

LIGAND PHARMACEUTICALS INC  
Form DEF 14A  
April 30, 2018

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549  
SCHEDULE 14A INFORMATION  
(Rule 14a-101)  
PROXY STATEMENT PURSUANT TO SECTION 14(a) OF  
THE SECURITIES EXCHANGE ACT OF 1934

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

Preliminary Proxy Statement

Definitive Proxy Statement

Definitive Additional Materials

Soliciting Material under 240.14a-12

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LIGAND PHARMACEUTICALS INCORPORATED

Name of Registrant as Specified In Its Charter

Name of Person(s) Filing Proxy Statement, if other than the Registrant

Payment of Filing Fee (Check the appropriate box):

No fee required.

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(1) Amount Previously Paid:

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(3) Filing Party:

(4) Date Filed:

Notice of Annual Meeting of Stockholders  
to be held Thursday, June 14, 2018

Dear Stockholder:

The annual meeting of stockholders of Ligand Pharmaceuticals Incorporated (“Ligand” or the “Company”) will be held at 3911 Sorrento Valley Boulevard, Suite 110, San Diego, CA 92121, on June 14, 2018 at 8:30 a.m. local time, for the following purposes:

1. To elect a board of directors for the forthcoming year. Our board of directors has nominated the following eight persons, each to serve for a one year term to expire at the 2019 annual meeting of stockholders: Jason Aryeh, Todd Davis, Nancy Gray, John Higgins, John Kozarich, John LaMattina, Sunil Patel and Stephen Sabba.
2. To ratify the selection of Ernst & Young LLP as the Company’s independent registered accounting firm for the fiscal year ending December 31, 2018.
3. To consider and vote upon, on an advisory basis, the compensation of our named executive officers as disclosed in this proxy statement pursuant to the compensation disclosure rules of the Securities and Exchange Commission (the “SEC”).
4. To transact such other business as may properly come before the meeting or any adjournment(s) thereof.

Stockholders of record at the close of business on April 20, 2018 will be entitled to vote at the annual meeting. We have elected to use the internet as our primary means of providing our proxy materials to stockholders. Most stockholders will receive only a Notice of Internet Availability of Proxy Materials with instructions for accessing the proxy materials, including our Proxy Statement and annual report, and for voting via the internet. The Notice of Internet Availability of Proxy Materials also provides information on how stockholders may obtain paper copies of our proxy materials free of charge, if they so choose.

The stock transfer books of the Company will remain open between the record date, April 20, 2018, and the date of the meeting. A list of stockholders entitled to vote at the annual meeting will be available for inspection at the offices of the Company and at the meeting. Whether or not you plan to attend the annual meeting in person, please vote by internet or telephone as described in the enclosed proxy materials or, if you request that the proxy materials be mailed to you, by signing, dating and returning the proxy card enclosed with those materials. If you attend the annual meeting and vote by ballot, your proxy will be revoked automatically and only your vote at the annual meeting will be counted. The prompt return of your proxy will assist us in preparing for the annual meeting.

By Order of the Board of Directors,

/s/ CHARLES S. BERKMAN  
Charles S. Berkman  
Senior Vice President, General Counsel & Secretary  
San Diego, California  
May 1, 2018

Table of Contents

<u>Introduction</u>	<u>1</u>
<u>Proposal No. 1: Election of Directors</u>	<u>6</u>
<u>Proposal No. 2: Ratification of Independent Registered Public Accounting Firm</u>	<u>11</u>
<u>Proposal No. 3: Approval of the Compensation of the Named Executive Officers</u>	<u>14</u>
<u>Executive Officers</u>	<u>14</u>
<u>Security Ownership of Certain Beneficial Owners, Directors and Management</u>	<u>15</u>
<u>Compensation Discussion and Analysis</u>	<u>17</u>
<u>Compensation Tables</u>	<u>30</u>
<u>Pay Ratio Disclosure</u>	<u>30</u>
<u>Certain Relationships and Related Transactions</u>	<u>42</u>
<u>Section 16(a) Beneficial Ownership Reporting Compliance</u>	<u>43</u>
<u>Deadline for Proposals for Next Annual Meeting</u>	<u>43</u>
<u>Annual Report on Form 10-K</u>	<u>43</u>
<u>Solicitation of Proxies</u>	<u>43</u>
<u>Householding of Proxy Materials</u>	<u>43</u>
<u>Other Business</u>	<u>44</u>
<u>Appendix A - Reconciliation of Non-GAAP Financial Measures</u>	<u>45</u>

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Ligand Pharmaceuticals Incorporated  
3911 Sorrento Valley Boulevard, Suite 110  
San Diego, CA 92121

Proxy Statement

For the Annual Meeting of Stockholders

On behalf of the board of directors of Ligand, we are asking for your proxy, to be used at the annual meeting of stockholders to be held on June 14, 2018. The annual meeting will be held at 8:30 a.m. local time at 3911 Sorrento Valley Boulevard, Suite 110, San Diego, CA 92121. Stockholders of record on April 20, 2018 (the "Record Date") are entitled to notice of and to vote at the annual meeting. If you need directions to the location of the annual meeting, please contact us at (858) 550-7500. On or about May 1, 2018, we will mail to stockholders a Notice of Internet Availability of Proxy Materials containing instructions on how to access our proxy statement and 2017 annual report online and how to vote online. If you receive such a Notice by mail, you will not receive a printed copy of the materials unless you specifically request one. However, the Notice contains instructions on how to request to receive printed copies of these materials and a proxy card by mail.

Important Notice Regarding the Availability of Proxy Materials for the Stockholder Meeting to Be Held on Thursday, June 14, 2018.

This proxy statement and the Company's annual report are available electronically at [www.edocumentview.com/LGND](http://www.edocumentview.com/LGND).

General Information about the Annual Meeting and Voting

What is the purpose of the annual meeting?	At our annual meeting, stockholders will act on the items outlined in the notice of meeting that is attached to this proxy statement. These include the election of directors, the ratification of the selection of Ernst & Young LLP as the Company’s independent registered public accounting firm and the approval, on an advisory basis, of the compensation of the named executive officers as disclosed in this proxy statement.
Who can vote at the meeting?	Only stockholders of record as of the close of business on the Record Date are entitled to vote the shares of stock they held on that date. Stockholders may vote in person or by proxy (see “How do I vote by proxy?” below). Each holder of shares of common stock is entitled to one vote for each share of stock held on the proposals presented in this proxy statement. Our amended and restated bylaws provide that a majority of all of the shares of the stock entitled to vote, whether present in person or represented by proxy, will be a quorum for the transaction of business at the meeting.
How many votes do I have?	Each share of our common stock that you own as of April 20, 2018 entitles you to one vote. The Notice of Internet Availability of Proxy Materials that is sent to you, or the proxy card or voting instruction form that is included in the proxy materials mailed to you if you have requested delivery by mail, will show the number of shares that you are entitled to vote.
What is a “broker non-vote”?	A broker non-vote occurs when a broker holding shares for a beneficial owner, commonly known as holding shares in “street name,” does not vote on a particular proposal because the broker does not have discretionary voting power with respect to that proposal and has not received instructions from the beneficial owner.
How are votes counted?	<p>Directors will be elected by a favorable vote of a plurality of the aggregate votes present, in person or by proxy, at the annual meeting. Accordingly, abstentions will not affect the outcome of the election of candidates for director. Absent instructions from the beneficial owner of such shares, a broker is not entitled to vote shares held for a beneficial owner on certain non-routine items, such as the election of directors, the approval, on an advisory basis, of the compensation of the named executive officers as disclosed in this proxy statement and any stockholder proposals. Thus, if the beneficial owner does not give a broker specific instructions, the beneficially owned shares may not be voted on this proposal and will not be counted in determining the number of shares necessary for approval, although they will count for purposes of determining whether a quorum exists. Stockholders are not permitted to cumulate their shares for the purpose of electing directors or otherwise.</p> <p>The proposal to ratify the selection of Ernst &amp; Young LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2018 requires the affirmative vote of a majority of the aggregate votes present, in person or by proxy, and entitled to vote at the annual meeting. Abstentions will have the same effect as a vote against this proposal. However, ratification of the selection of Ernst &amp; Young LLP is considered a routine matter on which a broker or other nominee is empowered to vote. Accordingly, no broker non-votes will result from this proposal.</p> <p>Approval of the non-binding advisory resolution on our executive compensation requires the affirmative vote of a majority of the aggregate votes present, in person or by proxy, and entitled to vote at the annual meeting. Abstentions will have the same effect as a vote against this proposal. Absent instructions from the beneficial owner of such shares, a broker is not entitled to vote shares held for a beneficial owner on the resolution to approve the compensation of our named executive officers. As a result, broker non-votes will have no effect on the outcome of the vote.</p>



All votes will be counted by an inspector of elections appointed for the meeting. The inspector will count separately “yes” votes, “no” votes, abstentions and broker non-votes. Shares represented by proxies that reflect abstentions or broker non-votes will be counted as shares that are present and entitled to vote for purposes of determining the presence of a quorum.

Voting results will be tabulated and certified by our mailing and tabulating agent, Computershare.

Why did I receive a one-page notice in the mail regarding the Internet availability of proxy materials instead of a full set of proxy materials?

Pursuant to rules adopted by the SEC, we have elected to provide access to our proxy materials over the internet. Accordingly, we are sending a Notice of Internet Availability of Proxy Materials to our stockholders who have not previously requested the receipt of paper proxy materials advising them that they can access this proxy statement, the 2017 annual report and voting instructions over the internet at <http://www.envisionreports.com/LGND>, by calling toll-free (866) 641-4276, or by sending an e-mail to [investorvote@computershare.com](mailto:investorvote@computershare.com) with “Proxy Materials Ligand Pharmaceuticals” in the subject line. Include in the message your full name and address, plus the number located in the shaded bar on the reverse, and state in the email that you want a paper copy of current meeting materials. You can also state your preference to receive a paper copy for future meetings. There is no charge for you requesting a copy. Please make your request for a copy on or before May 31, 2018 to facilitate timely delivery. In addition, stockholders may request to receive proxy materials electronically by email or in printed form by mail on an ongoing basis. All stockholders will have the ability to access the proxy materials on the website referred to in the Notice of Internet Availability of Proxy Materials or request to receive a printed set of the proxy materials. We encourage stockholders to take advantage of the availability of the proxy materials on the internet to help reduce the environmental impact of the annual meeting.

How do I Record Holders

vote by proxy?

If you are a stockholder of record on the Record Date, you may vote in one of the following four ways:

By the internet. You may go to [www.envisionreports.com/LGND](http://www.envisionreports.com/LGND) 24 hours a day, 7 days a week, and follow the instructions. You will need the 15-digit control number that is included in the Notice of Internet Availability of Proxy Materials, proxy card or voting instructions form that is sent to you. The internet voting system allows you to confirm that the system has properly recorded your votes. This method of voting will be available up until 11:59 p.m. EDT, on June 13, 2018.

By telephone. On a touch-tone telephone, you may call toll-free 1-800-652-8683, 24 hours a day, 7 days a week, and follow the instructions. You will need the 15 digit control number that is included in the Notice of Internet Availability of Proxy Materials, proxy card or voting instructions form that is sent to you. As with internet voting, you will be able to confirm that the system has properly recorded your votes. This method of voting will be available up until 11:59 p.m. EDT, on June 13, 2018.

By mail. If you are a stockholder of record, and you elect to receive your proxy materials by mail, you may vote by proxy by marking, dating, and signing your proxy card exactly as your name appears on the card and returning it by mail in the postage-paid envelope that will be provided to you. You should mail the proxy card form in plenty of time to allow delivery prior to the meeting. Do not mail the proxy card or voting instruction form if you are voting over the internet or by telephone.

At the annual meeting. You may vote your shares at the annual meeting if you attend in person.

Even if you plan to attend the annual meeting, we encourage you to vote over the internet or by telephone prior to the meeting. It is fast and convenient, and votes are recorded and confirmed immediately.

**Beneficial Owners: Shares Registered in the Name of a Broker or Bank**

If you are a beneficial owner of shares registered in the name of your broker, bank or other agent, you should have received a proxy card and voting instructions with these proxy materials from that organization rather than directly from us. Simply complete and mail the proxy card to ensure that your vote is counted.

You may be eligible to vote your shares electronically over the Internet or by telephone. A large number of

banks and brokerage firms offer Internet and telephone voting. If your bank or brokerage firm does not offer Internet or telephone voting information, please complete and return your proxy card in the self-addressed, postage-paid envelope provided. To vote in person at the annual meeting, you must obtain a valid proxy from your broker, bank or other agent. Follow the instructions from your broker or bank included with these proxy materials, or contact your broker or bank to request a proxy form.

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement 13

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Ligand Pharmaceuticals Incorporated 2018 Proxy Statement 14

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May I revoke my proxy? If you give us your proxy, you may revoke it at any time before it is exercised. You may revoke your proxy by sending in another signed proxy with a later date, by notifying our corporate secretary, Charles S. Berkman, in writing before the annual meeting that you have revoked your proxy, or by attending the annual meeting and voting in person.

What is the quorum requirement? A quorum of stockholders is necessary to hold a valid meeting. A quorum will be present if the holders of a majority in voting power of the shares of common stock issued, outstanding and entitled to vote are present in person or represented by proxy at the annual meeting. On the Record Date, there were 21,301,400 shares outstanding and entitled to vote.

Accordingly, 10,650,700 shares must be represented by stockholders present at the annual meeting or by proxy to have a quorum.

Your shares will be counted towards the quorum only if you submit a valid proxy vote or vote at the annual meeting. Abstentions and broker non-votes will be counted towards the quorum requirement. If there is no quorum, either the chairperson of the annual meeting or a majority in voting power of the stockholders entitled to vote at the annual meeting, present in person or represented by proxy, may adjourn the annual meeting to another time or place.

I share an address with another stockholder, and we received only one paper copy of the proxy materials and annual report. How may I obtain an additional copy of these materials? The rules of the SEC permit us, under certain circumstances, to send a single set of the Notice of Internet Availability of Proxy Materials, proxy materials, and annual reports to any household at which two or more stockholders reside. This procedure, known as householding, reduces the volume of duplicate information you receive and helps to reduce our expenses.

In order to take advantage of this opportunity, we have delivered only one Notice of Internet Availability of Proxy Materials or, if you previously requested to receive paper proxy materials by mail, one proxy statement and annual report to stockholders who share an address (unless we received contrary instructions from the affected stockholders prior to the mailing date). We will mail a separate copy of any of these documents, if requested. Requests for separate copies of any of these documents, either now or in the future, as well as requests for single copies in the future by stockholders who share an address and are currently receiving multiple copies, can be made by stockholders of record by contacting our corporate secretary at Ligand Pharmaceuticals Incorporated, 3911 Sorrento Valley Boulevard, Suite 110, San Diego, CA 92121, or by telephone at (858) 550-7500. Such requests by street name holders should be made through their bank, broker or other holder of record.

How do I obtain an Annual Report on Form 10-K? If you would like a copy of our annual report on Form 10-K for the fiscal year ended December 31, 2017 that we filed with the SEC, we will send you one without charge. Please write to:

Ligand Pharmaceuticals Incorporated  
3911 Sorrento Valley Boulevard, Suite 110  
San Diego, CA 92121

Attn: Corporate Secretary

All of our SEC filings are also available in the Investors section of our website at [www.ligand.com](http://www.ligand.com).

How can I find out the results of the voting at the annual meeting? Preliminary voting results will be announced at the annual meeting. Final voting results will be published in a Current Report on Form 8-K to be filed with the SEC within four business days after the annual meeting. If final voting results are not available to us in time to file a Form 8-K within four business days after the meeting, we intend to file a Form 8-K to publish preliminary results and, within four business days after the final results are known to us, file an amendment to the Form 8-K to publish the final results.

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement 15

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## Proposal No. 1 Election of Directors

The persons named below have been nominated by our board of directors to serve as directors of the Company until the next annual meeting of stockholders and until their successors have been elected and qualified. The eight candidates receiving the highest number of affirmative votes of the shares entitled to vote at the annual meeting will be elected directors of the Company. As of the date of this proxy statement, our board of directors is not aware of any nominee who is unable to or will decline to serve as a director. If, however, any of those named are unable to serve at the time of the annual meeting, the proxyholders may exercise discretionary authority to vote for substitutes.

## Nominees

Name	Offices Held	Year First	
		Elected	Age*
John W. Kozarich, Ph.D. (N)	Chairman of the Board	2003	68
John L. Higgins	Chief Executive Officer and Director	2007	48
Jason M. Aryeh(C)(N)	Director	2006	49
Todd C. Davis(A)(C)†	Director	2007	57
Nancy Ryan Gray, Ph.D.†	Director	2017	58
John L. LaMattina, Ph.D. (C)	Director	2011	68
Sunil Patel(A)	Director	2010	46
Stephen L. Sabba, M.D. (A)(N)	Director	2008	58

\* As of April 20, 2018

(A) Member of the audit committee

(C) Member of the compensation committee

(N) Member of the nominating and corporate governance committee

† The board expects to appoint Dr. Gray to the audit committee beginning after the 2018 annual meeting, at which time Mr. Davis will step down from the audit committee.

## Business Experience of Director Nominees

Jason M. Aryeh has served as a member of Ligand's board of directors since September 2006. He is the founder and managing general partner of JALAA Equities, LP, a private hedge fund focused on the life sciences sector, and has served in such capacity since 1997. Mr. Aryeh serves as the Chairman of the board and a director of Novilion Therapeutics Inc. (formerly QLT Inc.) and has served as the Chairman of both its Corporate Governance and Nominating Committee and its Compliance Committee. Mr. Aryeh also serves on the board of directors of the Cystic Fibrosis Foundation's Therapeutics Board. Mr. Aryeh has served as a director of numerous companies.

Mr. Aryeh earned a B.A. in economics, with honors, from Colgate University, and is a member of the Omnicron Delta Epsilon Honor Society in economics. In selecting Mr. Aryeh to serve as a director, the board considered, among other things, his valuable capital markets experience, including his service as managing general partner of a hedge fund focused on the life sciences sector. The Company also benefits from Mr. Aryeh's involvement in the biotechnology industry through his current and former positions as a director of multiple life science organizations including: Novilion Therapeutics Inc., Aralez Pharmaceuticals, CorMatrix Cardiovascular, the Cystic Fibrosis Foundation's Therapeutics board, NabiBiopharmaceuticals and Myrexix, Inc.

Todd C. Davis has served as a member of Ligand's board of directors since March 2007. He is a Founder and Managing Partner of RoyaltyRx Capital, a healthcare investment firm and a Founder and former Managing Partner of HealthCare Royalty Partners, a global healthcare investment firm. He has over three decades of experience working in and investing in the pharmaceutical and biotechnology industries. Over the course of his career, Mr. Davis has been involved in over \$2 billion in healthcare deals and nearly \$1 billion in royalty financings. He has also led, structured and closed over 40 additional intellectual property licenses, as well as growth equity, and debt deals. Previously, from 2004 to 2006, Mr. Davis was a partner at Paul Capital Partners, where he co-managed that firm's royalty investments

as a member of the royalty

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement 16

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management committee. He also served as a partner responsible for biopharmaceutical growth equity investments at Apax Partners from 2001 to 2004. Prior to beginning his principal investment career in 2001, Mr. Davis held various sales and product management roles at Abbott Laboratories and worked in business development, operations and licensing at Elan Pharmaceuticals. He currently serves on the boards of Suneva Medical, Inc. and Helomics, Inc. Mr. Davis holds a B.S. from the U.S. Naval Academy and an M.B.A. from Harvard University. In selecting Mr. Davis to serve as a director, the board considered, among other things, his valuable prior experience as a director of several public and private companies. Ligand also benefits from Mr. Davis' financial and accounting expertise and leadership experience within the biotechnology industry.

Nancy Ryan Gray, Ph.D., has served as a member of Ligand's board of directors since of August 2017. Dr. Gray has acted as the President and CEO of Gordon Research Conferences, a nonprofit organization focused on organizing international scientific conferences, since 2003. From December 1997 until August 2003 she served as the Director of Membership for the American Chemical Society. Prior to that, Dr. Gray worked as a Senior Research Scientist at Exxon/Mobil Research and Engineering, a subsidiary of Exxon Mobil Corporation focused on researching oil and gas. Dr. Gray is a Fellow of the Royal Society of Chemistry, a Fellow of the American Association for the Advancement of Science and a member of the American Chemical Society. She was a Research Fellow at the Foundation on Matter Institute for Atomic and Molecular Physics in Amsterdam, and completed the Harvard Executive Education Finance for Senior Executives program. She also has authored or co-authored numerous scientific articles. Dr. Gray received her B.S. in Chemistry from the University of Notre Dame in 1981 and her Ph.D. in Fuel Science from The Pennsylvania State University in 1985. In selecting Dr. Gray to serve as a director, the board considered, among other things, her scientific background and knowledge of the biotechnology industry.

John L. Higgins is the Chief Executive Officer of Ligand Pharmaceuticals Incorporated, a position he has held since January 2007 and he has been a member of Ligand's board of directors since March 2007. Prior to joining Ligand, Mr. Higgins served as Chief Financial Officer at Connetics Corporation, a specialty pharmaceutical company, since 1997, and also served as Executive Vice President, Finance and Administration and Corporate Development at Connetics until its acquisition by Stiefel Laboratories, Inc. in December 2006. Before joining Connetics, he was a member of the executive management team at BioCryst Pharmaceuticals. Prior to BioCryst, Mr. Higgins was a member of the healthcare banking team of Dillon, Read & Co. Inc., an investment banking firm. Mr. Higgins serves on the board, audit and governance committees of BioTechnie Corporation, a company which develops and manufactures proteins. Mr. Higgins has served as a director of numerous public and private companies. He graduated Magna Cum Laude from Colgate University with an A.B. in economics. In selecting Mr. Higgins to serve as a director, the board considered, among other things, his valuable experience operating and managing public biotechnology companies, his prior service on other company boards and his financial transaction experience as an investment banker. Ligand also benefits from Mr. Higgins' financial experience in leadership roles at companies within the biopharmaceutical industry.

John W. Kozarich, Ph.D., has served as a member of Ligand's board since March 2003. Dr. Kozarich currently serves as Distinguished Scientist and Executive Advisor of ActivX Biosciences, Inc., and previously served as ActivX's Chairman and President from 2004 through March 2017. From 1992 to 2001, he was vice president at Merck Research Laboratories and previously held professorships at the University of Maryland and Yale University School of Medicine. Dr. Kozarich is also an adjunct professor of Chemical Physiology at the Scripps Research Institute and serves on boards, including ActivX Biosciences Inc., Retrophin, Inc. and Intec Pharma Ltd. Previously, Dr. Kozarich served as a director of Corium Intl and Novelim Therapeutics. He is also a recent recipient of the Distinguished Scientist Award from the San Diego Section of the American Chemical Society. Dr. Kozarich earned his B.S. in chemistry, summa cum laude, from Boston College, his Ph.D. in biological chemistry from the Massachusetts Institute of Technology, and was an NIH Postdoctoral Fellow at Harvard. In selecting Dr. Kozarich to serve as a director, the board considered, among other things, his valuable pharmaceutical and international experience, including his service at Merck Research Laboratories, which is part of one of the world's largest pharmaceutical companies, and his service with ActivX Biosciences, Inc., Novelim Therapeutics Inc. and Corium Intl. Ligand also benefits from Dr. Kozarich's financial and accounting experience in the pharmaceutical and biotechnology industries.

John L. LaMattina, Ph.D., has served as a member of Ligand's board since February 2011. He spent 30 years at Pfizer Inc. beginning as a medicinal chemist in 1977. During his career, he was appointed to various positions of increasing responsibility for Pfizer Central Research, including Vice President of U.S. Discovery Operations in 1993, Senior Vice President of Worldwide Discovery Operations in 1998, Senior Vice President of Worldwide Development in 1999, and President, Pfizer Global R&D in 2004. Dr. LaMattina graduated with cum laude honors from Boston College with a B.S. in Chemistry. He received a Ph.D. from the University of New Hampshire in Organic Chemistry and subsequently was at Princeton University in the National Institutes of Health Postdoctoral Fellowship program. Dr. LaMattina is currently a senior partner at PureTech Ventures and serves on the board of directors of PureTech Health, Gelesis and Vedanta. Additionally, Dr.

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement | 7

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LaMattina serves as a director of Zafgen, Inc. and is on the Scientific Advisory Board for Trevena. Dr. LaMattina is a respected commentator on the biopharmaceutical industry on Forbes.com as well as with his books, most recently *Devalued & Distrusted - Can the Pharmaceutical Industry Restore its Broken Image?* In selecting Dr. LaMattina to serve as a director, the board considered, among other things, his valuable pharmaceutical and experience and experience as director of several biotech companies which provides the board with a broad leadership perspective. Ligand also benefits from Dr. LaMattina's expert knowledge of the biopharmaceutical industry and his experience as strategic and scientific advisor.

Sunil Patel has served as a member of Ligand's board of directors since October 2010. He has more than 20 years of senior management and R&D experience in the biotechnology industry. Mr. Patel most recently was Executive Vice President and Chief Financial Officer for OncoMed Pharmaceuticals, a development-stage company focused on therapeutics targeting cancer stem cells. Mr. Patel has held senior management positions in corporate development, marketing, and strategy with BiPar Sciences, Allos Therapeutics, Connetics, Abgenix and Gilead Sciences. Mr. Patel also worked at McKinsey & Company serving biotech and pharmaceutical clients and has held scientific research positions at ZymoGenetics and ProCytte. Mr. Patel received his undergraduate degree in Chemistry at the University of California, Berkeley, and master's degree in Molecular Bioengineering/Biotechnology at the University of Washington. In selecting Mr. Patel to serve as a director, the board considered, among other things, his valuable pharmaceutical and corporate development experience, including his service at OncoMed Pharmaceuticals. Ligand also benefits from Mr. Patel's experience in serving as a senior member of management at both public and private biotechnology companies.

Stephen L. Sabba, M.D., has served as a member of Ligand's board of directors since August 2008. Dr. Sabba has been a leading Bio/Pharma Analyst and Fund Manager for Knott Partners, L.P., an investment fund company, since November 2006. Previously he was a Partner and Director of Research with Kilkenny Capital Management, a Chicago-based biomedical hedge fund. Prior to that, Dr. Sabba was Director of Research at Sturza's Medical Research, and previously was a gastroenterologist and internist in private practice at Phelps Memorial Hospital in North Tarrytown, New York. He received his medical degree from the New York University School of Medicine, and completed a residency in internal medicine and a fellowship in gastroenterology at the Veterans Administration Medical Center in New York City. He earned a B.S. with honors at Cornell University. Dr. Sabba has served as a member of the board of the directors for Novelson Therapeutics Inc., a leading Canadian biotech company, since June 2012. In selecting Dr. Sabba to serve as a director, the board considered, among other things, his capital markets and accounting expertise gained from his prior experience working in the hedge fund and investment fund industries. Ligand also benefits from his background as a medical doctor and from his understanding of medicine.

#### Director Independence

Our board of directors has determined that, with the exception of Mr. Higgins, each of the directors is an independent director under the Nasdaq Global Market listing standards. The independent directors have two or more regularly scheduled executive sessions per year at which only the independent directors are present.

#### Board Meetings and Committees

Our board of directors held seven meetings, with two in-person and five by telephone, and acted by unanimous written consent three times during the year ended December 31, 2017. During such year, each incumbent director attended 75% of the aggregate number of meetings of our board of directors and of each the committees on which he or she served which were held during the periods in which he or she served.

Our board of directors has an audit committee, a nominating and corporate governance committee and a compensation committee. Each committee is described below. Each of these committees has a written charter approved by our board of directors. A copy of each charter can be found in the "Investors—Governance" section of our website at [www.ligand.com](http://www.ligand.com). Our board of directors has determined that each member of these committees meets the applicable rules and regulations regarding independence and that each member is free of any relationship that would interfere with his or her individual exercise of independent judgment with regard to the Company.

The audit committee is primarily responsible for overseeing the Company's accounting and financial reporting processes, auditing of financial statements, systems of internal control, and financial compliance programs. The audit



committee

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement 18

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currently consists of Messrs. Davis and Patel and Dr. Sabba (chair). The board expects to appoint Dr. Gray to the audit committee beginning after the 2018 annual meeting, at which time Mr. Davis will step down from the audit committee. The audit committee held eight meetings with one in-person and seven by telephone. After reviewing the qualifications of all current committee members and any relationship they may have that might affect their independence from the Company, our board of directors has determined that (i) all current committee members are “independent” as defined under Section 10A of the Securities Exchange Act of 1934, as amended, (ii) all current committee members are “independent” as defined under the applicable Nasdaq Global Market listing standards, (iii) all current committee members have the ability to read and understand financial statements and (iv) Dr. Sabba qualifies as an “audit committee financial expert.” The latter determination is based on a qualitative assessment of his level of knowledge and experience based on a number of factors, including his formal education and experience.

The nominating and corporate governance committee is responsible for identifying and recommending candidates for director of the Company. The nominating and corporate governance committee currently consists of Mr. Aryeh (chair) and Drs. Kozarich and Sabba. Each member of the nominating and corporate governance committee is an independent director under the Nasdaq Global Market listing standards. The nominating and corporate governance committee held one in-person meeting and three telephonic meetings during 2017.

The nominating and corporate governance committee considers nominees recommended by stockholders, if submitted in writing to the Secretary at the Company’s principal executive offices and accompanied by the author’s full name, current address and telephone number. The nominating and corporate governance committee has set no specific minimum qualifications for candidates it recommends, but considers each individual’s qualifications, such as high personal integrity and ethics, relevant expertise and professional experience, as a whole. The nominating and corporate governance committee and the board as a whole consider it beneficial to the Company to have directors with a diversity of backgrounds and skills. The nominating and corporate governance committee and the board as a whole have no formal policy with regard to the consideration of diversity in identifying director nominees. The nominating and corporate governance committee considers candidates throughout the year and makes recommendations as vacancies occur or the size of our board of directors expands. Candidates are identified from a variety of sources including recommendations by stockholders, current directors, management, and other parties. The nominating and corporate governance committee considers all such candidates in the same manner, regardless of source. Under its charter, the nominating and corporate governance committee may retain a search firm to identify and recommend candidates but has not done so to date.

The compensation committee reviews and approves the Company’s compensation policies, sets executive officers’ compensation and administers the Company’s stock option and stock purchase plans. The compensation committee consists of Messrs. Aryeh and Davis (chair) and Dr. LaMattina. Each member is an independent director under the Nasdaq Global Market listing standards. The compensation committee held four meetings with one in-person and three by telephone, and acted by unanimous written consent zero times during 2017.

The Company does not have a policy regarding attendance of the directors at the annual meeting. At our 2017 annual meeting of stockholders, none of our then-current directors was in attendance.

#### Board Leadership Structure

Our board of directors has nominated eight persons to serve as directors of the Company until the next annual meeting of stockholders, seven of whom are independent. We separate the roles of chief executive officer and chairman of our board of directors in recognition of the differences between the two roles. The chief executive officer is responsible for setting the strategic direction for the Company and the day-to-day leadership and performance of the Company, while the chairman of our board of directors provides guidance to the chief executive officer and presides over meetings of the full board of directors. We believe that this separation of responsibilities provides a balanced approach to managing the board of directors and overseeing the Company.

#### Board’s Role in Risk Oversight

Our board of directors is actively involved in oversight of risks that could affect the Company. The board’s role in our risk oversight process includes receiving regular reports from members of senior management on areas of material risk to the Company, including risks associated with our operational, financial, legal and regulatory functions. The full board (or the



appropriate board committee in the case of risks that are under the purview of a particular committee) receives these reports from the appropriate “risk owner” within the organization to enable it to understand our risk identification, risk management and risk mitigation strategies. When a board committee engages in a discussion related to areas of material risk to the Company, the chairperson of the relevant committee reports on the discussion to the full board during the committee reports portion of the next board meeting. This enables the board and its committees to coordinate the risk oversight role.

#### Communicating with the Board of Directors

Stockholders may communicate with our board of directors or individual directors by mail, in care of the Secretary, at the Company’s principal executive offices. Letters are distributed to the board of directors, or to any individual director or directors as appropriate, depending on the content of the letter. However, items that are unrelated to the duties and responsibilities of the board of directors will be excluded. In addition, material that is illegal, inappropriate or similarly unsuitable will be excluded. Any letter that is filtered out under these standards, however, will be made available to any director upon request.

#### Recommendation of the Board of Directors

The board of directors unanimously recommends a vote FOR the nominees listed above.

Proposal No. 2 Ratification of Independent Registered Public Accounting Firm

On April 16, 2018, the Audit Committee of the Company's Board approved the selection of Ernst & Young LLP as its independent registered public accounting firm. You are being asked to ratify the selection of Ernst & Young LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2018. Neither the firm nor any of its members has any relationship with the Company or any of its affiliates, except in the firm's capacity as the Company's independent registered public accounting firm.

Stockholder ratification of the selection of Ernst & Young LLP as the Company's independent registered public accounting firm is not required by Delaware law, the Company's certificate of incorporation, the Company's amended and restated bylaws, or otherwise. However, the board of directors is submitting the selection of Ernst & Young LLP to the stockholders for ratification as a matter of good corporate practice. In the event the stockholders fail to ratify the selection, the board of directors will reconsider its selection. Even if the selection is ratified, the board of directors or its audit committee, in its discretion, may direct the appointment of a different independent auditing firm at any time during the year if such a change would be in the Company's and its stockholders' best interests.

Representatives of Ernst & Young LLP are expected to be present at the annual meeting, and will have the opportunity to make a statement if they desire to do so and are expected to be available to respond to appropriate questions. The affirmative vote of the holders of a majority of the shares represented and voting at the annual meeting will be required to ratify the selection of Ernst & Young LLP.

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement 1 11

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## Independent Auditor's Fees

The following is a summary of the fees incurred by the Company from Ernst & Young LLP, the Company's independent registered public accounting firm for the fiscal year ended December 31, 2017 and 2016:

Fee Category	Ernst & Young LLP Fiscal Year 2017 Fees <sup>(1)</sup>	Ernst & Young LLP Fiscal Year 2016 Fees <sup>(1)</sup>
Audit Fees <sup>(1)</sup>	\$1,053,385	\$988,273
Audit-related fees <sup>(2)</sup>	—	—
Tax Fees <sup>(3)</sup>	273,843	163,278
All Other Fees	—	—
Total Fees	\$1,327,228	\$1,151,551

(1) Audit fees consist of amounts for professional services rendered in connection with the integrated audit of our consolidated financial statements and related schedule and internal control over financial reporting, review of the interim condensed consolidated financial statements included in quarterly reports.

(2) For the fiscal year ended December 31, 2017, audit-related fees were primarily incurred for accounting consultations.

(3) Tax fees for the fiscal years ended December 31, 2017 and 2016, related to services rendered for federal, state and international tax compliance and tax consulting projects including the analysis of our net operating loss carryforwards, Research and Development tax credit analysis and international tax planning.

In considering the nature of the services provided by Ernst & Young LLP during the 2017 fiscal year, the audit committee determined that such services are compatible with the provision of independent audit services.

The audit committee discussed these services with Ernst & Young LLP and the Company's management to determine that they are permitted under the rules and regulation concerning auditor independence promulgated by the SEC to implement the Sarbanes-Oxley Act of 2002, as well as the American Institute of Certified Public Accountants.

All services performed by Ernst & Young LLP in 2017 and 2016 were pre-approved in accordance with the requirements of the audit committee charter.

Except as stated above, there were no other fees charged by Ernst & Young LLP for 2017 or 2016. The audit committee considers the provision of these services to be compatible with maintaining the independence of Ernst & Young LLP. None of the fees paid to Ernst & Young LLP under the category "Tax Fees" described above were approved by the audit committee after services were rendered pursuant to the de minimis exception established by the SEC.

#### Audit Committee Policy Regarding Pre-Approval of Audit and Permissible Non-Audit Services of Our Independent Registered Public Accounting Firm

Our audit committee has established a policy that all audit and permissible non-audit services provided by our independent registered public accounting firm will be pre-approved by the audit committee. These services may include audit services, audit-related services, tax services and other services. The audit committee considers whether the provision of each non-audit service is compatible with maintaining the independence of our auditors. Pre-approval is detailed as to the particular service or category of services and is generally subject to a specific budget. Our independent registered public accounting firm and management are required to periodically report to the audit committee regarding the extent of services provided by the independent registered public accounting firm in accordance with this pre-approval, and the fees for the services performed to date.

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement 1 12

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Recommendation of the Board of Directors

Our board of directors unanimously recommends that stockholders vote FOR the ratification of the selection of Ernst & Young LLP to serve as the Company's independent registered public accounting firm for the year ending December 31, 2018.

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement 1 13

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### Proposal No. 3 Approval of Compensation of the Named Executive Officers

Under the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (the "Dodd-Frank Act"), our stockholders are entitled to vote at the annual meeting to provide advisory approval of the compensation of our named executive officers as disclosed in this proxy statement pursuant to the compensation disclosure rules of the SEC. This proposal, commonly known as a "say-on-pay" proposal, gives our stockholders the opportunity to express their views on our named executive officers' compensation. This vote is not intended to address any specific item of compensation, but rather the overall compensation of our named executive officers and the philosophy, policies and practices described in this proxy statement. Pursuant to the Dodd-Frank Act, the stockholder vote on executive compensation is an advisory vote only, and it is not binding on us or our board of directors.

Although the vote is non-binding, our compensation committee and board of directors value the opinions of the stockholders and will consider the outcome of the vote when making future compensation decisions. As described more fully in the Compensation Discussion and Analysis section of this proxy statement, our executive compensation program is designed to attract, retain and motivate individuals with superior ability, experience and leadership capability to deliver on our annual and long-term business objectives necessary to create stockholder value. We urge stockholders to read the Compensation Discussion and Analysis section of this proxy statement, which describes in detail how our executive compensation policies and procedures operate and are intended to operate in the future. The compensation committee and the board of directors believe that our executive compensation program fulfills these goals and is reasonable, competitive and aligned with our performance and the performance of our executives.

We are asking our stockholders to indicate their support for our named executive officer compensation as described in this proxy statement. Accordingly, we ask that our stockholders vote "FOR" the following resolution:

"RESOLVED, that Ligand Pharmaceuticals Incorporated stockholders approve, on an advisory basis, the compensation of the named executive officers, as disclosed in Ligand Pharmaceuticals Incorporated's Proxy Statement for the 2018 annual meeting of stockholders, pursuant to the compensation disclosure rules of the SEC, including the Compensation Discussion and Analysis, the 2017 Summary Compensation Table and the other related tables and disclosure."

#### Recommendation of the Board of Directors

Our board of directors unanimously recommends that stockholders vote FOR the approval, on an advisory basis, of the compensation of the named executive officers as disclosed in this proxy statement pursuant to the compensation disclosure rules of the SEC.

#### Executive Officers

The names of the executive officers of the Company and their ages, titles and biographies as of April 20, 2018 are set forth below.

John L. Higgins, 48, is being considered for the position of director of the Company. See "Election of Directors" for a discussion of Mr. Higgins' business experience.

Charles S. Berkman, J.D., 49, has served as our Senior Vice President, General Counsel and Secretary since January 2018 and prior that as our Vice President, General Counsel and Secretary since April 2007. Mr. Berkman joined the Company in November 2001 and previously served as Associate General Counsel and Chief Patent Counsel for the Company (and Secretary since March 2007). Prior to joining the Company, Mr. Berkman was an attorney at the international law firm of Baker & McKenzie from November 2000 to November 2001. Before that he served as an attorney at the law firm of Lyon & Lyon from 1993 to November 2000, where he specialized in intellectual property law.



Mr. Berkman earned a B.S. in chemistry from the University of Texas and a J.D. from the University of Texas School of Law.

Matthew W. Foehr, 45, has been our President and Chief Operating Officer since January 2015. Prior to that time, Mr. Foehr served as our Executive Vice President and Chief Operating Officer since 2011, and has more than 20 years of experience managing global research and development programs. Prior to joining Ligand in 2011, he was Vice President and Head of Consumer Dermatology R&D, as well as Acting Chief Scientific Officer of Dermatology, in the Stiefel division of GlaxoSmithKline (GSK). Following GSK's \$3.6 billion acquisition of Stiefel in 2009, Mr. Foehr led the R&D integration of Stiefel into GSK. At Stiefel Laboratories, Inc., Mr. Foehr served as Senior Vice President of Global R&D Operations, Senior Vice President of Product Development & Support, and Vice President of Global Supply Chain Technical Services. Prior to Stiefel, Mr. Foehr held various executive roles at Connetics Corporation including Senior Vice President of Technical Operations and Vice President of Manufacturing. Mr. Foehr serves on the Board of Directors of Viking Therapeutics, Inc. and Ritter Pharmaceuticals, Inc. Mr. Foehr is the author of multiple scientific publications and is named on numerous U.S. patents. He received his B.S. degree in biology from Santa Clara University.

Matthew Korenberg, 43, has served as our Executive Vice President, Finance and Chief Financial Officer since January 2018 and prior to that as our Vice President, Finance and Chief Financial Officer since August 2015. Prior to joining Ligand, commencing in September 2013, Mr. Korenberg was the founder, Chief Executive Officer and a director of NeuroCircuit Therapeutics, a company focused on developing drugs to treat genetic disorders of the brain with an initial focus on Down syndrome. Prior to founding NeuroCircuit Therapeutics, Mr. Korenberg was a Managing Director and member of the healthcare investment banking team at Goldman Sachs from July 1999 through August 2013. During his 14 year tenure at Goldman Sachs, Mr. Korenberg was focused on advising and financing companies in the biotechnology and pharmaceutical sectors and was based in New York, London and San Francisco. Prior to Goldman Sachs, Mr. Korenberg was a healthcare investment banker at Dillon, Read & Co. Inc. where he spent two years working with healthcare companies in the biotechnology and pharmaceutical sectors and industrial companies. Mr. Korenberg holds a B.B.A. in Finance and Accounting from The University of Michigan.

Security Ownership of Certain Beneficial Owners, Directors and Management

The following table shows, based on information we have, the beneficial ownership of our common stock as of April 20, 2018, by:

- all persons who are beneficial owners of 5% or more of our outstanding common stock;
- each of our current directors;
- each of our named executive officers (as defined below in “Compensation Discussion and Analysis – Summary Compensation Table”); and
- all of our executive officers and directors as a group.

Unless otherwise indicated, each of the stockholders has sole voting and investment power with respect to the shares beneficially owned, subject to community property laws, where applicable. Percentage of ownership is based on approximately 21,301,400 shares of common stock outstanding on April 20, 2018. Shares of common stock underlying options include options which are currently exercisable or will become exercisable within 60 days after April 20, 2018, are deemed outstanding for computing the percentage of the person or group holding such options, but are not deemed outstanding for computing the percentage of any other person or group. The address for individuals for whom an address is not otherwise indicated is 3911 Sorrento Valley Boulevard, Suite 110, San Diego, CA 92121.

Beneficial Owner	Number of Shares Beneficially Owned	Shares Beneficially Owned via Options, Warrants or Convertible Notes	Percent of Class Owned
BlackRock, Inc. <sup>(1)</sup> 55 East 52 <sup>nd</sup> Street New York, NY 10055	2,996,960	—	14.1%
The Vanguard Group <sup>(2)</sup> 100 Vanguard Blvd. Malvern, PA 19355	1,847,814	—	8.7%
William Blair Investment Management, LLC <sup>(3)</sup> 222 W. Adams St. Chicago, IL 60606	1,235,629	—	5.8%
Directors and Executive Officers			
Jason M. Aryeh <sup>(4)</sup>	150,484	10,851	*
Charles S. Berkman	27,583	34,187	*
Todd C. Davis	53,563	7,539	*
Matthew W. Foehr	101,201	277,016	1.7%
Nancy Ryan Gray	—	—	*
John L. Higgins	107,419	645,052	3.4%
Matthew Korenberg	14,217	32,332	*
John W. Kozarich	33,149	35,356	*
John L. LaMattina	20,956	25,521	*
Sunil Patel	39,313	37,856	*
Stephen L. Sabba	26,985	37,856	*
Directors and executive officers as a group (10 persons)	574,870	1,143,566	7.8%

\* Less than one percent.

(1) Represents shares of common stock owned by funds affiliated with BlackRock, Inc. at December 31, 2017, as indicated in the entity's Schedule 13G/A filed with the SEC on January 19, 2018.

(2) Represents shares of common stock beneficially owned by The Vanguard Group at December 31, 2017 as indicated in the entity's Schedule 13G/A filed with the SEC on February 9, 2018.

(3) Represents shares of common stock beneficially owned by William Blair Investment Management, LLC at December 31, 2017 as indicated in the entity's Schedule 13G/A filed with the SEC on February 13, 2018. Shares held by Jason Aryeh are owned by certain funds managed by JALAA Equities, LP ("JALAA"), JLV

(4) Investments, LP ("JLV") and affiliates (collectively, the "Funds"). Mr. Aryeh is the general partner of JALAA and a partner of JLV. Mr. Aryeh individually has the sole power to vote 217,882 shares and dispose of 217,882 shares beneficially owned by Mr. Aryeh and the Funds.

## Compensation Discussion and Analysis

This Compensation Discussion and Analysis (“CD&A”) describes our compensation philosophy and programs, the compensation decisions the compensation committee made under those programs, and the factors considered in making those decisions. This CD&A focuses on the compensation of our named executive officers or “NEOs”, who for 2017 were:

Name	Title
John L. Higgins	Chief Executive Officer
Matthew W. Foehr	President and Chief Operating Officer
Matthew Korenberg	Executive Vice President, Finance and Chief Financial Officer
Charles S. Berkman	Senior Vice President and General Counsel

### Executive Summary

#### Overview and Objectives of Our Executive Compensation Program

The compensation committee has designed our executive compensation program to provide compensation opportunities that:

- attract, motivate and retain individuals of superior ability and managerial talent critical to its long-term success;
- align executives’ interests with the Company’s corporate strategies, business objectives and the long-term interests of the Company’s stockholders;
- create incentives to achieve key strategic and corporate performance objectives; and
- enhance the executives’ incentive to increase the Company’s stock price and maximize stockholder value.

Within this framework our compensation program has been developed with the following key principles in mind:

**We Intend to Pay for Performance.** The majority of our named executive officers’ total compensation as shown in our Summary Compensation Table below ties compensation directly to the achievement of corporate objectives, increases in our stock price or both. We emphasize pay for performance in order to align executive compensation with our business strategy and the creation of long-term stockholder value.

**Our Compensation Program Supports Our Corporate Objectives and Stockholder Interests.** Our compensation program is designed to align executive officer compensation with our corporate strategies, business objectives and the long-term interests of our stockholders by rewarding successful execution of our business plan and tying a significant portion of total compensation opportunities to equity incentives.

**Key Elements of Our Compensation Program.** Our compensation program is designed to achieve these objectives through a combination of the following types of compensation:

- base salary;
- annual variable performance bonus awards payable in cash;
- long-term stock-based incentive awards comprised of a significant portion of performance-based equity; and
- employee benefits and perquisites, including change in control severance arrangements.

Each element of our executive compensation program is discussed in greater detail below.

### Ligand's Strong 2017 Corporate Performance

Our Company’s fiscal year 2017 accomplishments, guided by our named executive officers, illustrate the success of our executive compensation program, and included, among other things, the following:

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement 1 17

Successful Business Development: The Company's shots-on-goal portfolio increased through licensing and acquisitions by approximately 10 during 2017, finishing the year with over 165 shots on goal.

OmniAb Business: The Company enhanced its OmbiAb business with the acquisition of Crystal Bioscience. The acquisition initially added four shots-on-goal to Ligand's portfolio, and the OmniChicken technology, with the potential to be utilized by multiple current OmniAb partners as they seek to develop antibodies for difficult-to-address targets.

Continued Optimization of Captisol Business: In 2017, the Company entered into 114 new Captisol research contracts and had significant year-over-year increases in sample requests from prospective partners.

Research and Development: In 2017, the Company continued to advance its product pipeline, including the announced positive top-line results from its Phase 2 clinical study evaluating the efficacy and safety of LGD-6972 and the initiation of an internally-funded program to develop contrast agents with reduced renal toxicity for diagnostic imaging procedures.

Operational Achievements: During 2017, the Company had its sixth consecutive year of being cash flow positive with solid financial growth. The Company successfully contained costs while integrating the Crystal Bioscience business within the organization.

#### Performance Graph

The graph below shows the five-year cumulative total stockholder return assuming the investment of \$100 and is based on the returns of the component companies weighted monthly according to their market capitalizations. The graph compares total stockholder returns of our common stock, of all companies traded on the Nasdaq Stock market, as represented by the Nasdaq Composite® Index, and of the NASDAQ Biotechnology Stock Index, as prepared by The Nasdaq Stock Market Inc.

The stockholder return shown on the graph below is not necessarily indicative of future performance and we will not make or endorse any predictions to future stockholder returns.

#### 2017 Compensation Programs and Decisions

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement 1 18

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In line with our executive compensation program's emphasis on pay for performance, compensation awarded to our named executive officers for 2017 reflected our financial results and overall compensation philosophy:

**Base Salary Adjustments:** During 2017, our named executive officers received increases to their base salaries of between 3% and 11%. The Company provides its named executive officers with a base salary that approximates the 25th percentile for similar positions at our peer group, and these increases were determined to be appropriate by our compensation committee to ensure that the base salaries of our named executive officers continued to be generally consistent with this pay positioning philosophy.

**Pay-for-Performance Annual Incentive Bonuses:** For 2017, our Company focused on certain key business development objectives and objectives related to business development, the Captisol business, the OmniAb business, the successful management of the Glucagon Receptor Antagonist Phase 2 clinical trial and operational goals. Our compensation program for 2017 was designed to support the Company's focus on these areas and together achievement in these areas represented the criteria upon which our named executive officer's bonus opportunity was based. Based on corporate performance in these five areas during 2017, as summarized above, our compensation committee determined that our executive officers should be paid their bonuses at 120% of targeted levels. The annual bonuses awarded to our named executive officers for 2017 are discussed below under "Annual Performance-Based Cash Compensation."

**Equity Emphasis on Performance-Based Equity Awards:** Our compensation committee continued its practice of ensuring that a substantial portion of our named executive officers' total compensation is awarded in the form of long-term equity incentive awards. In 2017, at least 25% of each named executive officer's equity awards were granted in the form of performance-based stock awards.

**Stock Options:** Fifty percent of each named executive officer's annual awards was granted in the form of stock options, which we consider to be performance based awards as they provide value to our executives only if our stock price increases. These stock options are subject to our standard four year vesting schedule.

**Performance-Based Restricted Stock Units:** In 2017, the compensation committee also awarded performance-based restricted stock units to our named executive officers, which awards represented approximately 25% of the total value of the long-term equity incentive awards granted to our named executive officers in 2017. These performance-based restricted stock units will vest based on objectives related to the Company's cash flow for the two year performance period commencing January 1, 2017 and ending December 31, 2018 and our new licensing deals during the performance period commencing April 1, 2017 and ending December 31, 2019, with each such objective equally weighted. The compensation committee selected the foregoing performance measures because they represent the key financial and operational performance metrics for which the executives are responsible, thereby creating the clearest link between executive actions, corporate results and continued long-term success for the Company.

**Time-Based Restricted Stock Units:** The remainder of the long-term equity incentive awards granted to our named executive officers was granted in the form of restricted stock units that are subject to our standard three year vesting schedule.

In light of the Company's overall performance during 2017, the compensation committee believes that the named executive officers' 2017 compensation was appropriate.

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement I 19

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### Ligand's Executive Compensation Best Practices

We regularly review and refine our executive compensation program to ensure that it continues to reflect practices and policies that are aligned with our pay-for-performance philosophy. The following practices and policies we believe are in line with current best practices for aligning executive and shareholder interests and sound corporate governance practices:

Compensation Practice	Ligand Policy
Pay for Performance	YES A majority of our executives' total direct compensation is performance-based We seek an annual non-binding advisory vote from our shareholders to approve the
Annual "Say on Pay" Vote	YES executive compensation programs disclosed in our CD&A, tabular disclosure and related narrative in our proxy
Independent Compensation Consultant	YES The compensation committee retains an independent compensation consultant
Annual Compensation Risk Assessment	YES Each year we perform an assessment of any risks that could result from our compensation plans and programs
Stock Ownership Guidelines for Directors	YES We have stock ownership guidelines for non-employee directors of 3.0 times their annual retainer
Employment Agreements	NO We do not provide our executive officers with employment agreements
Excise Tax Gross-ups	NO We do not provide tax gross ups to our executives for "excess parachute payments"
Repricing or Exchange of Underwater Stock Options	NO We prohibit option repricing without stockholder approval
Single Trigger Change in Control Vesting/Benefits	NO We do not provide for single-trigger vesting or payment of benefits for our executives upon a change in control. Rather, we provide double-trigger (or both a change in control and termination of an executive's employment) before vesting is accelerated

#### Response to 2017 Say on Pay Vote

In May 2017, we held a stockholder advisory vote on the compensation of our named executive officers, commonly referred to as a say-on-pay vote. Our stockholders overwhelmingly approved the compensation of our named executive officers, with approximately 98% of stockholder votes cast in favor of our 2017 say-on-pay resolution (excluding abstentions and broker non-votes). As we evaluated our compensation practices and talent needs throughout 2017, we were mindful of the strong support our stockholders expressed for our compensation philosophy. As a result, following our annual review of our executive compensation philosophy, the compensation committee decided to generally retain our existing approach to executive compensation for our continuing executives, with an emphasis on short- and long-term incentive compensation that rewards our senior executives when they deliver value for our stockholders.

#### The Role of the Compensation Committee and Executive Officers in Setting Compensation

The compensation committee has the primary authority to determine the Company's compensation philosophy and to establish compensation for the Company's executive officers. In determining each level of compensation and the total package, the compensation committee reviewed a variety of sources, to determine and set compensation.

The chief executive officer aids the compensation committee by providing annual recommendations regarding the compensation of all executive officers, other than himself. Each named executive officer and senior executive management team member, in turn, participates in an annual performance review with the chief executive officer to provide input about his contributions to the Company's success for the period being assessed. The performance of our chief executive officer and senior executive management team as a group is reviewed annually by the compensation committee.

In 2017, the compensation committee retained Radford, an AonHewitt Company and an independent compensation consulting firm, to assist it in the formulation of the peer group used to determine executive equity compensation



during 2017 and to advise regarding the determination of the other key elements of the executive compensation program. Radford reports to and is accountable to the compensation committee, and may not conduct any other work for us without the authorization of the compensation committee. Radford did not provide any services to us in 2017 beyond its engagement as an advisor to the

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement | 20

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compensation committee on executive compensation matters. After review and consultation with Radford, the compensation committee has determined that Radford is independent and there is no conflict of interest resulting from retaining Radford currently or during the year ended December 31, 2017. In reaching these conclusions, the compensation committee considered the factors set forth in Exchange Act Rule 10C-1 and Nasdaq listing standards.

As in prior years, the compensation committee and the Company's management also consulted several independent compensation surveys to assist them in determining market pay practices for compensating executive officers. These surveys were reviewed to compare the Company's compensation levels to the market compensation levels, taking into consideration the other companies' size, the industry, the individual executive's level of responsibility and his years of experience. For 2017, the current executive salaries were evaluated against the Radford Global Life Sciences Compensation Report using data from comparable companies. These surveys were used due to the competitiveness in hiring employees within the biotechnology industry as well as in our geographic location and we believe they represent the types of companies with which we compete for executive talent. With respect to the foregoing survey data, the identities of the individual companies included in the surveys were not provided to the compensation committee, and the compensation committee did not refer to individual compensation information for such companies. Instead, the compensation committee only referred to the statistical summaries of the compensation information for the companies included in such surveys.

Additionally, the compensation committee worked with Radford to confirm a peer group of companies in the United States for which compensation information can be provided to the compensation committee. This is necessary so the Company can offer compensation that is competitive within that group of companies. The peer group companies for 2017 compensation included ACADIA Pharmaceuticals, Acorda Therapeutics, AMAG Pharmaceuticals, ARIAD Pharmaceuticals, Depomed, Eagle Pharmaceuticals, Exelixis, Halozyme Therapeutics, Horizon Pharma, Innoviva, Ironwood Pharmaceuticals, Ionis Pharmaceuticals, Momenta Pharmaceuticals, Nektar Therapeutics, Neurocrine Biosciences, Pacira Pharmaceuticals, PDL BioPharma, Repligen and Supernus Pharmaceuticals.

The selected companies in our peer group are companies that fall within a reasonable range of comparison factors and/or that we may compete with for executive talent. In addition to the criteria related to finding companies with similar business models and at a similar stage of development as Ligand, the other criteria used in the identification and selection of the peer group included business/labor market competitors in the biotechnology industry similar in size and complexity to us, companies with market values between \$600 million and \$6.0 billion (based on trading values in September 2016 when the peer group was selected) and companies with products in comparable stages of development to our products. We also focused on companies with multiple product candidates, as opposed to single product companies. The peer group was not selected on the basis of executive compensation levels. The peer group revisions from the 2016 peer group were intended to ensure that the peer group more accurately reflects companies that are our peers in terms of our current business model and stage of development, including the number of programs maintained by the Company and the importance of licensing to the Company's business model.

The peer group compensation data is limited to publicly available information and therefore does not provide precise comparisons by position as offered by more comprehensive survey data. The survey data, however, can be used to provide pooled compensation data for positions closely akin to those held by each named executive officer. In addition, the pool of senior executive talent from which we draw and against which we compare ourselves extends beyond the limited community of our immediate peer group and includes a wide range of other organizations outside of our traditional competitors, which range is represented by such surveys. As a result, the compensation committee uses peer group data to analyze the overall competitiveness of our compensation with our direct publicly traded peers in the United States and our general compensation philosophy, and to determine equity award levels for the named executive officers, but also relies on industry survey data in determining actual executive compensation. For purposes of this compensation discussion and analysis, references to our "peer group" include both the peer group of companies listed above and the survey data reviewed by our compensation committee.

The compensation committee has adopted a compensation philosophy that places a greater emphasis on long-term equity incentive compensation for our named executive officers than cash compensation. As a result, the compensation committee generally sets target total cash compensation below the median (e.g., at approximately the 25th percentile) of executive officers performing similar job functions at companies in our peer group. At the same time, the compensation committee emphasizes long-term equity incentive compensation by setting target equity compensation above the median of executive officers performing similar job functions at companies in our peer group. However, we strongly believe in retaining the best talent among our senior executive management team and while we believe that comparisons to market data are a useful tool, we do not believe that it is appropriate to establish executive compensation levels based solely on a comparison to data from

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement 1 21

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these companies. Therefore, the compensation committee may approve total compensation packages for senior executive management that vary from the foregoing positioning based on several factors, including overall experiences, accumulated years of service with us, level of responsibilities and/or performance ratings. Our 2017 total compensation for our named executive officers was generally consistent with the foregoing compensation philosophy.

In addition, the mix of compensation paid to our named executive officers is intended to ensure that total compensation reflects our overall success or failure, including our long-term stock performance, and to motivate executive officers to meet appropriate performance measures. In determining each element of compensation for any given year, our compensation committee considers and determines each element individually and then reviews the resulting total compensation and determines whether it is reasonable and competitive. We do not have a pre-established policy or target for the allocation between either cash and non-cash or short-term and long-term incentive compensation.

The compensation levels of our named executive officers reflect to a significant degree their varying roles and responsibilities. Mr. Higgins, in his role as chief executive officer, has the greatest level of responsibility among our named executive officers and, therefore, receives the highest level of pay. This is also consistent with the practices of the companies in our peer group and the summary compensation data included in the summaries of comparable companies reviewed by our compensation committee.

#### Base Compensation

As discussed above, the Company provides its named executive officers with a base salary that approximates the 25<sup>th</sup> percentile for similar positions at our peer group, but may vary from such level based on:

- industry experience, knowledge and qualifications;
- the salary levels in effect for comparable positions within the Company's principal industry marketplace competitors; and
- internal comparability considerations.

As a general matter, the base salary for each executive officer is initially established through negotiation at the time the officer is hired, taking into account the officer's qualifications, experience, prior salary and competitive salary information. Increases in base salary from year to year are based upon the performance of the executive officers as well as market positioning considerations, as assessed by the chief executive officer (for executives other than himself) and approved by the compensation committee. The compensation committee assesses these factors with respect to the chief executive officer.

During 2017, our named executive officers received increases to their base salaries of between 3% and 11%, as follows: Mr. Higgins, 6.8% increase; Mr. Foehr, 3.0% increase; Mr. Korenberg, 6.6% increase; and Mr. Berkman, 10.6% increase. These increases were determined to be appropriate by our compensation committee to ensure that the base salaries of our named executive officers continued to be generally consistent with our pay positioning philosophy, as described above. Base salaries paid to our named executive officers for 2017 are disclosed below in the table entitled "Summary Compensation Table."

#### Performance-Based Compensation

##### Annual Performance-Based Cash Compensation

It is the compensation committee's objective to have a substantial portion of each named executive officer's compensation contingent upon the Company's performance. For each of our named executive officers, all of his annual bonus compensation is dependent on the Company's performance relative to specified performance objectives.

The annual performance-based bonus program consists of a cash award if certain corporate performance objectives are satisfied. The Company sets annual incentive targets so that each executive's total target cash compensation (inclusive of base salary) approximates the 25<sup>th</sup> percentile of target total cash opportunities offered by our peer group. Under the

Company's 2017 program, the target performance bonus for the chief executive officer is 75% of base salary, 50% of base salary for Messrs. Foehr and Korenberg, and 40% of base salary for Mr. Berkman. Mr. Korenberg's target bonus opportunity was increased from 40% to 50% in January 2017 after the compensation committee's review of the comparable company

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement | 22

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information for similarly-situated executives and to keep his target total cash compensation aligned with our pay positioning, as described above.

In determining the performance compensation awarded to each named executive officer, the Company evaluates the Company's performance in a number of areas. At the beginning of each year, our board of directors sets corporate objectives for the year. These objectives are set by the board of directors after considering management input and our overall strategic objectives. These objectives generally relate to factors such as strategic objectives, achievement of product development objectives, establishment of new collaborative arrangements and general operational goals. Following the conclusion of each year, the compensation committee determines the level of achievement for each year relative to these corporate objectives. This achievement level is then applied to each named executive officer's target bonus to determine that year's total annual bonus. The compensation committee retains the discretion to reduce the final bonus payout to a named executive officer.

At the beginning of 2017, our board of directors, with input provided by our named executive officers, established our Company goals for the year. The compensation committee then reviewed and considered a proposed Company-wide (including named executive officers) bonus program in view of the Company goals, including the proportional emphasis to be placed on each objective annual bonus determination purposes.

The Company goals approved by the compensation committee for 2017 for purposes of annual bonus achievement included:

Business Development Goals (35% Weighting)

- Complete at least seven licensing deals
- Evaluate and, if appropriate, pursue potential acquisitions

Goals Related to OmniAb Business (25% Weighting)

- Launch at least one new expanded OmniAb platform
- Increase customer service and awareness of OmniAb platform via successful partner meetings, publications and presentations

• Expand intellectual property available to OmniAb partners

Goals Related to Optimization of Captisol Business (20% Weighting)

- Manage business to maximize revenue and manage competitive threats
- Expand existing relationships and generate at least 35 new research contracts
- Expand key manufacturing relationships and optimize Captisol's long-term cost-of-goods
- Expand product offerings

Goals Related to GRA Phase 2 Trial (10% Weighting)

- Successful completion of the Glucagon Receptor Antagonist Phase 2 clinical trial

Operational Goals (10% Weighting)

• Deliver superior partner customer service focused on information timeliness, technical support, issue resolution and commercial planning

• Organizational staff planning and expansion and improvement of data management systems

• Upgrade intranet to create internal efficiencies

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement 1 23

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Effective financial, legal and administrative management and tax planning

In evaluating management's performance against our 2017 corporate objectives in January 2018, our compensation committee determined to award a corporate achievement level of 120% relative to those objectives. This determination was made in the discretion of the compensation committee after its review of our overall corporate performance relative to each of the objectives listed above. In general, quantitative objectives were not established for most of the corporate objectives during 2017. Instead these performance objectives were used as a guide by the compensation committee in determining overall corporate performance as they represented those areas in which the named executive officers and our employees generally were expected to focus their efforts.

With respect to the business development goals, the compensation committee awarded an achievement level of 120%, noting that in 2017, the Company completed ten new licensing deals that increased the Company's shots-on-goal portfolio and acquired Crystal Biosciences.

With respect to the goals related to our OmniAb business, the compensation committee awarded full credit, for an achievement level of 120%, noting our successful acquisition and integration of Crystal Bioscience and the OmniChicken technology.

With respect to the goals related to the optimization of our Captisol business, the compensation committee awarded an achievement level of 120%, noting that the Company entered into 107 new Captisol research contracts. The Company worked with key vendors and partners to maximize revenue potential and volatility, had new patents issued and expanded key manufacturing relationships and improved manufacturing efficiencies.

With respect to the goal related to successful project management of the Glucagon Receptor Antagonist Phase 2 clinical trial, the compensation committee awarded full credit, for an achievement level of 120%, noting that positive Phase 2 results were achieved and was done so on budget.

With respect to the operational goals, which were entirely qualitative goals and not objectively determinable, the compensation committee determined an overall achievement level of 120% was appropriate given its subjective determination of the Company's overall performance in this area during 2017. The compensation committee noted that in 2017, the Company was cash-flow positive for the sixth consecutive year.

As a result of the foregoing determinations, all of our named executive officers received bonus awards equal to 120% of their target awards. In addition, the compensation committee approved an additional \$30,000 discretionary increase to the annual bonuses for Messrs. Higgins, Foehr and Korenberg as an additional reward for their 2017 performance.

The actual bonus awards paid to our named executive officers for 2017 are disclosed below in the table entitled "Summary Compensation Table."

Long-Term Performance-Based Equity Incentive Program

In accordance with our compensation philosophy, the Company's longer-term performance-based compensation is based on equity ownership. The Company believes that equity ownership in the Company is important to tie the ultimate level of an executive officer's compensation to the performance of the Company's stock and stockholder gains while creating an incentive for sustained growth.

We generally provide equity compensation to our named executive officers through grants of stock options, performance stock units and restricted stock units. The grants are designed to align the interests of our named executive officers with those of the stockholders and provide each individual with a significant incentive to manage the Company from the perspective of an owner with an equity stake in the business. The compensation committee



views granting options and restricted stock unit awards as a retention device and therefore also reviews the status of vesting and number of vested versus unvested options and restricted stock unit awards at the time of grant. Guidelines for the number of stock options and restricted stock unit awards granted to each executive officer are determined using a procedure approved by the compensation committee based upon several factors, including the executive officer's level of responsibility, salary grade, performance and the value of the stock option and restricted stock unit awards at the time of grant. With respect to our named executive officers, we generally make awards to such officers at the time of initial hire based on an evaluation of the foregoing factors. Additional grants, other than the annual awards to executives, may be made following a significant change in job responsibility or in recognition

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement 1 24

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of a significant achievement. Annual awards are made to our named executive officers when such awards are deemed appropriate by the compensation committee based on an evaluation of the foregoing factors.

Given the position of executive cash compensation relative to market (which is set at approximately the 25th percentile), our compensation committee has emphasized long-term equity incentive compensation to ensure total compensation is competitive. The long-term equity incentive awards granted to the named executive officers in 2017 were set at approximately the 75th percentile level of equity awards for similar positions at our peer group companies, adjusted using the above factors and taking into consideration such equivalency factors as our number of shares outstanding and market capitalization, compared to the peer group companies.

Time-based stock options granted under our 2002 Stock Incentive Plan, as amended (the "2002 Plan"), generally have a four-year vesting schedule designed to provide an incentive for continued employment. The options generally expire ten years from the date of the grant. This provides a reasonable time frame during which executive officers and other employees who receive grants can benefit from the appreciation of the Company's shares. The exercise price of options granted under our 2002 Plan, is equal to 100% of the fair market value of the underlying stock on the date of grant. Accordingly, the option will provide a return to the executive officer only if the market price of the shares appreciates over the option term. Time-based restricted stock unit awards generally vest in equal installments over three years. We also grant performance-based equity awards to our named executive officers.

Commencing in 2015, the compensation committee introduced performance-based restricted stock units as a component of our annual long-term equity incentive awards for our named executive officers. Since 2015, the "target" number of performance-based restricted stock units granted to our named executive officers each year has represented approximately 25% of the total value of the long-term equity incentive awards granted to our named executive officers. Of the remainder of the long-term equity incentive awards granted to our named executive officers, 50% of the total value of the long-term incentive awards is granted in the form of stock options that are subject to our standard four year vesting schedule, as described above, and 25% of the total value of the long-term incentive awards is granted in the form of restricted stock units that are subject to our standard three year vesting schedule, as described above.

#### 2017 Long-Term Incentive Awards.

In January and March 2017, our compensation committee approved long-term incentive awards to our named executive officers as described in the Grants of Plan-Based Awards table below.

The time-based stock options and restricted stock units vest in accordance with the standard vesting schedules described above.

With respect to the performance-based restricted stock units granted in 2017, a named executive officer may earn up to 137.5% of the "target" number of performance-based restricted stock units based on performance relative to the performance objectives established for these awards. The performance-based restricted stock units will vest based on objectives related to the Company's cash flow for the two year performance period commencing January 1, 2017 and ending December 31, 2018 and our new licensing deals during the performance period commencing April 1, 2017 and ending December 31, 2019, with each such objective equally weighted (and a possible performance multiplier of 150% for "maximum" performance relative to the cash flow objective and a possible performance multiplier of 125% for "maximum" performance relative to the new licensing deals objectives). Threshold performance levels, below which no vesting will be awarded, were also established for each performance objective. The compensation committee selected the foregoing performance measures because they represent the key financial and operational performance metrics for which the executives are responsible, thereby creating the clearest link between executive actions, corporate results and continued long-term success for the Company.

Vesting of 2016 Performance-Based Restricted Stock Units.

In January 2016, our named executive officers were granted performance-based restricted stock units. A named executive officer may earn up to 137.5% of the “target” number of performance-based restricted stock units based on performance relative to the performance objectives established for these awards. The performance-based restricted stock units will vest based on objectives related to our revenues for the two year performance period commencing January 1, 2016 and ending December 31, 2017 and our new OmniAb shots-on-goal transactions during the three year performance period commencing January 1, 2016 and ending December 31, 2018, with each such objective equally weighted (and a possible performance multiplier of 150% for “maximum” performance relative to the revenue objective and a possible performance multiplier of

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement 1 25

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125% for “maximum” performance relative to the new OmniAb shots-on-goal transactions objectives). Threshold performance levels, below which no vesting will be awarded, were also established for each performance objective. The compensation committee selected the foregoing performance measures because they represent the key financial and operational performance metrics for which the executives are responsible, thereby creating the clearest link between executive actions, corporate results and continued long-term success for the Company.

#### Vesting of 2015 Performance-Based Restricted Stock Units.

In January 2015, our named executive officers were granted performance-based restricted stock units. A named executive officer may earn up to 137.5% of the “target” number of performance-based restricted stock units based on performance relative to the performance objectives established for these awards. The performance-based restricted stock units will vest based on objectives related to our non-GAAP earnings per share growth for the two year performance period commencing January 1, 2015 and ending December 31, 2016 and our new shots-on-goal transactions during the three year performance period commencing January 1, 2015 and ending December 31, 2017, with each such objective equally weighted (and a possible performance multiplier of 150% for “maximum” performance relative to the non-GAAP earnings per share growth objective and a possible performance multiplier of 125% for “maximum” performance relative to the shots-on-goal transactions objectives). Threshold performance levels, below which no vesting will be awarded, were also established for each performance objective. The compensation committee selected the foregoing performance measures because they represent the key financial and operational performance metrics for which the executives are responsible, thereby creating the clearest link between executive actions, corporate results and continued long-term success for the Company.

In December 2017, the compensation committee certified our achievement relative to the new shots-on-goal transactions objective for purposes of the 2015 performance-based restricted stock units. The threshold, target and maximum performance levels for the new shots-on-goal transactions component of the awards were as follows: less than 20, 0% payout; 20, 75% payout; 25, 100% payout; and equal to or greater than 30, 125% payout. We had 38 new shots-on-goal transactions for purposes of the 2015 performance-based restricted stock units for the three year performance period commencing January 1, 2015 and ending December 31, 2017, resulting in a 125% payout with respect to these units.

In March 2018, the compensation committee certified our achievement relative to the revenue objective for purposes of the 2016 performance-based restricted stock units. The threshold, target and maximum performance levels for the revenue component of the awards were as follows: less than \$250 million, 0% payout; \$250 million, 50% payout; \$275 million, 100% payout; and equal to or greater than \$300 million, 150% payout. The compensation committee determined that our revenue for purposes of determining the vesting of the portion of the 2016 performance-based restricted stock units eligible to vest based on our revenue for the two year performance period commencing January 1, 2016 and ending December 31, 2017 was \$277 million, resulting in a 104% payout with respect to these units.

In making this determination, the compensation committee exercised its discretion to include \$7 million of Aziyo Biologics, Inc. payments that were recorded as a reduction of Commercial License Rights and the \$20 million license fee for a transaction signed in March 2018 in addition to our revenue for such period (as reported in our audited financial statements) of \$250 million. While the \$20 million license fee was not received in 2017, the compensation committee determined that substantially all of the work undertaken by the executive officers to complete the

transaction was reasonably attributable to 2017 and that the inclusion of that license fee in revenue for purposes of the vesting of the 2016 performance-based restricted stock units was appropriate. The compensation committee also determined that such revenue would not be counted for 2018 compensation decision purposes where any performance objectives relate to 2018 revenue.

All of the equity awards granted to our named executive officers are disclosed below in the table entitled “Grants of Plan-Based Awards in Fiscal Year 2017.”

Other Elements of Compensation and Perquisites

We also provide our named executive officers and other employees the following benefits and perquisites.

Medical Insurance. The Company provides to each named executive officer, the named executive officer’s spouse and children such health, dental and vision insurance coverage as the Company may from time to time make available to its other executives of the same level of employment. The Company pays a portion of the premiums for this insurance for all employees.

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement 1 26

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**Life and Disability Insurance.** The Company provides each named executive officer such disability and/or life insurance as the Company in its sole discretion may from time to time make available to its other executive employees of the same level of employment. The Company pays the premiums for this life insurance coverage for the named executive officers.

**Defined Contribution Plan.** The Company and its designated affiliates offer the Section 401(k) Savings/Retirement Plan (the "401(k) Plan"), a tax-qualified retirement plan, to their eligible employees. The 401(k) Plan permits eligible employees to defer from 1% to 90% of their annual eligible compensation, subject to certain limitations imposed by the Internal Revenue Code. The employees' elective deferrals are immediately vested and non-forfeitable in the 401(k) Plan. The Company also makes matching contributions to the 401(k) Plan. In 2017, the match was equal to \$0.40 per each \$1.00 contributed by an employee up to an annual maximum of \$4,800 per year.

**Employee Stock Purchase Plan.** The Company's 2002 Employee Stock Purchase Plan, as amended, which is intended to qualify under Section 423 of the Internal Revenue Code, permits participants to purchase Company stock on favorable terms. Plan participants are granted a purchase right to acquire shares of common stock at a price that is 85% of the stock price on either the first day of the six month offering period or the stock price on the last day of the six month offering period, whichever is lower. The purchase dates occur on the last business days of December and June of each year. To pay for the shares, each participant may authorize periodic payroll deductions from 1% to 10% of his or her cash compensation, subject to certain limitations imposed by the Internal Revenue Code. All payroll deductions collected from the participant in an offering period are automatically applied to the purchase of common stock on that offering period's purchase date provided the participant remains an eligible employee and has not withdrawn from the employee stock purchase plan prior to that date.

**Other.** The Company makes available certain other perquisites or fringe benefits to executive officers and other employees, such as tuition reimbursement, professional society dues and food and recreational fees incidental to official company functions, including board meetings. The aggregate of these other benefits was less than \$10,000 for each executive officer in the last fiscal year.

#### Severance and Change in Control Arrangements

We believe that reasonable severance benefits for our named executive officers are important because it may be difficult for our executive officers to find comparable employment within a short period of time following an involuntary termination of employment. We also believe that it is important to protect our named executive officers in the event of a change in control transaction involving us. In addition, it is our belief that the interests of stockholders will be best served if the interests of our senior management are aligned with them, and providing change in control severance benefits should eliminate, or at least reduce, the reluctance of senior management to pursue potential change in control transactions that may be in the best interests of stockholders. Accordingly, the severance arrangements we have entered into with each of our executive officers provide for severance benefits in specified circumstances, as well as benefits in connection with an involuntary termination following a change in control.

#### Change in Control Arrangements

The Company has a change in control severance agreement with each of the named executive officers. In the event a named executive officer's employment is terminated by us without cause or he or she resigns for good reason within 24 months following a change in control of the Company, he or she will be eligible to receive a severance benefit equal to:

- one times (two times for Mr. Higgins) the annual rate of base salary in effect for such officer at the time of involuntary termination; plus
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one times (two times for Mr. Higgins) the greater of: (a) the maximum target bonus for the fiscal year in which the termination occurs; or (b) the maximum target bonus for the fiscal year in which the change in control occurs, if different; plus

twelve (twenty-four for Mr. Higgins) multiplied by the monthly premium the executive would be required to pay for continued health coverage for himself or herself and his or her eligible dependents.

The foregoing severance amount will be payable in a lump sum following the officer's termination of employment, subject to the officer's execution of a general release of claims acceptable to us.

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement | 27

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The change in control severance agreements also provide that all of a named executive officer's outstanding stock awards will vest in the event of such a termination. In addition, the post-termination exercise period of a named executive officer's stock options will be extended from three months to the date that is nine months following the date of termination (but in no event beyond the original expiration date of such options).

For purposes of the change in control severance agreements, an involuntary termination is either a termination of a named executive officer's employment by us without cause or his resignation for good reason. "Cause" is generally defined as an officer's conviction of, or plea of "guilty" or "no contest" to, a felony under the laws of the United States or any state thereof, an officer's willful and material breach of any obligation or duty under the employment agreement, the Company's confidentiality and proprietary rights agreement or the Company's written employment or other written policies that have previously been furnished to the officer, which breach is not cured within 30 days after written notice thereof is received by the officer, if such breach is capable of cure, the officer's gross negligence or willful misconduct, including without limitation, fraud, dishonesty or embezzlement, in the performance of his duties, or the officer's continuing failure or refusal to perform his assigned duties or to comply with reasonable directives of the board of directors that are consistent with the officer's job duties (which directives are not in conflict with applicable law), which failure is not cured within 30 days after written notice thereof is received by the officer.

For purposes of the change in control severance agreements, "good reason" is generally defined as a material diminution in the officer's authority, duties or responsibilities, a material diminution in the officer's base compensation, a material change in the geographic location at which the officer must perform his duties, or any other action or inaction that constitutes a material breach by the Company or any successor or affiliate of its obligations to the officer under the employment agreement. An officer must provide written notice to the Company of the occurrence of any of the foregoing events or conditions without his written consent within 90 days of the occurrence of such event. The Company will have a period of 30 days to cure such event or condition after receipt of written notice of such event from the officer. Any voluntary termination of an officer's employment for "good reason" must occur no later than the date that is six months following the initial occurrence of one of the foregoing events or conditions.

For purposes of the change in control severance agreements, a "change in control" has generally the same definition as given to such term under our 2002 Plan, as described below.

#### Amended and Restated Severance Plan

We maintain the Ligand Pharmaceuticals Incorporated Amended and Restated Severance Plan to provide severance payments to our employees and the employees of our subsidiaries upon an involuntary termination of employment without cause. Each of the named executive officers is eligible to participate in the severance plan, provided that he or she is not subject to disciplinary action or a formal performance improvement plan at the time of termination. However, if, as a result of his or her involuntary termination by us without "cause," a named executive officer would be eligible to receive severance under any individual change in control severance agreement, employment agreement or other arrangement providing severance benefits, as approved by our board of directors or a committee thereof, such named executive officer will not be eligible for benefits under the severance plan.

Under the terms of the severance plan, a named executive officer will be eligible to receive (1) a lump sum payment in cash for his fully earned but unpaid base salary and accrued but unused vacation through the date of termination, (2) an amount equal to his base salary for the severance period, which period will be equal to (a) two months plus (b) one week for each year of service as of the date of termination and (c) continued health coverage at the same cost as was in effect for the named executive officer at the date of termination throughout such severance period, provided that such named executive officer elects continued coverage under COBRA. The foregoing cash severance benefit will be payable in a lump sum following the officer's termination of employment, subject to the officer's execution of a general release of claims acceptable to us.



For purposes of the severance plan, “cause” is generally defined as an officer’s conviction of (or entry of a plea of no contest to) any felony or any other criminal act, an officer’s commission of any act of fraud or embezzlement, an officer’s unauthorized use or disclosure of confidential or proprietary information or trade secrets of the Company or our subsidiaries, or an officer’s commission of any material violation of the Company’s policies, or an officer’s commission of any other intentional misconduct which adversely affects the business or affairs of the Company in a material manner.

Change in Control Acceleration of Equity Awards

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement | 28

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Equity awards granted under the 2002 Plan to the named executive officers may be subject to accelerated vesting in the event of a “change in control.”

Equity award agreements under the 2002 Plan, which cover each of the named executive officers, provide that such equity awards will automatically vest in the event of a “change in control” where the option is not assumed or replaced by a successor.

Under the 2002 Plan, a “change in control” is generally defined as:

- a merger, consolidation or reorganization of the Company in which 50% or more of its voting securities change ownership;
- the sale, transfer or other disposition of all or substantially all of the Company’s assets in complete liquidation or dissolution of the Company; or
- a change in control of the Company effected through a successful tender offer for more than 50% of the Company’s outstanding common stock or through a change in the majority of our board of directors as a result of one or more contested elections for board membership.

In addition, the performance-based restricted stock units granted to the named executive officers in 2017 contain additional vesting provisions that will apply in the event of a change in control. In the event of a change in control prior to December 31, 2018, the number of performance-based restricted stock units in which a named executive will be eligible to vest under each performance-based restricted stock unit will be set at the “target” number of restricted stock units, which “target” restricted stock units will continue to be eligible to vest based solely on the participant’s continued employment or service, with 50% of such “target” units vesting on December 31, 2018 and 50% of such “target” units vesting on December 31, 2019. In the event of a change in control after December 31, 2018 but prior to December 31, 2019, the remaining number of restricted stock units in which a participant will be eligible to vest under each performance-based restricted stock unit will be set at 50% of the “target” number of restricted stock units, which “target” restricted stock units will continue to be eligible to vest based solely on the participant’s continued employment or service through December 31, 2019.

Further, the performance-based restricted stock units granted to the named executive officers in 2016 contain additional vesting provisions that will apply in the event of a change in control. In the event a change in control had occurred prior to December 31, 2017, the number of performance-based restricted stock units in which a named executive would have been eligible to vest under each performance-based restricted stock unit would have been set at the “target” number of restricted stock units, which “target” restricted stock units would have continued to be eligible to vest based solely on the participant’s continued employment or service, with 50% of such “target” units vesting on December 31, 2017 and 50% of such “target” units vesting on December 31, 2018. In the event of a change in control after December 31, 2017 but prior to December 31, 2018, the remaining number of restricted stock units in which a participant will be eligible to vest under each performance-based restricted stock unit will be set at 50% of the “target” number of restricted stock units, which “target” restricted stock units will continue to be eligible to vest based solely on the participant’s continued employment or service through December 31, 2018.

#### Policies Regarding Tax Deductibility of Compensation

Section 162(m) of the Internal Revenue Code restricts the ability of publicly held companies to take a federal income tax deduction for compensation paid to “covered employees” to the extent that compensation exceeds \$1.0 million per covered employee in any fiscal year. Prior to the Tax Cuts and Jobs Act of 2017, covered employees generally consisted of a company’s chief executive officer and its three most highly compensated executive officers serving at the end of the taxable year (other than its chief financial officer), and compensation that qualified as “performance-based” under Section 162(m) was exempt from this \$1 million deduction limitation. As part of the Tax Cuts and Jobs Act of 2017, the ability to rely on this exemption was, with certain limited exceptions, eliminated; in

addition, the definition of covered employees was expanded to generally include all named executive officers. Although we historically maintained plans that were intended to permit the payment of deductible compensation under Section 162(m) of the Code if the requirements of Section 162(m) were satisfied, subject to the limited transition relief rules in the Tax Cuts and Jobs Act of 2017, we may no longer be able to take a deduction for any compensation in excess of \$1 million that is paid to a covered employee. While we consider the tax deductibility of each element of executive compensation as a factor in our overall compensation program, the compensation

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement 1 29

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committee retains the discretion to approve compensation that may not qualify for the compensation deduction if, in light of all applicable circumstances, it would be in our best interest for such compensation to be paid without regard to whether it may be tax deductible.

#### Risk Assessment of Compensation Policies and Programs

In March 2018, management and Radford assessed our compensation policies and programs for all employees for purposes of determining the relationship of such policies and programs and the enterprise risks faced by the Company and presented its assessment to our compensation committee. Based on these assessments, management recommended, and the compensation committee concluded, that none of our compensation policies or programs create risks that are reasonably likely to have a material adverse effect on the Company. In connection with their review, management and the compensation committee noted certain key attributes of our compensation policies and programs that help to reduce the likelihood of excessive risk taking, including:

- The program design provides a balanced mix of cash and equity compensation, fixed and variable compensation and annual and long-term incentives.

- Corporate performance objectives are designed to be consistent with the Company's overall business plan and strategy, as approved by the board of directors.

- The determination of executive incentive awards is based on a review of a variety of indicators of performance, reducing the risk associated with any single indicator of performance.

- The Company's equity awards generally vest over multi-year periods.

- The compensation committee has the right to exercise negative discretion over executive annual incentive plan payments.

#### Compensation Tables

##### Summary Compensation Table

The following table provides information regarding the compensation earned by our named executive officers during the fiscal years ended December 31, 2017, 2016 and 2015

Name and Principal Position	Year	Salary(\$)	Bonus (\$)	Stock Awards (\$) <sup>(1)</sup>	Option Awards (\$) <sup>(1)</sup>	Non-Equity Incentive Plan Compensation (\$) <sup>(2)</sup>	All Other Compensation (\$) <sup>(3)</sup>	Total
John L. Higgins, Chief Executive Officer	2017	611,656	30,000 <sup>(2)</sup>	2,111,154	2,202,412	550,491	7,494	5,513,207
	2016	573,958	-	1,992,215	2,393,068	387,421	5,978	5,352,640
	2015	547,336	-	1,794,131	1,810,851	392,029	6,369	4,550,716
Matthew W. Foehr, President and Chief Operating Officer	2017	442,094	30,000 <sup>(2)</sup>	1,387,985	1,280,493	265,256	52,675 <sup>(4)</sup>	3,458,503
	2016	429,292		973,888	1,169,942	193,181	74,954 <sup>(5)</sup>	2,841,257
	2015	410,472		1,250,322	1,356,995	196,000	143,501 <sup>(6)</sup>	3,357,290
Matthew Korenberg, Executive Vice President, Finance and Chief Financial Officer	2017	403,438	30,000 <sup>(2)</sup>	736,550	768,266	242,063	5,400	2,185,717
	2016	378,750		664,015	797,704	118,500	7,872	1,966,841
	2015	140,673		1,255,080	1,340,490	56,269	5,464	2,797,976
Charles S. Berkman, Senior Vice President and General Counsel	2017	362,812		466,461	486,593	174,150	8,803	1,498,819
	2016	329,167		376,275	452,035	136,350	6,343	1,300,170
	2015	308,592		512,641	517,400	117,882	5,937	1,462,452

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement 1 30

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Reflects the grant date fair value for stock and option awards granted in 2015, 2016 and 2017, calculated in accordance with FASB ASC Topic 718. The assumptions used to calculate the value of stock and option awards are set forth under Note 8 of the Notes to Consolidated Financial Statements included in our Annual Report on Form 10-K for the year ended December 31, 2017, filed with the SEC on March 1, 2018. With respect to the restricted stock unit awards included in the Summary Compensation Table that were granted during 2017 with

(1) performance-based vesting conditions, these amounts include the grant date fair value of such performance-based restricted stock units granted to each of the named executive officers based on the estimated probable outcome of the performance based objectives applicable to such awards on the grant date. The full grant date fair value of the performance-based restricted stock units awarded to our named executive officers during fiscal year 2017, assuming maximum achievement of the applicable performance objectives is as follows: Mr. Higgins \$1,491,694, Mr. Foehr \$867,237, Mr. Korenberg \$520,443, and Mr. Berkman \$329,604.

Represents performance bonus awards under the management bonus plan earned in 2015, 2016 and 2017, but paid (2) in the subsequent year. For 2017 for Messrs. Foehr and Korenberg, the "Bonus" column reflects a \$30,000 discretionary increase to their annual bonuses approved by the compensation committee.

With the exception of Mr. Foehr, represents life insurance premiums paid by the Company for each year (3) represented in the table and \$4,800 in 401(k) matching funds paid by the Company for each named executive officer.

Pursuant to the management rights letter between Viking Therapeutics, Inc. ("Viking"), and the Company dated May 21, 2014, the Company nominated Mr. Foehr to serve as a member of Viking's board of directors. During 2017, in connection with Mr. Foehr's service as a director of Viking, Mr. Foehr received (4) (1) \$33,170 in cash payments and (2) \$13,278 in option awards (representing the aggregate grant date fair value of the option awards as reported by Viking, computed in accordance with authoritative accounting guidance). Additionally, Mr. Foehr received life insurance premiums paid by the Company for 2017 of \$900, taxable fringe benefits of \$527 and \$4,800 in 401(k) matching funds paid by the Company in 2017.

(5) During 2016, in connection with Mr. Foehr's service as a director of Viking, Mr. Foehr received (1) \$33,170 in cash payments and (2) \$36,084 in option awards (representing the aggregate grant date fair value of the option awards as reported by Viking, computed in accordance with authoritative accounting guidance). Additionally, Mr. Foehr received life insurance premiums paid by the Company for 2016 of \$600, taxable fringe benefits of \$419 and \$4,800 in 401(k) matching funds paid by the Company in 2016.

(6) During 2015, in connection with Mr. Foehr's service as a director of Viking, Mr. Foehr received (1) \$22,113 in cash payments and (2) \$115,569 in option awards (representing the aggregate grant date fair value of the option awards as reported by Viking, computed in accordance with authoritative accounting guidance). Additionally, Mr. Foehr received life insurance premiums paid by the Company for 2015 of \$600, taxable fringe benefits of \$419 and \$4,800 in 401(k) matching funds paid by the Company in 2015.

Grants of Plan-Based Awards in Fiscal Year 2017

The following table summarizes plan-based awards granted to our named executive officers during the last fiscal year.

Name	Grant Date	Date of Board Action approving Award	Estimated Future Payouts Under Non-Equity Incentive Plan Awards <sup>(1)</sup>	Estimated Future Payouts Under Incentive Plan Awards <sup>(2)</sup>	Times Target	Target Maximum	All Other Stock Awards: Number of Shares of Stock or Units <sup>(3)</sup>	All Other Option Awards: Number of Securities Underlying Options <sup>(4)</sup>	Exercise Base Price of Option Awards (\$/Sh)	Grant Date of Stock and Option Awards <sup>(5)</sup>
John L. Higgins	1/24/17	1/24/17	460,575	—	—	—	—	—	—	—
	3/29/17	3/29/17	—	—	6,390	10,224	14,058	—	—	1,084,869
	2/24/17	1/24/17	—	—	—	—	—	10,224	—	1,026,285
	2/24/17	1/24/17	—	—	—	—	—	43,646	100.38	2,202,412
Matthew W. Foehr	1/24/17	1/24/17	221,450	—	—	—	—	—	—	—
	3/29/17	3/29/17	—	—	3,715	5,944	8,173	—	—	630,178
	2/24/17	1/24/17	—	—	—	—	—	7,544	—	757,267
	2/24/17	1/24/17	—	—	—	—	—	25,376	100.38	1,280,493
Matthew Korenberg	1/24/17	1/24/17	201,720	—	—	—	—	—	—	—
	3/29/17	3/29/17	—	—	2,230	3,567	4,905	—	—	378,494
	2/24/17	1/24/17	—	—	—	—	—	3,567	—	358,055
	2/24/17	1/24/17	—	—	—	—	—	15,225	100.38	768,266
Charles S. Berkman	1/24/17	1/24/17	146,000	—	—	—	—	—	—	—
	3/29/17	3/29/17	—	—	1,412	2,259	3,106	—	—	188,137
	2/24/17	1/24/17	—	—	—	—	—	2,259	—	188,137
	2/24/17	1/24/17	—	—	—	—	—	9,643	100.38	486,593

(1) Represents the target cash bonus awards granted under our annual performance bonus program. Actual bonus amounts paid are reflected in the Summary Compensation Table above.

(2) The performance-based restricted stock units will vest based on objectives related to the Company's cash flow for the two year performance period commencing January 1, 2017 and ending December 31, 2018 and our new licensing deals objective during the performance period commencing April 1, 2017 and ending December 31, 2019, with each such objective equally weighted (and a possible performance multiplier of 150% for "maximum" performance relative to the cash flow objectives and a possible performance multiplier of 125% for "maximum" performance relative to the new licensing deals objective). Threshold performance levels, below which no vesting will be awarded, were also established for each performance objective. For a description of the change in control

provisions applicable to the foregoing equity award, see “Severance and Change in Control Arrangements” above.

The restricted stock unit awards granted to the named executive officers vest in equal installments over a three year (3) period. For a description of the change in control provisions applicable to the foregoing equity awards, see “Severance and Change in Control Arrangements” above.

Each option grant to the named executive officers vests 12.5% after six months from grant and the remainder in 42 (4) equal monthly installments. For a description of the change in control provisions applicable to the foregoing equity awards, see “Severance and Change in Control Arrangements” above.

Represents the fair value of the stock option or stock award at the time of grant as determined in accordance with (5) the provisions of FASB ASC Topic 718. The assumptions used to calculate the value of stock and option awards are set forth under Note 8 of the Notes to Consolidated Financial Statements included in our Annual Report on Form 10-K for the year ended December 31, 2017, filed with the

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement 1 32

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SEC on March 1, 2018. With respect to awards, the vesting of which is performance-based, the grant date fair value is based on the estimated probable outcome of the performance objectives applicable to such awards on the grant date.

Outstanding Equity Awards at Fiscal Year-End

The following table provides information on all stock and option awards held by the named executive officers of the Company as of December 31, 2017. All outstanding equity awards are in shares of the Company's common stock.

Ligand Pharmaceuticals Incorporated 2018 Proxy Statement | 33

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Name	Option Awards				Stock Awards				
	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Exercised Options (#)	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Options (#)	Option Exercise Price	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#) <sup>(2)</sup>	Market Value of Stock That Have Not Vested (\$) <sup>(3)</sup>	Equity Incentive Plan Awards: Number of Unearned Shares, Unit or Other Rights That Have Not Vested (#)	Equity incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested (\$) <sup>(3)</sup>
John L. Higgins	62,444	—	—	16.14	2/14/2019				