303,928
Total:	3,852,135	\$ 5.12	303,928
<b>Equity compensation plans not approved by stockholders:</b>			
Inducement Award	500,000 <sup>(1)</sup>	\$ 6.19	
Total:	500,000	\$ 6.19	

(1) On September 28, 2017, 500,000 shares were granted as part of an inducement award outside of the 2012 Plan.

**Table of Contents****STOCK OWNERSHIP****Directors, Officers and Principal Stockholders**

The following table sets forth information with respect to the beneficial ownership of common stock as of April 17, 2018 for:

each beneficial owner of more than five percent of our outstanding common stock;

each of our current directors and named executive officers; and

all of our current directors and executive officers as a group.

Beneficial ownership is determined in accordance with the rules of the SEC. These rules generally attribute beneficial ownership of securities to persons who possess sole or shared voting power or investment power with respect to those securities, or have the right to acquire such powers within 60 days. Common stock subject to options that are currently exercisable or exercisable within 60 days of April 17, 2018 are deemed to be outstanding and beneficially owned by the person holding the options. These shares, however, are not deemed outstanding for the purposes of computing the percentage ownership of any other person. Except as otherwise indicated, all persons listed below have sole voting and investment power with respect to the shares beneficially owned by them, subject to applicable community property laws. Percentage ownership calculations are based on 142,651,612 shares outstanding as of April 17, 2018. Addresses of individuals are in care of Ziopharm Oncology, Inc., One First Avenue, Parris Building 34, Navy Yard Plaza, Third Floor, Boston, Massachusetts 02129.

<b>Name and Address of Beneficial Owner</b>	<b>Outstanding Shares Beneficially Owned</b>	<b>Right to Acquire Within 60 Days of April 17, 2018</b>	<b>Total Shares Beneficially Owned</b>	<b>Percentage</b>
<b>5% Stockholders:</b>				
BlackRock, Inc. <sup>(1)</sup>	8,499,209		8,499,209	6.0
The Vanguard Group <sup>(2)</sup>	8,492,365		8,492,365	6.0
<b>Directors and Named Executive Officers:</b>				
Randal J. Kirk	9,709,607 <sup>(3)</sup>	25,000	9,734,607	6.8
Murray Brennan	72,620	167,500	240,120	*
James A. Cannon	387,365	67,500	454,865	*
Wyche Fowler, Jr.	156,446	92,500	248,946	*
Scott Tarriff	4,186	65,000	69,186	*
Laurence James Neil Cooper, M.D., Ph.D.	1,389,396		1,389,396	*
David M. Mauney, M.D.	58,662		58,662	*
Francois Lebel, M.D.	200,566	380,000	580,566	*
Kevin G. Lafond	88,534	221,667	310,201	*
Caesar J. Belbel <sup>(4)</sup>	19,201	751,667	770,868	*

All of our current directors and executive officers as a group (9 persons) <sup>(5)</sup>	12,067,382	1,019,167	13,086,549	9.1
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\* Less than one percent.

- (1) Based solely on the Schedule 13G/A filed with the SEC on January 23, 2018, BlackRock, Inc., as a parent holding company, is the beneficial owner of 8,499,209 shares and has sole voting power with respect to 8,245,887 shares and sole investment power with respect to 8,499,209 shares. Aggregate beneficial ownership reported by BlackRock, Inc. is on a consolidated basis and includes beneficial ownership of its subsidiaries Blackrock (Netherlands) B.V., BlackRock Advisors, LLC, BlackRock Asset Management Canada Limited, BlackRock Asset Management Ireland Limited, BlackRock Asset Management Schweiz AG, BlackRock Financial Management, Inc., BlackRock Fund Advisors, BlackRock Institutional Trust Company, N.A., BlackRock Investment Management (Australia) Limited, BlackRock Investment Management (UK) Ltd., BlackRock Investment Management, LLC, BlackRock Japan Co Ltd and FutureAdvisor, Inc.
- (2) Based solely on the Schedule 13G/A filed with the SEC on February 9, 2018, The Vanguard Group, Inc., an investment adviser, is the beneficial owner of 8,492,365 shares and has sole voting power with respect to 257,262 shares, shared voting power with respect to 6,295 shares, sole investment power with respect to 8,241,120 shares and shared investment power with respect to 251,245 shares. Vanguard Fiduciary Trust Company, or VFTC, a wholly-owned subsidiary of The Vanguard Group, Inc., is the beneficial owner of 244,950 shares as a result of its serving as investment manager of collective trust accounts. VFTC directs the voting power of these shares. Vanguard Investments Australia, Ltd., or VIA, a wholly-owned subsidiary of The Vanguard Group, Inc., is the beneficial owner of 18,607 shares as a result of its serving as investment manager of Australian investment offerings. VIA directs the voting power of these shares.
- (3) Consists of (i) 139,513 shares over which Randal J. Kirk has sole voting and dispositive power and (ii) 9,570,094 shares held by the following entities (collectively, the Entities): R.J. Kirk DOT (3,479,685 shares), JPK 2008 (23,349 shares), MGK 2008 (23,504 shares), ZSK 2008 (40,954 shares), Lotus (240 shares), JPK 2009 (337,333 shares), MGK 2009 (358,386 shares), ZSK 2009 (34,318 shares), ADC 2010 (29,066 shares), MGK 2011 (154,181 shares), JPK 2012 (138,975 shares), Kellie L.

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Banks LTT (61,262 shares), Kapital Joe (2,359,608 shares), Mascara Kaboom (889,513 shares), Staff 2001 (53,245 shares), Sr. Staff (9,537 shares), Senior Staff 2007 (352,477 shares), Staff 2007 (176,238 shares), Incentive 2007 (58,746 shares), Senior Staff 2008 (395,791 shares), Staff 2009 (173,111 shares), Incentive 2009 (86,556 shares), Staff 2010 (222,680 shares) and Incentive 2010 (111,339 shares). Mr. Kirk could be deemed to have indirect beneficial ownership of the shares directly beneficially owned by the Entities.

- (4) Mr. Belbel's employment with us terminated on February 15, 2018.
- (5) Consists of shares beneficially owned by our current directors and current executive officers, which does not include shares beneficially owned by Mr. Belbel.

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***Item 13. Certain Relationships and Related Transactions, and Director Independence***

**CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS**

The following discussion relates to certain transactions that involve both the Company and one of our executive officers, directors, director nominees or five-percent stockholders, each of whom we refer to as a related party. For purposes of this discussion, a related-party transaction is a transaction, arrangement or relationship:

in which we participate;

that involves an amount in excess of \$120,000; and

in which a related party has a direct or indirect material interest.

**Related-Party Transaction Policy**

In April 2012, the board of directors adopted our initial written policies and procedures for the review of any related-party transaction. If a related party proposes to enter into a related-party transaction, the related party must report the proposed related-party transaction to the chief legal officer. The policy calls for the proposed related-party transaction to be reviewed and, if deemed appropriate, approved by the audit committee. Whenever practicable, the review and approval by the audit committee will occur prior to entry into the related-party transaction. If advance review and approval is not practicable, the audit committee will review, and, in its discretion, may ratify the related-party transaction. The policy also permits the chair of the audit committee to review and, if deemed appropriate, approve proposed related-party transactions that arise between audit committee meetings, subject to ratification by the audit committee at its next meeting. Any related-party transactions that are ongoing in nature will be reviewed annually.

A related-party transaction reviewed under the policy will be considered approved or ratified if it is authorized by the committee after full disclosure of the related party's interest in the transaction. As appropriate for the circumstances, the committee will review and consider:

the related party's interest in the related-party transaction;

the approximate dollar value of the amount involved in the related-party transaction;

the approximate dollar value of the amount of the related party's interest in the transaction without regard to the amount of any profit or loss;

whether the transaction was undertaken in the ordinary course of our business;

whether the terms of the transaction are no less favorable to us than terms that could have been reached with an unrelated third party;

the purpose of, and the potential benefits to us of, the transaction; and

any other information regarding the related-party transaction or the related party in the context of the proposed transaction that would be material to investors in light of the circumstances of the particular transaction.

The audit committee may approve or ratify the transaction only if the audit committee determines that, under all of the circumstances, the transaction is in or is not inconsistent with our best interests. The audit committee may impose any conditions on the related-party transaction that it deems appropriate.

In addition to the transactions that are excluded by the instructions to the SEC's related-party transaction disclosure rule, the board has determined that the following transactions do not create a material direct or indirect interest on behalf of related parties and, therefore, are not related-party transactions for purposes of the policy:

interests arising solely from the related party's position as an executive officer of another entity (whether or not the person is also a director of such entity) that is a participant in the transaction, where (a) the related party and all other related parties own in the aggregate less than a 10% equity interest in such entity, (b) the related party and his or her immediate family members are not involved in the negotiation of the terms of the transaction and do not receive any special benefits as a result of the transaction, and (c) the amount involved in the transaction is less than the greater of \$200,000 and 5% of the annual gross revenues of the Company receiving payment in the transaction; and

a transaction that is specifically contemplated by provisions of our charter or bylaws.

The policy provides that transactions involving compensation of executive officers shall be reviewed and approved by the compensation committee.

### **Certain Related-Party Transactions**

#### *Transactions with MD Anderson*

On January 13, 2015, we, together with Intrexon (now Precigen, a wholly owned subsidiary of Intrexon), entered into a license agreement with MD Anderson, which we refer to as the MD Anderson License. Pursuant to the MD Anderson License, we and Precigen hold an

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exclusive, worldwide license to certain technologies owned and licensed by MD Anderson including technologies relating to novel CAR-T cell therapies arising from the laboratory of Laurence Cooper, M.D., Ph.D., our Chief Executive Officer and was formerly a tenured professor of pediatrics at MD Anderson and now currently a visiting scientist under the institution's policies, as well as either co-exclusive or non-exclusive licenses under certain related technologies.

Pursuant to the terms of the MD Anderson License, MD Anderson received consideration of \$50 million in shares of our common stock (or 10,124,561 shares) and \$50 million in shares of Intrexon's common stock, in each case based on a trailing 20-day volume-weighted average of the closing price of our and Intrexon's common stock, respectively, ending on the date prior to the announcement of the entry into the MD Anderson License, collectively referred to as the License Shares. On January 9, 2015, in order to induce MD Anderson to enter into the MD Anderson License on an accelerated schedule, we and Intrexon entered into our previously disclosed letter agreement, or the MD Anderson Letter Agreement, pursuant to which MD Anderson received consideration of \$7.5 million in shares of our common stock (or 1,597,602 shares) and \$7.5 million in shares of Intrexon's common stock, in each case based on a trailing 20-day volume-weighted average of the closing price of our and Intrexon's common stock, respectively, ending on the date prior to the MD Anderson Letter Agreement, collectively referred to as the Incentive Shares, if the MD Anderson License was entered into on or prior to 8:00 am Pacific time on January 14, 2015. In partial consideration for and in furtherance of the foregoing transactions, we also entered into a Securities Issuance Agreement, which we refer to as the License Shares Securities Issuance Agreement, another Securities Issuance Agreement, which we refer to as the Incentive Shares Securities Issuance Agreement, and a Registration Rights Agreement, which we refer to as the MD Anderson Registration Rights Agreement, with MD Anderson on January 13, 2015, each of which have been previously disclosed.

MD Anderson had a pre-existing policy of splitting the net proceeds of certain transactions involving the transfer of intellectual property of MD Anderson with the creators of such intellectual property. In accordance with such policy, upon the sale by MD Anderson of all or any portion of the License Shares or the Incentive Shares, a portion of the proceeds of such sale will be first used to pay third party contractual commitments and expenses of MD Anderson, and the remainder of such proceeds shall be allocated 50% to MD Anderson and 50% to the creators of the intellectual property underlying the MD Anderson License, which we refer to as the Creators, one of whom is our Chief Executive Officer, Dr. Cooper. Pursuant to a memorandum among MD Anderson and the Creators dated March 13, 2015, Dr. Cooper is entitled to approximately 64.8% of such aggregate proceeds allocated to the Creators. Pursuant to an Investment Management Services Agreement with MD Anderson, the University of Texas Investment Management Co., or UTIMCO, an institutional investment advisor, is authorized to exercise investment discretion and voting power with respect to such shares on behalf of MD Anderson. Accordingly, Dr. Cooper has no voting power, investment power or control over if or when the License Shares or the Incentive Shares will be sold, if ever, or the timing of the receipt of the proceeds, if any, from the sale of such shares.

*Transactions with Ares Trading*

On March 27, 2015, we, together with Intrexon (now Precigen), entered into a worldwide License and Collaboration Agreement with ARES Trading S.A., a company within the pharmaceutical business of Merck KGaA, Darmstadt, Germany, through which the parties established a collaboration for the research and development and commercialization of products for the prophylactic, therapeutic, palliative or diagnostic use for cancer in humans. Pursuant to the agreement and the Second Amendment to Exclusive Channel Partner Agreement with Precigen described below, we and Precigen will receive an aggregate of \$115 million in cash in upfront consideration, potential payments for development and commercial milestones on products produced under the agreement (up to \$826 million of such milestones for the first two products), and potential royalty payments based on net sales of products produced under the agreement.

*Transactions with Intrexon*

On January 12, 2011, Mr. Randal Kirk was appointed to our board of directors and is currently one of our principal stockholders, beneficially owning approximately 6.8% of our common stock as of April 17, 2018. Mr. Kirk serves as Chief Executive Officer of Intrexon, with which we entered into an Exclusive Channel Partner Agreement, or the Channel Agreement, on January 6, 2011. In partial consideration for entering into the Channel Agreement, we also entered into a Stock Purchase Agreement and Registration Rights Agreement with Intrexon on January 6, 2011.

*Channel Agreement*

The Channel Agreement governs a channel partnering arrangement in which we will use Intrexon's (now Precigen's) technology directed towards in vivo expression of effectors in connection with the development of clinical-stage product candidates and generally to research, develop and commercialize products, in each case in which DNA is administered to humans for expression of anti-cancer effectors for the purpose of treatment or prophylaxis of cancer. The Channel Agreement grants us a worldwide license to use specified patents and other intellectual property of Precigen in connection with the research, development, use, importing, manufacture, sale, and offer for sale of products involving DNA administered to humans for expression of anti-cancer effectors for the purpose of treatment or prophylaxis of cancer, or the Ziopharm Products. Such license is exclusive with respect to any clinical development, selling, offering for sale or other commercialization of Ziopharm Products, and otherwise is non-exclusive. Subject to limited exceptions, we may not sublicense the rights described without Precigen's written consent.

Subject to certain expense allocations and other offsets provided in the Channel Agreement, we were originally required pay to Intrexon (now Precigen) 50% of the cumulative net quarterly profits derived from the sale of Ziopharm Products, calculated on a Ziopharm Product-by-Ziopharm Product basis, and are now required to pay to Precigen 20% (which such percentage was originally 50%) of such net quarterly profits per the terms of an amendment described below. We have also agreed to pay Precigen 50% of quarterly revenue obtained from a sublicensor in the event of a sublicensing arrangement.

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During the years ended December 31, 2017, 2016, and 2015, we expensed \$21.4 million, \$22.2 million, and \$16.3 million, respectively, for services performed by Intrexon. As of December 31, 2017 and 2016, the Company recorded \$6.8 million and \$3.4 million, respectively, in current liabilities on its balance sheet for amounts due to Intrexon.

On March 27, 2015, we and Intrexon (now Precigen) entered into a Second Amendment to Exclusive Channel Partner Agreement amending the Channel Agreement. The amendment modified the scope of the parties' collaboration under the Channel Agreement in connection with the license and collaboration agreement with Ares Trading, described above. The amendment provided that Intrexon (now Precigen) will pay to the Company fifty percent of all payments that Precigen receives for upfronts, milestones and royalties under the Ares Trading License and Collaboration Agreement, described above.

On June 29, 2016, we and Intrexon (now Precigen) entered into a Third Amendment to Exclusive Channel Partner Agreement, or the Third Amendment, further amending the Channel Agreement. The Third Amendment reduced the royalty percentage that we will pay Precigen on a quarterly basis from fifty percent to twenty percent of net profits derived in that quarter from the sale of products developed under the Channel Agreement, calculated on a Ziopharm Product-by-Ziopharm Product basis, subject to certain expense allocations and other offsets provided in the Channel Agreement.

### *Channel Agreement for Graft-Versus-Host Disease*

In September 2015, we entered into an agreement with Intrexon (now Precigen) to pursue, through collaboration, the potential treatment and prevention of graft versus host disease, or GvHD. As a result of an in-depth review of our research and development portfolio, we determined that the pursuit of GvHD as an indication was not a material part of our corporate strategy and therefore have decided to stop pursuing the development of engineered cell therapy strategies, used either separately or in combination, for targeted treatment of GvHD. We have reverted our rights under the GvHD program back to Precigen and are in the process of winding down the related activities. We made this decision to focus our efforts and resources on the development of our Controlled IL-12 and Sleeping Beauty platforms for the treatment of oncology indications.

### *Preferred Shares Securities Issuance Agreement*

On June 29, 2016, in consideration for the execution and delivery of the Third Amendment and the Collaboration Amendment, we and Intrexon entered into a Securities Issuance Agreement, or the Preferred Shares Securities Issuance Agreement, pursuant to which we agreed to issue and sell 100,000 shares of our newly designated Series 1 Preferred Stock. Each share of Series 1 Preferred Stock, which we refer to as the Preferred Shares, has a stated value of \$1,200, subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other recapitalization with respect to the Preferred Shares. As the holder of the Preferred Shares, Intrexon receives a monthly dividend, payable in additional Preferred Shares, equal to \$12.00 per Preferred Share held by Intrexon per month divided by the stated value of the Preferred Shares, rounded down to the nearest whole share. The rights, preferences, privileges, restrictions and other matters relating to the Preferred Shares are set forth in a Certificate of Designation, Preferences and Rights of Series 1 Preferred Stock which we filed with the Secretary of State of the State of Delaware on June 29, 2016.

We and Intrexon agreed pursuant to the terms of the Preferred Shares Securities Issuance Agreement that the holders of common stock issued upon the conversion of the Issued Shares shall be entitled to piggy-back registration rights with respect to any common stock registered by us following such conversion.

*Stock Purchase Agreement and Registration Rights Agreement*

On January 12, 2011, and pursuant to the Stock Purchase Agreement, Intrexon purchased 2,426,235 shares of our common stock in a private placement for a total purchase price of \$11,645,928. We simultaneously issued to Intrexon for no additional consideration an additional 3,636,926 shares of our common stock. Under the terms of the Stock Purchase Agreement, we agreed to issue to Intrexon an additional 3,636,926 shares of our common stock for no additional consideration under certain conditions upon dosing of the first patient in a Ziopharm-conducted U.S. Phase 2 clinical trial of a product candidate created, produced or developed by us using Intrexon technology. These shares were issued on November 7, 2012, and when issued, the purchase price for such shares was equal to the \$0.001 par value of such shares, which price was deemed paid in partial consideration for the execution and delivery of the Channel Agreement, in accordance with the terms of the Stock Purchase Agreement. Pursuant to the Registration Rights Agreement, on May 18, 2011 we filed a registration statement with the SEC registering the resale of the shares that we have issued or may issue to Intrexon under the Stock Purchase Agreement.

Also under the Stock Purchase Agreement, Intrexon has agreed that, subject to certain conditions and restrictions and limitations, it will purchase our securities in conjunction with qualified securities offerings that we conduct while the Channel Agreement remains in effect. In conjunction with a particular qualified offering, Intrexon has committed to purchase up to 19.99% of the securities offering and sold therein (exclusive of Intrexon's purchase) if requested to do so by us. However, Intrexon will not be obligated to purchase securities in a qualified securities offering unless we are then in substantial compliance with our obligations under the Channel Agreement and, with respect to a qualified securities offering that is completed following January 6, 2012, we confirm our intent that 40% of the offering's net proceeds shall have been spent, or in the next year will be spent, by us under the Channel Agreement. In the case of a qualified securities offering that is completed after January 6, 2013, Intrexon's purchase commitment is further limited to an amount equal to one-half of the proceeds spent or to be spent by us under the Channel Agreement. Intrexon's aggregate purchase commitment for all future qualified offerings was initially capped at \$50.0 million. We and Intrexon subsequently amended the Stock Purchase Agreement to clarify that gross proceeds from the sale of our securities to Intrexon in a qualified offering will apply against Intrexon's \$50.0 million purchase commitment

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regardless of whether Intrexon participates voluntarily or at our request. Intrexon's aggregate commitment under the Stock Purchase Agreement was subsequently reduced from \$50.0 million to \$43.5 million pursuant to the Second Amendment to Exclusive Channel Partner Agreement that the parties entered into on March 27, 2015 described above. As of the date of the amendment, Intrexon had purchased the full \$43.5 million of our common stock and has satisfied its purchase commitment to us in full.

### *Public Offering Participation*

In February 2011, we completed a registered public offering of common stock in which Intrexon purchased 1,190,000 shares at a purchase price of \$5.57 per share, for an aggregate purchase price of approximately \$10.6 million. In February 2012, we completed a registered public offering of common stock in which Intrexon purchased 1,923,075 shares at a purchase price of \$5.20 per share, for an aggregate purchase price of approximately \$10.0 million. In October 2013, we completed a registered public offering of common stock in which Intrexon purchased 2,857,143 shares at a purchase price of \$3.50 per share, for an aggregate purchase price of approximately \$10.0 million. In February 2015, we completed a registered public offering of common stock in which Intrexon purchased 1,440,000 shares at a purchase price of \$8.75 per share, for an aggregate purchase price of \$12.2 million. As a result of these purchases, and following the entry into the Second Amendment to Exclusive Channel Partner Agreement in March 2015, Intrexon's equity purchase commitment under the Stock Purchase Agreement has been satisfied in full.

## **Employment and Indemnification Agreements**

### *Employment Agreements*

We have entered into employment agreements with certain of our executive officers. See *Executive Compensation Employment and Change in Control Agreements*.

### *Stock Option Grants to Executive Officers and Directors*

We have granted stock options to our executive officers and non-employee directors. See *Executive Compensation and Director Compensation*.

### *Indemnification Agreements with Executive Officers and Directors*

We have entered into an indemnification agreement with each of our directors and executive officers. These indemnification agreements and our certificate of incorporation and our bylaws indemnify each of our directors and officers to the fullest extent permitted by Delaware General Corporation Law. See *Limitation of Liability and Indemnification*.

**Table of Contents****Item 14. Principal Accountant Fees and Services****INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FEES AND OTHER MATTERS****Audit and Related Fees**

RSM US LLP served as our independent registered public accounting firm for the years ended December 31, 2017 and 2016. The following table presents the collective fees billed by RSM US LLP during such years. These audit fees relate to professional services rendered for (a) audits of our financial statements, (b) reviews of our quarterly financial statements and (c) services related to other regulatory filings.

<b>Fee Category</b>	<b>2017</b>	<b>2016</b>
Audit fees	\$ 186,400	\$ 180,500
All other fees	\$ 134,769 <sup>(1)</sup>	\$ 96,500 <sup>(2)</sup>

- (1) \$41,250 of such fees were incurred in connection with the preparation of a registration statement and an annual report by Intrexon that incorporated our financial statements. Intrexon reimbursed us for all such costs. \$93,519 of such fees were incurred in connection with our May 2017 financing and other filings and special accounting services.
- (2) \$19,500 of such fees were incurred in connection with the preparation of a registration statement and an annual report by Intrexon that incorporated our financial statements. Intrexon reimbursed us for all such costs. \$77,000 of such fees were incurred in connection with other filings and special accounting services.

We did not incur any fees of RSM US LLP for audit-related, tax or other services in 2017 or 2016.

**Audit Committee Pre-Approval Policy and Procedures**

The audit committee charter provides that all audit and non-audit accounting services that are permitted to be performed by our independent registered public accounting firm under applicable rules and regulations must be pre-approved by the audit committee or by designated independent members of the audit committee, other than with respect to de minimis exceptions permitted under Section 202 of the Sarbanes-Oxley Act of 2002. All services performed by RSM US LLP in 2017 and 2016 have been pre-approved in accordance with the charter.

Prior to or as soon as practicable following the beginning of each fiscal year, a description of audit, audit-related, tax, and other services expected to be performed by the independent registered public accounting firm in the following fiscal year is presented to the audit committee for approval. Following such approval, any requests for audit, audit-related, tax, and other services not presented and pre-approved must be submitted to the audit committee for specific pre-approval and cannot commence until such approval has been granted. Normally, pre-approval is provided at regularly scheduled meetings. However, the authority to grant specific pre-approval between meetings, as necessary, may be delegated to one or more members of the audit committee who are independent directors. In the event such authority is so delegated, the full audit committee must be updated at the next regularly scheduled meeting with respect to any services that were granted specific pre-approval by delegation. During 2017, the audit committee functioned in conformance with these procedures.

**Table of Contents****PART IV****Item 15. Exhibits, Financial Statement Schedules****(1) Financial Statements:**

Included in Part II, Item 8 of the Annual Report on Form 10-K for the fiscal year ended December 31, 2017 which was originally filed with the SEC on March 1, 2018.

**(2) Financial Statement Schedules:**

Schedules are omitted because they are not applicable, or are not required, or because the information is included in the financial statements and notes thereto.

**(3) Exhibits:**

Exhibit	
No.	Description of Document
2.1	<u>Agreement and Plan of Merger among the Registrant (formerly EasyWeb, Inc. ), ZIO Acquisition Corp. and ZIOPHARM, Inc., dated August 3, 2005 (incorporated by reference to Exhibit 10.1 to the Registrant's Form 8-K, SEC File No. 000-32353, filed August 9, 2005).</u>
3.1	<u>Amended and Restated Certificate of Incorporation, as filed with the Delaware Secretary of State on April 26, 2006 (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K, SEC File No. 000-32353, filed April 26, 2006).</u>
3.2	<u>Certificate of Merger dated September 13, 2005, relating to the merger of ZIO Acquisition Corp. with and into ZIOPHARM, Inc. (incorporated by reference to Exhibit 3.1 to the Registrant's Form 8-K, SEC File No. 000-32353, filed September 19, 2005).</u>
3.3	<u>Certificate of Ownership of the Registrant (formerly EasyWeb, Inc. ) dated as of September 14, 2005, relating the merger of ZIOPHARM, Inc. with and into the Registrant, and changing the Registrant's corporate name from EasyWeb, Inc. to ZIOPHARM Oncology, Inc. (incorporated by reference to Exhibit 3.2 to the Registrant's Form 8-K, SEC File No. 000-32353, filed September 19, 2005).</u>
3.4	<u>Amended and Restated Certificate of Designation, Preferences and Rights of Series 1 Preferred Stock, as filed with the Delaware Secretary of State on July 1, 2016 (incorporated by reference to Exhibit 3.1 to the Registrant's Current Report on Form 8-K/A, SEC File No. 001-33038, filed July 1, 2016).</u>
3.5	<u>Bylaws, as amended to date (incorporated by reference to Exhibit 3.3 to the Registrant's Form 8-K, SEC File No. 000-32353, filed September 19, 2005).</u>
4.1	<u>Specimen common stock certificate (incorporated by reference to Exhibit 4.1 to the Registrant's Registration Statement on Form SB-2, SEC File No. 333-129020, filed October 14, 2005).</u>
4.2	<u>Form of Indenture between the registrant and one or more trustees to be named (incorporated by reference to Exhibit 4.4 to the Registrant's Registration Statement on Form S-3ASR, SEC File</u>



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## Exhibit

No.	Description of Document
4.3	<u>Form of Common Stock Warrant Agreement and Warrant Certificate (incorporated by reference to Exhibit 4.5 to the Registrant's Registration Statement on Form S-3ASR, SEC File No. 333-201826, filed February 2, 2015).</u>
4.4	<u>Form of Preferred Stock Warrant Agreement and Warrant Certificate (incorporated by reference to Exhibit 4.6 to the Registrant's Registration Statement on Form S-3ASR, SEC File No. 333-201826, filed February 2, 2015).</u>
4.5	<u>Form of Debt Securities Warrant Agreement and Warrant Certificate (incorporated by reference to Exhibit 4.7 to the Registrant's Registration Statement on Form S-3ASR, SEC File No. 333-201826, filed February 2, 2015).</u>
4.6	<u>Form of Option for the Purchase of Shares of common stock dated August 30, 2004 and issued to The University of Texas M. D. Anderson Cancer Center (incorporated by reference to Exhibit 4.6 to the Registrant's Annual Report on Form 10-KSB, SEC File No. 000-32353, filed March 20, 2006).</u>
4.7	<u>Schedule identifying Material Terms of Options for the Purchase of Shares of Common Stock (incorporated by reference to Exhibit 4.7 to the Registrant's Annual Report on Form 10-KSB, SEC File No. 000-32353, filed March 20, 2006).</u>
10.1	<u>ZIOPHARM Oncology, Inc. Amended and Restated 2003 Stock Incentive Plan (incorporated by reference to Exhibit 10.1 to the Registrant's Annual Report on Form 10-K SEC File No. 001-33038 filed March 1, 2011).</u>
10.2	<u>Form of Incentive Stock Option Agreement granted under the Registrant's 2003 Stock Option Plan (incorporated by reference to Exhibit 10.8 to the Registrant's Annual Report on Form 10-KSB, SEC File No. 000-32353, filed March 20, 2006).</u>
10.3	<u>Form of Employee Non-Qualified Stock Option Agreement granted under the Registrant's 2003 Stock Option Plan (incorporated by reference to Exhibit 10.9 to the Registrant's Annual Report on Form 10-KSB, SEC File No. 000-32353, filed March 20, 2006).</u>
10.4	<u>Form of Director Non-Qualified Stock Option Agreement granted under the Registrant's 2003 Stock Option Plan (incorporated by reference to Exhibit 10.10 to the Registrant's Annual Report on Form 10-KSB, SEC File No. 000-32353, filed March 20, 2006).</u>
10.5	<u>Form of Restricted Stock Agreement granted under the Registrant's 2003 Stock Option Plan (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K SEC File No. 001-33038 filed December 18, 2007).</u>
10.6	<u>ZIOPHARM Oncology, Inc. 2012 Equity Incentive Plan (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K SEC File No. 001-33038 filed June 26, 2012).</u>
10.7	<u>Form of Restricted Stock Agreement Granted Under the ZIOPHARM Oncology, Inc. 2012 Equity Incentive Plan (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K SEC File No. 001-33038 filed June 26, 2012).</u>
10.8	<u>Form of Option Agreement Granted Under the ZIOPHARM Oncology, Inc. 2012 Equity Incentive Plan (incorporated by reference to Exhibit 10.3 to the Registrant's Current Report on Form 8-K SEC File No. 001-33038 filed June 26, 2012).</u>

- 10.11+ Patent and Technology License Agreement dated August 24, 2004, among ZIOPHARM, Inc. (predecessor to the Registrant), the Board of Regents of the University of Texas System on behalf of the University of Texas M.D. Anderson Cancer Center and the Texas A&M University System (incorporated by reference to Exhibit 10.5 to the Registrant's Registration Statement on Form SB-2, SEC File No. 333-129020, filed October 14, 2005).

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## Exhibit

No.	Description of Document
10.12+	<u>Asset Purchase Agreement dated November 3, 2006 by and among Baxter Healthcare S.A., Baxter International, Inc., Baxter Oncology GmbH and the Registrant (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-QSB, SEC File No. 001-33038, filed November 13, 2006).</u>
10.13+	<u>License Agreement dated November 3, 2006 by and among Baxter Healthcare S.A., Baxter International, Inc. and the Registrant (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-QSB, SEC File No. 001-33038, filed November 13, 2006).</u>
10.14	<u>Amendment to License Agreement dated September 24, 2009 by and among Baxter Healthcare S.A., Baxter International, Inc. and the Registrant (incorporated by reference to Exhibit 10.16 to the Registrant's Annual Report on Form 10-K, SEC File No. 001-33038, filed March 17, 2010).</u>
10.15+	<u>Exclusive Channel Partner Agreement by and between the Registrant and Intrexon Corporation dated as of January 6, 2011 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, SEC File No. 001-33038, filed January 12, 2011).</u>
10.16	<u>First Amendment to Exclusive Channel Partner Agreement dated September 13, 2011 by and between the Registrant and Intrexon Corporation (incorporated by reference to Exhibit 10.1 to the Registrant's Quarterly Report on Form 10-Q, SEC File No. 001-33038, filed May 3, 2012)</u>
10.17	<u>Stock Purchase Agreement by and between the Registrant and Intrexon Corporation dated as of January 6, 2011 (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K, SEC File No. 001-33038, filed January 12, 2011).</u>
10.18	<u>Amendment to Stock Purchase Agreement by and between the Registrant and Intrexon Corporation dated as of February 1, 2011 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, SEC File No. 001-33038, filed February 7, 2011).</u>
10.19	<u>Registration Rights Agreement dated January 12, 2011 by and between the Registrant and Intrexon Corporation (incorporated by reference to Exhibit 10.24 to the Registrant's Annual Report on Form 10-K, SEC File No. 001-33038, filed March 1, 2011).</u>
10.20	<u>Form of Indemnity Agreement for directors and executive officers (incorporated by reference to Exhibit 99.1 to the Registrant's Current Report on Form 8-K, SEC File No. 001-33038, filed January 31, 2013).</u>
10.21	<u>Letter Agreement by and among the Registrant, Intrexon Corporation and The University of Texas System Board of Regents on behalf of The University of Texas M.D. Anderson Cancer Center dated as of January 9, 2015 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, SEC File No. 001-33038, filed January 14, 2015).</u>
10.22	<u>Securities Issuance Agreement by and between the Registrant and The University of Texas System Board of Regents on behalf of The University of Texas M.D. Anderson Cancer Center dated as of January 13, 2015 (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K, SEC File No. 001-33038, filed January 14, 2015).</u>
10.23	<u>Securities Issuance Agreement by and between the Registrant and The University of Texas System Board of Regents on behalf of The University of Texas M.D. Anderson Cancer Center dated as of January 13, 2015 (incorporated by reference to Exhibit 10.3 to the Registrant's Current Report on Form 8-K, SEC File No. 001-33038, filed January 14, 2015).</u>

- 10.24 Registration Rights Agreement by and between the Registrant and The University of Texas System Board of Regents on behalf of The University of Texas M.D. Anderson Cancer Center dated as of January 13, 2015 (incorporated by reference to Exhibit 10.4 to the Registrant's Current Report on Form 8-K, SEC File No. 001-33038, filed January 14, 2015).

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## Exhibit

No.	Description of Document
10.25	<u>License Agreement by and among the Registrant, Intrexon Corporation and The University of Texas System Board of Regents on behalf of The University of Texas M.D. Anderson Cancer Center dated as of January 13, 2015 (incorporated by reference to Exhibit 10.5 to the Registrant's Current Report on Form 8-K, SEC File No. 001-33038, filed January 28, 2015).</u>
10.26+	<u>License and Collaboration Agreement by and among the Registrant, Intrexon Corporation and ARES TRADING Trading S.A. dated as of March 27, 2015 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, SEC File No. 001-33038, filed April 2, 2015).</u>
10.27	<u>Second Amendment to Exclusive Channel Partner Agreement by and between the Registrant and Intrexon Corporation dated as of March 27, 2015 (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K, SEC File No. 001-33038, filed April 2, 2015).</u>
10.28	<u>Employment Agreement by and between the Registrant and Laurence James Neil Cooper, M.D., Ph.D. dated as of May 5, 2015 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, SEC File No. 001-33038, filed May 7, 2015).</u>
10.29	<u>Amended and Restated Employment Agreement by and between the Registrant and Caesar J. Belbel dated as of June 1, 2015 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, SEC File No. 001-33038, filed June 2, 2015).</u>
10.30	<u>Research and Development Agreement by and among the Registrant, Intrexon Corporation and The University of Texas M.D. Anderson Cancer Center dated as of August 17, 2015 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, SEC File No. 001-33038, filed August 21, 2015).</u>
10.31	<u>Exclusive Channel Collaboration Agreement by and between the Registrant and Intrexon Corporation dated September 28, 2015 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, SEC File No. 001-33038, filed October 1, 2015).</u>
10.32	<u>Third Amendment to Exclusive Channel Partner Agreement by and between the Registrant and Intrexon Corporation dated as of June 29, 2016 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, SEC File No. 001-33038, filed June 30, 2016).</u>
10.33	<u>Amendment to Exclusive Channel Collaboration Agreement by and between the Registrant and Intrexon Corporation dated as of June 29, 2016 (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K, SEC File No. 001-33038, filed June 30, 2016).</u>
10.34	<u>Securities Issuance Agreement by and between the Registrant and Intrexon Corporation dated as of June 29, 2016 (incorporated by reference to Exhibit 10.3 to the Registrant's Current Report on Form 8-K, SEC File No. 001-33038, filed June 30, 2016).</u>
10.35	<u>Offer Letter by and between the Registrant and David Mauney, M.D., dated as of September 26, 2017 (incorporated by reference to Exhibit 10.1 to the Registrant's Current Report on Form 8-K, SEC File No. 001-33038, filed September 28, 2017).</u>
10.36	<u>Severance Agreement by and between the Registrant and David Mauney, M.D., dated as of September 28, 2017 (incorporated by reference to Exhibit 10.2 to the Registrant's Current Report on Form 8-K, SEC File No. 001-33038, filed September 28, 2017).</u>
23.1**	<u>Consent of Independent Registered Public Accounting Firm</u>

- 24.1 Power of Attorney (incorporated by reference to the signature page of the Original Filing).
- 31.1\* Certification of Chief Executive Officer pursuant to Exchange Act Rule 13a-14(a) or 15(d)-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.

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Exhibit	
No.	Description of Document
31.2*	<u>Certification of Chief Accounting Officer pursuant to Exchange Act Rule 13a-14(a) or 15(d)-14(a), as adopted pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.</u>
32.1**	<u>Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</u>
32.2**	<u>Certification of Chief Accounting Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.</u>
101.INS**	XBRL Instance Document
101.SCH**	XBRL Taxonomy Extension Schema Document
101.CAL**	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF**	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB**	XBRL Taxonomy Extension Label Linkbase Document
101.PRE**	XBRL Taxonomy Extension Presentation Linkbase Document

\* Filed herewith.

\*\* Previously filed or furnished with the registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 2017, filed with the SEC March 1, 2018.

Indicates a management contract or any compensatory plan, contract or arrangement.

+ Confidential treatment has been granted as to certain portions of this exhibit pursuant to Rule 406 of the Securities Act of 1933, as amended, or Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

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**SIGNATURES**

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this Amendment No. 1 to the registrant's Annual Report on Form 10-K/A to be signed on its behalf by the undersigned, thereunto duly authorized, in Boston, Suffolk County, Massachusetts, on this 30<sup>th</sup> day of April, 2018.

**ZIOPHARM ONCOLOGY, INC.**

By: /s/ Laurence J.N. Cooper  
Laurence J.N. Cooper, M.D., Ph.D.  
Chief Executive Officer