SECURITIES AND EXCHANGE COMMISSION

FORM DEF 14A

Definitive proxy statements

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SCHEDULE 14A INFORMATION

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PROXY STATEMENT PURSUANT TO SECTION 14(a) OF THE SECURITIES EXCHANGE ACT OF 1934

Filed by a Party other than the Registrant \Box

Che	ck the	appropriate box:
	Preli	minary Proxy Statement
	Con	fidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))
X	Defi	nitive Proxy Statement
	Defi	nitive Additional Materials
	Solic	citing Material under §240.14a-12
		Ignyta, Inc. (Name of Registrant as Specified in Its Charter)
		(Name of Person(s) Filing Proxy Statement, if other Than the Registrant)
Payı	nent c	of Filing Fee (Check the appropriate box):
X	No f	ee required.
	Fee o	computed on table below per Exchange Act Rules 14a-6(i)(4) and 0-11.
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	offse	ck box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the etting fee was paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the of its filing.

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(4)	Date Filed:



4545 Towne Centre Court San Diego, California 92121

NOTICE OF 2017 ANNUAL MEETING OF STOCKHOLDERS AND PROXY STATEMENT

Dear stockholder:

The annual meeting of stockholders of Ignyta, Inc. will be held at the offices of Latham & Watkins LLP located at 12670 High Bluff Drive, San Diego, California 92130 on June 13, 2017 at 8:00 a.m. local time, for the following purposes:

- 1. To elect two directors for a three-year term to expire at the 2020 annual meeting of stockholders.
- 2. To ratify the appointment of KPMG LLP as our independent registered public accounting firm for the fiscal year ending December 31, 2017.
- 3. To transact any other business that may properly come before our annual meeting or any adjournment or postponement of the meeting.

These items of business are more fully described in the Proxy Statement accompanying this Notice.

Our board of directors has fixed April 20, 2017 as the record date for the determination of stockholders entitled to notice of, and to vote at, the annual meeting and at any adjournment or postponement of the meeting.

All stockholders are cordially invited to attend the annual meeting. Whether or not you expect to attend the annual meeting, please vote by Internet or telephone as described in the enclosed proxy materials, or please complete, sign and date the enclosed proxy and return it promptly. If you plan to attend the annual meeting and wish to vote your shares personally, you may do so at any time before the proxy is voted.

By Order of the Board of Directors,

/s/ JONATHAN E. LIM, M.D. Jonathan E. Lim, M.D. President, Chief Executive Officer and Chairman of the Board

San Diego, California April 28, 2017

Your vote is important. Please vote your shares whether or not you plan to attend the meeting.

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4545 Towne Centre Court San Diego, California 92121

PROXY STATEMENT FOR THE 2017 ANNUAL MEETING OF STOCKHOLDERS TO BE HELD ON TUESDAY, JUNE 13, 2017

The board of directors of Ignyta, Inc. is soliciting the enclosed proxy for use at the annual meeting of stockholders to be held on June 13, 2017 at 8:00 a.m., local time, at the offices of Latham & Watkins LLP located at 12670 High Bluff Drive, San Diego, California 92130. If you need directions to the location of the annual meeting, please contact us at (858) 255-5959.

Important Notice Regarding the Availability of Proxy Materials for the Annual Meeting of Stockholders to be Held on June 13, 2017.

This proxy statement and our annual report are available electronically at www.proxydocs.com/rxdx.

GENERAL INFORMATION ABOUT THE ANNUAL MEETING AND VOTING

Why did you send me this proxy statement?

We sent you this proxy statement and the enclosed proxy card because our board of directors is soliciting your proxy to vote at the 2017 annual meeting of stockholders. This proxy statement summarizes information related to your vote at the annual meeting. All stockholders who find it convenient to do so are cordially invited to attend the annual meeting in person. However, you do not need to attend the meeting to vote your shares. Instead, you may simply complete, sign and return the enclosed proxy card in the envelope provided.

We intend to begin mailing this proxy statement, the attached notice of annual meeting and the enclosed proxy card on or about April 28, 2017 to all stockholders of record entitled to vote at the annual meeting. Only stockholders who owned our common stock on April 20, 2017 are entitled to vote at the annual meeting. On this record date, there were 41,836,760 shares of our common stock outstanding. Common stock is our only class of stock entitled to vote.

What am I voting on?

There are three proposals scheduled for a vote:

Proposal 1: Election of Jonathan E. Lim, M.D. and James Bristol, Ph.D., for election to the company's board of directors for a three-year term expiring at the company's 2020 annual meeting of stockholders.

Proposal 2: Ratification of the appointment of KPMG LLP as the company's independent registered public accountants for the fiscal year ending December 31, 2017.

How many votes do I have?

Each share of our common stock that you own as of April 20, 2017 entitles you to one vote.

How do I vote by proxy?

With respect to the election of directors, you may either vote "For" the nominees to the board of directors or you may "Withhold" your vote for any such nominee. For the ratification of the appointment of KPMG LLP as the company's independent registered public accountants, you may vote "For" or "Against" or abstain from voting.

Stockholders of Record: Shares Registered in Your Name

If your shares are held in your name you are considered, with respect to those shares, the "stockholder of record." You have three options for returning your proxy:

By Mail. If you choose to return your proxy by mail, please mark, sign, date and mail back the enclosed form of proxy, which requires no postage if mailed in the United States. If you properly complete your proxy card and send it to us in time to vote, your proxy (one of the individuals named on your proxy card) will vote your shares as you have directed. If you sign the proxy card but do not make specific choices, your shares will be, as permitted, voted as recommended by our board of directors. If any other matter is presented at the annual meeting, your proxy (one of the individuals named on your proxy card) will vote in accordance with his or her best judgment. As of the date of this proxy statement, we knew of no matters to be acted on at the meeting, other than those discussed in this proxy statement.

<u>Voting by Telephone or Internet</u>. Please call the toll-free telephone number on the proxy card (1-866-291-6999) and follow the recorded instructions; or access our secure website registration page through the Internet (at www.proxypush.com/rxdx), as identified on the proxy card and follow the instructions, using the unique control number printed on the proxy card/voting instruction card. Please note that the Internet and telephone voting facilities for stockholders of record will close at 11:59 p.m. Eastern Time on June 12, 2017.

<u>In Person at the Annual Meeting</u>. You may attend the annual meeting and vote in person even if you have already voted by proxy. To vote in person, come to the annual meeting, and we will give you a ballot at the annual meeting.

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

If your shares are registered in the name of your broker, bank or other agent, you are the "beneficial owner" of those shares and those shares are held in street name. You should have received a proxy card and voting instructions with these proxy materials from that organization rather than directly from us. Generally, you have three options for returning your proxy:

<u>By Mail</u>. You may vote by signing, dating and returning your voting instruction card in the pre-addressed envelope provided by your broker, bank or other agent.

By Method Listed on Voting Instruction Card. Please refer to your voting instruction card or other information provided by your bank, broker or other agent to determine whether you may vote by telephone or electronically on the Internet, and follow the instructions on the voting instruction card or other information provided by your broker, bank or other agent. If your bank, broker or other agent does not offer Internet or telephone voting information, please complete and return your voting instruction card in the pre-addressed, postage-paid envelope provided.

<u>In Person at the Annual Meeting</u>. 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 the proxy form authorizing you to vote the shares. You will need to bring with you to the annual meeting the legal proxy form from your broker, bank or other agent authorizing you to vote the shares as well as proof of identity.

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 in any one of the three following ways:

you may send in another signed proxy with a later date;

you may authorize a proxy again on a later date on the Internet (only the latest Internet proxy submitted prior to the annual meeting will be counted); or

you may notify our corporate secretary, Christian V. Kuhlen, M.D., in writing before the annual meeting that you have revoked your proxy, after which you are entitled to submit a new proxy or vote in person at the meeting.

If you are a beneficial owner, your broker, bank or other agent can provide you with instructions on how to revoke your proxy and/or change your vote.

What constitutes a quorum?

The presence at the annual meeting, in person or by proxy, of holders representing a majority of our outstanding common stock as of April 20, 2017, or approximately 20,918,381 shares, constitutes a quorum at the meeting, permitting us to conduct our business.

What vote is required to approve each proposal?

Proposal 1: Election of Directors. For Proposal 1, because the election of directors is determined by a plurality of votes cast, there is no threshold number of "For" votes (among votes properly cast in person or by proxy) required to elect the nominees. The two directors who receive the most "For" votes (among votes properly cast in person or by proxy) will be elected. As a result, "Withheld" votes would not affect the outcome.

Proposal 2: Ratification of Independent Registered Public Accounting Firm. To be approved, Proposal 2 must receive "For" votes from the holders of a majority of the shares of common stock present or represented by proxy and entitled to vote at the annual meeting.

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

What is the effect of abstentions and broker non-votes?

Shares of common stock held by persons attending the annual meeting but not voting, and shares represented by proxies that reflect abstentions as to a particular proposal, will be counted as present for purposes of determining the presence of a quorum. Abstentions are treated as shares present in person or by proxy and entitled to vote, so abstaining has the same effect as a negative vote for purposes of determining whether our stockholders have approved the appointment of KPMG LLP as our independent registered public accounting firm. However, because the election of directors is determined by a plurality of votes cast, abstentions will not be counted in determining the outcome of that proposal.

Shares represented by proxies that reflect a "broker non-vote" will be counted for purposes of determining whether a quorum exists. A "broker non-vote" occurs when a nominee holding shares for a beneficial owner has not received instructions from the beneficial owner and does not have discretionary authority to vote the shares for certain non-routine matters. With regard to the election of directors, broker non-votes, if any, will not be counted as votes cast and will have no effect on the result of the vote. However, ratification of the appointment of KPMG LLP is considered a routine matter on which a broker or other nominee has discretionary authority to vote. As a result, broker non-votes will be counted for purposes of this proposal.

Who is paying the costs of soliciting these proxies?

We will pay all of the costs of soliciting these proxies. Our directors, officers and other employees may solicit proxies in person or by telephone, fax or email. We will pay our directors, officers and other employees no additional compensation for these services. We will ask banks, brokers and other institutions, nominees and fiduciaries to forward these proxy materials to their principals and to obtain authority to execute proxies. We will then reimburse them for their expenses. Our costs for forwarding proxy materials will not be significant.

In addition, we have engaged Georgeson Inc. to assist in soliciting proxies on our behalf. Georgeson may solicit proxies personally, electronically or by telephone. We have agreed to pay Georgeson \$7,500 plus reasonable expenses for these services. We have also agreed to indemnify Georgeson and its employees against certain liabilities arising from or in connection with the engagement.

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, 2016 that we filed with the Securities and Exchange Commission, or the SEC, on March 14, 2017, we will send you one without charge. Please write to:

Ignyta, Inc. 4545 Towne Centre Court San Diego, California 92121 Attn: Corporate Secretary

All of our SEC filings are also available free of charge in the Investors-SEC Filings section of our website at www.ignyta.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 our 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 additional Form 8-K to publish the final results.

Explanatory Note

Infinity Oil & Gas Company, or Parent, was incorporated under the laws of the State of Nevada on August 21, 2012. Ignyta, Inc., or Ignyta, was incorporated under the laws of the State of Delaware on August 29, 2011, with the name "NexDx, Inc." On October 31, 2013, IGAS Acquisition Corp, a wholly owned subsidiary of Parent, merged with and into Ignyta, and Ignyta survived the merger and became the wholly owned subsidiary of Parent. Upon the closing of the merger, Parent ceased to be a "shell company" under applicable rules of the SEC.

In connection with the merger, Parent changed its name to "Ignyta, Inc." and Ignyta changed its name to "Ignyta Operating, Inc." On June 12, 2014, Parent merged with and into Ignyta, with Ignyta surviving the merger and changing its name to Ignyta, Inc. As used in this proxy statement, unless the context indicates or otherwise requires, "Ignyta," "our company," "we," "us," and "our" refer to Ignyta, Inc., a Delaware corporation.

Parent and Ignyta effected reverse stock splits of their capital stock at the ratios of 100-to-one and three-to-one, respectively, on October 31, 2013. Unless the context indicates or otherwise requires, all share numbers and share price data included in this proxy statement have been adjusted to give effect to those reverse stock splits.

We are an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. We will remain an emerging growth company until the earlier of (i) the last day of the fiscal year following the fifth anniversary of the date of the first sale of our common stock pursuant to an effective registration statement under the Securities Act of 1933, as amended, or the Securities Act, which was on February 15, 2013; (ii) the last day of the fiscal year in which we have total annual gross revenues of \$1 billion or more; (iii) the date on which we have issued more than \$1 billion in nonconvertible debt during the previous three years; or (iv) the date on which we are deemed to be a large accelerated filer under applicable SEC rules. We expect that we will remain an emerging growth company for the foreseeable future, but cannot retain our emerging growth company status indefinitely and will no longer qualify as an emerging growth company on or before December 31, 2018. For so long as we remain an emerging growth company, we are permitted and intend to rely on exemptions from specified disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include:

being permitted to provide only two years of audited financial statements, in addition to any required unaudited interim financial statements, with correspondingly reduced related disclosure;

not being required to comply with the requirement of auditor attestation of our internal controls over financial reporting;

not being required to comply with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor's report providing additional information about the audit and the financial statements;

reduced disclosure obligations regarding executive compensation; and

not being required to hold a nonbinding advisory vote on executive compensation and shareholder approval of any golden parachute payments not previously approved.

For as long as we continue to be an emerging growth company, we expect that we will take advantage of the reduced disclosure obligations available to us as a result of that classification. We have taken advantage of certain of reduced reporting burdens in this proxy statement. Accordingly, the information contained herein may be different than the information you receive from other public companies in which you hold stock.

An emerging growth company can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected to avail ourselves of this extended transition period and, as a result, we will not be required to adopt new or revised accounting standards on the dates on which adoption of such standards is required for other public reporting companies.

PROPOSAL 1:

ELECTION OF DIRECTORS

Our amended and restated bylaws currently specify that the number of directors shall be at least one and shall be determined from time to time by resolution of our board of directors. Our second amended and restated certificate of incorporation provides for the classification of our board of directors into three classes, as nearly equal in number as possible and with staggered terms of office, and provides that upon the expiration of the term of office for a class of directors, nominees for such class shall be elected for a term of three years or until their successors are duly elected and qualified. At this meeting, two nominees for director are to be elected as Class III directors for a three-year term expiring at our 2020 annual meeting of stockholders or until their successors are duly elected and qualified. The nominees, who were recommended for nomination by the nominating and corporate governance committee of our board of directors, are Jonathan E. Lim, M.D. and James Bristol, Ph.D. The Class I and Class II directors have one year and two years, respectively, remaining on their terms of office.

If no contrary indication is made, proxies in the accompanying form are to be voted for each of Drs. Lim and Bristol, or in the event that either of such nominees is not a candidate or is unable to serve as a director at the time of the election (which is not currently expected), for any nominee who is designated by our board of directors to fill the vacancy. Each of Drs. Lim and Bristol is currently a member of our board of directors.

All of our directors bring to the board of directors significant leadership experience derived from their professional experience and service as executives or board members of other corporations. The process undertaken by the nominating and corporate governance committee in recommending qualified director candidates is described below under "Director Nominations Process." Certain individual qualifications and skills of our directors that contribute to the board of directors' effectiveness as a whole are described in the following paragraphs.

NOMINEES FOR ELECTION TO THE BOARD OF DIRECTORS

For a Three-Year Term Expiring at the 2020 Annual Meeting of Stockholders (Class III)

Name	Age	Present Position with Ignyta, Inc.
Jonathan E. Lim, M.D.	45	Chairman of the Board, President and Chief Executive Officer
James Bristol, Ph.D.	70	Director

Jonathan E. Lim, M.D. Dr. Lim is a co-founder of Ignyta and joined us as Chairman at our inception in August 2011 and as President and Chief Executive Officer in July 2012. Dr. Lim is also a member of the Board of Visitors of the Moores Cancer Center at the University of California, San Diego, a position he has held since December 2015. Prior to joining Ignyta, Dr. Lim most recently served as Chairman and Chief Executive Officer of Eclipse Therapeutics, Inc., a private biotechnology company discovering and developing monoclonal antibody therapeutics targeting cancer stem cells that he co-founded in March 2011 as a spinout from Biogen Idec and that was sold to Bionomics Ltd., an Australian public biotechnology company discovering and developing drugs targeting oncology and central nervous system disorders, in September 2012. Dr. Lim served as a member of the board of directors of Bionomics Ltd. until November 2015. Prior to founding Eclipse Therapeutics, Dr. Lim served as the President, Chief Executive Officer and a Director of Halozyme Therapeutics, Inc., a public biotechnology company, from May 2003 to December 2010. Prior to that, Dr. Lim's experience included management consulting at McKinsey & Company, a National Institutes of Health Postdoctoral Fellowship at Harvard Medical School and the Dana Farber Cancer Institute, and two years of general surgery residency at

New York Hospital-Cornell and Memorial Sloan Kettering Cancer Center. Dr. Lim has B.S. and M.S. degrees from Stanford University, an M.D. from McGill University and an M.P.H. from Harvard University. We believe that Dr. Lim adds value to our board of directors based on his intimate knowledge of our business plans and strategies as a co-founder of our company and his extensive experience as an executive officer and director of multiple public and private biotechnology companies.

James Bristol, Ph.D. Dr. Bristol joined our board of directors in February 2014. Dr. Bristol worked for 33 years in drug discovery research and pre-clinical development at Schering-Plough, Parke-Davis and Pfizer, serving in various senior research and development roles. From 2003 until his retirement in 2007, Dr. Bristol was Senior Vice President of Worldwide Drug Discovery Research at Pfizer Global Research & Development. Dr. Bristol has been a Co-Chairman of the Board of Managers at Deciphera Pharmaceuticals, LLC since 2007 and serves as a Member of the Managing Board. He has also served as a Director of Mnemosyne Pharmaceuticals, Inc. since 2011. In 2009, Dr. Bristol joined Frazier Healthcare Ventures as a Senior Advisor. Dr. Bristol is the author of over 100 publications, abstracts and patents. He conducted postdoctoral research at the University of Michigan (N.I.H. Postdoctoral Fellow) and at The Squibb Institute for Medical Research. Dr. Bristol holds a Ph.D. in organic chemistry from the University of New Hampshire and a B.S. in Chemistry from Bates College. We believe that Dr. Bristol adds value to our board of directors based on his experience in the biopharmaceutical industry, including in management and as a director, as well as his expertise in drug discovery and development.

MEMBERS OF THE BOARD OF DIRECTORS CONTINUING IN OFFICE

Term Expiring at the 2018 Annual Meeting of Stockholders (Class I)

Name	Age	Present Position with Ignyta, Inc.
Heinrich Dreismann, Ph.D.	63	Director
Steven Hoerter	46	Director

Heinrich Dreismann, Ph.D. Dr. Dreismann joined our board of directors in October 2013. Dr. Dreismann currently serves on the boards of directors of several public and private diagnostic companies, including Myriad Genetics, Inc., a public molecular diagnostic company, and GeneNews, a Canadian public molecular diagnostics company. Dr. Dreismann also served on the board of directors of Shrink Nanotechnologies, Inc., a nanotechnology company, from June 2009 until November 2011, and Med BioGene, Inc., a Canadian public life sciences company focused on genomic-based clinical laboratory diagnostic tests, from 2008 through 2014. Dr. Dreismann completed a career at Roche Molecular Systems in 2006, where he served since 1985 and held several senior positions, including President and Chief Executive Officer of Roche Molecular Systems, Head of Global Business Development at Roche Diagnostics and Member of Roche's Global Diagnostic Executive Committee. Dr. Dreismann earned a Master of Science in biology and a Doctor of Philosophy in microbiology/molecular biology from Westfaelische Wilhelms University in Muenster, Germany. He conducted his Post-Doctoral studies in microbial genetics at the Centre d' Etudes Nucleaires de Saclay, France. We believe that Dr. Dreismann adds value to our board of directors based on his experience as a member of boards of directors and senior management of public companies and his expertise in the molecular diagnostics field.

Steven Hoerter. Steve Hoerter joined our board of directors in December 2016. Mr. Hoerter currently serves as Chief Commercial Officer of Agios Pharmaceuticals, Inc., a position he has held since February 2016, and has more than twenty years of global pharmaceutical and biotechnology experience, previously having served as executive vice president and chief commercial officer at Clovis Oncology, Inc. There, Mr. Hoerter built and led the global commercial organization that developed go-to-market strategies for two oncology therapies. Before joining Clovis in 2011, he was general manager and management center head at Roche for the

Sub-Saharan Africa and Indian Ocean Region. From 2005 to 2010, Mr. Hoerter held a variety of positions at Genentech, Inc., including serving on the senior leadership team for Genentech's BioOncology business as senior director, Pipeline Development and Commercial Operations. Prior to that, Mr. Hoerter held commercial roles at Chiron Corporation and Eli Lilly and Company in the U.S., Europe and Africa. Mr. Hoerter received a B.A. in Russian and political science from Bucknell University, an M.B.A. from Tilburg University, and an M.S. in management from Purdue University. We believe that Mr. Hoerter adds value to our board of directors based on his senior management experience in the pharmaceutical and biotechnology industry, with expertise in drug development and commercialization, and other aspects of our industry.

Term Expiring at the 2019 Annual Meeting of Stockholders (Class II)

Name	Age	Present Position with Ignyta, Inc.
Alexander Casdin	49	Director
James Freddo, M.D.	62	Director

Alexander Casdin. Mr. Casdin joined our board of directors in October 2013. Alex Casdin is CEO and Portfolio Manager at Reneo Capital Management L.P., a position he has held since January 2015. From September 2012 through December 2014, Mr. Casdin was a private investor focused on the healthcare sector. From October 2011 through September 2012, Mr. Casdin was the Chief Financial Officer of Sophiris Bio, Corp., a Canadian public urology company. Prior to Sophiris Bio, Mr. Casdin served as the Vice President, Finance of Amylin Pharmaceuticals, a biopharmaceutical company that was acquired by Bristol-Myers Squibb in 2012, a position he held from October 2009 to October 2011. Prior to his position at Amylin Pharmaceuticals, Mr. Casdin founded and operated Casdin Advisors LLC, where he served as a strategic advisor to companies in the life sciences industry. Before founding Casdin Advisors, Mr. Casdin was the Chief Executive Officer and Portfolio Manager of Cooper Hill Partners, LLC, a healthcare investment fund. Mr. Casdin has also held previous positions at Pequot Capital Management and Dreyfus Corporation. Mr. Casdin currently serves on the board of directors of DiaVacs, a private clinical-stage biotechnology company focused on a treatment for Type 1 Diabetes, and the Conquer Cancer Foundation of the American Society of Clinical Oncology, as well as a member of the advisory boards of the Hassenfeld Center For Cancer & Blood Disorders and the Social Enterprise Program of the Columbia Business School, each of which are non-profit entities. He also served on the board of directors of DUSA Pharmaceuticals, a specialty pharmaceutical company in the field of dermatology that was previously listed on the NASDAO Stock Market and was acquired by Sun Pharmaceutical Industries Limited in December 2012, from January 2009 until December 2012. Mr. Casdin earned his B.A. degree from Brown University and his M.B.A., Beta Gamma Sigma, from Columbia Business School. We believe that Mr. Casdin adds value to our board of directors based on his experience with financing and other aspects of company-building for enterprises in our industry.

James Freddo, M.D. Dr. Freddo joined our board of directors in February 2014. Previously, Dr. Freddo was a consultant to Ignyta from July 2013 to February 2014, holding the position of Chief Medical Officer. Prior to joining Ignyta, he served as a consultant from April 2012 until May 2012 and as the Executive Vice President, Clinical Development and Chief Medical Officer from June 2012 until May 2013, in each case for Ruga Corporation, a private oncology biopharmaceutical company. Prior to that, he was the Chief Medical Officer and Senior Vice President, Drug Development at Anadys Pharmaceuticals, a drug development company focused on small molecule therapeutics that was previously listed on the NASDAQ Stock Market and was acquired by Roche in 2011, from July 2006 until March 2012, where he also served as a member of the board of directors from January 2011 until November 2011. Prior to joining Anadys Pharmaceuticals, Dr. Freddo served at Pfizer, a global research-based pharmaceutical company, in La Jolla, California from June 2002 until July 2006, holding the positions of Vice President, Clinical Site Head and Development Site Head and, prior to that, Executive Director and leader of Oncology Clinical Development. Prior to joining Pfizer, Dr. Freddo held a variety of senior management positions at Wyeth-Ayerst Research from 1996 to 2002, in the Oncology, Infectious Diseases and Transplantation Immunology therapeutic areas. He also served as a member of the board of directors for

InfuSystems, Inc., a public healthcare products and services company, from 2008 until 2011. Dr. Freddo received an M.D. degree from the University of North Carolina, Chapel Hill, completed his residency training at University of California, San Diego and returned to Chapel Hill for his fellowship training in gynecologic oncology. We believe that Dr. Freddo adds value to our board of directors based on his experience as a member of boards of directors and senior management of life sciences companies and his expertise in drug development, clinical investigations and other aspects of our industry.

Board Independence

Our board of directors has determined that all of our directors are independent directors within the meaning of the applicable NASDAQ Stock Market LLC, or Nasdaq, listing standards, except for Jonathan E. Lim, M.D., our President and Chief Executive Officer.

Board Leadership Structure

The board believes that Dr. Lim's service as both chairman of the board and Chief Executive Officer is in the best interest of the company and its stockholders. Dr. Lim possesses detailed and in-depth knowledge of the issues, opportunities and challenges facing the company and its businesses and is thus best positioned to develop agendas that ensure that the board's time and attention are focused on the most critical matters.

Although we believe that the combination of the chairman and Chief Executive Officer roles is appropriate at this time based upon the current circumstances, our Corporate Governance Guidelines do not establish this approach as a policy. Pursuant to our Corporate Governance Guidelines, the board determines the best board leadership structure for our company from time to time. As part of our annual board self-evaluation process, we evaluate our leadership structure to ensure that the board continues to believe that it provides the optimal structure for our company and stockholders. We recognize that different board leadership structures may be appropriate for companies in different situations. We believe our current leadership structure is the optimal structure for our company at this time.

Dr. Lim's combined role enables decisive leadership, ensures clear accountability, and enhances our ability to communicate our message and strategy clearly and consistently to our stockholders, partners and suppliers, particularly during times of turbulent economic and industry conditions. This is expected to be particularly beneficial in driving a unified approach to core operating processes as we experience significant growth.

Each of the directors other than Dr. Lim is independent, and the board believes that the independent directors provide effective oversight of management. Moreover, in addition to feedback provided during the course of board meetings, the independent directors have regular executive sessions. Following an executive session of independent directors, the independent directors communicate with Dr. Lim directly regarding any specific feedback or issues, provide Dr. Lim with input regarding agenda items for board and board committee meetings, and coordinate with Dr. Lim regarding information to be provided to the independent directors in performing their duties. The board believes that this approach appropriately and effectively complements the combined Chief Executive Officer/chairman structure.

The Board's Role in Risk Oversight

The responsibility for day-to-day risk management lies with our management; however, our board of directors is responsible for risk oversight as part of its fiduciary duty of care to effectively monitor our business operations. Our audit committee, pursuant to its charter, is primarily responsible for overseeing the company's risk management processes on behalf of the full board. The audit committee receives reports from management at least quarterly regarding the company's assessment of risks. In addition, the audit committee reports regularly to the full board of directors, which also considers the company's risk profile. The audit committee and the full

board of directors focus on the most significant risks facing the company's business and the company's general risk management strategy, and also ensure that risks undertaken by the company are consistent with the board's appetite for risk. We believe this division of responsibilities is the most effective approach for addressing the risks facing our company and that our board leadership structure supports this approach.

Board of Directors Meetings

During 2016, the board of directors of Ignyta held nine meetings, the audit committee held five meetings, the compensation committee held two meetings and the nominating and corporate governance committee held three meetings. Each of the directors who served during the past year attended at least 75% of the aggregate of the total number of meetings of the board of directors and the committees of the board of directors on which he served, during the periods in which he served. The board of directors may also take action from time to time by written or electronic consent. The independent directors also hold regularly scheduled meetings in executive session without the presence of management.

Committees of the Board of Directors

We have three standing committees: the audit committee, the compensation committee and the nominating and corporate governance committee. Each of these committees has a written charter approved by our board of directors. A copy of each charter can be found under the Investors-Corporate Governance section of our website at www.ignyta.com. The current members of the committees are identified in the following table.

<u>Director</u>	Audit Committee	Compensation Committee	Nominating and Corporate Governance Committee
Jonathan E. Lim, M.D.	_	_	_
James Bristol, Ph.D.	-	X	X
Alexander Casdin	X*	X	_
Heinrich Dreismann, Ph.D.	X	X*	_
James Freddo, M.D.	X	_	X*
Steven Hoerter	_	_	X

^{*} Indicates chairman of the committee

Audit Committee

The audit committee of our board of directors currently consists of Mr. Casdin, Dr. Dreismann and Dr. Freddo. Mr. Casdin serves as the chairman of the committee. The audit committee was established in February 2014. All members of our audit committee meet the requirements for financial literacy under the applicable rules and regulations of the SEC and the Nasdaq Capital Market. Our board of directors has determined that Mr. Casdin is an "audit committee financial expert" as defined by applicable SEC rules and has the requisite financial sophistication as defined under the applicable Nasdaq rules and regulations. Our board of directors has determined that all members of the audit committee are independent directors, as defined in the Nasdaq qualification standards and by Section 10A of the Exchange Act. The audit committee is governed by a written charter adopted by our board of directors. The audit committee's main function is to oversee our accounting and financial reporting processes and the audits of our financial statements. This committee's responsibilities include, among other things:

appointing our independent registered public accounting firm;

evaluating the qualifications, independence and performance of our independent registered public accounting firm;

approving the audit and non-audit services to be performed by our independent registered public accounting firm;

reviewing the design, implementation, adequacy and effectiveness of our internal accounting controls and our critical accounting policies;

discussing with management and the independent registered public accounting firm the results of our annual audit and the review of our quarterly unaudited financial statements;

reviewing, overseeing and monitoring the integrity of our financial statements and our compliance with legal and regulatory requirements as they relate to financial statements or accounting matters;

reviewing on a periodic basis, or as appropriate, our investment policy and recommending to our board any changes to such investment policy;

reviewing with management and our auditors any earnings announcements and other public announcements regarding our results of operations;

preparing the report that the SEC requires in our annual proxy statement;

reviewing and approving any related party transactions and reviewing and monitoring compliance with our code of conduct and ethics; and

reviewing and evaluating, at least annually, the performance of the audit committee and its members including compliance of the audit committee with its charter.

Report of the Audit Committee of the Board of Directors

The principal purpose of the audit committee is to assist the board of directors in its oversight of (i) the integrity of our accounting and financial reporting processes and the audits of our financial statements; (ii) our system of disclosure controls and internal controls over financial reporting; (iii) our compliance with legal and regulatory requirements; (iv) the qualifications and independence of our independent auditor; (v) the performance of our independent auditor; and (vi) the business practices and ethical standards of the company. The audit committee is responsible for the appointment, compensation, retention and oversight of work of our independent auditor. The audit committee's function is more fully described in its charter.

This report of the audit committee is required by the SEC and, in accordance with the SEC's rules, will not be deemed to be part of or incorporated by reference by any general statement incorporating by reference this proxy statement into any filing under the Securities Act or under the Securities Exchange Act of 1934, as amended, or the Exchange Act, except to the extent that we specifically incorporate this information by reference, and will not otherwise be deemed "soliciting material" or "filed" under either the Securities Act or the Exchange Act.

Our management is responsible for the preparation, presentation, and integrity of our financial statements, for the appropriateness of the accounting principles and reporting policies that we use and for establishing and maintaining adequate internal control over financial reporting. KPMG LLP, our independent registered public accounting firm for 2016, was responsible for performing an independent audit of our financial statements and expressing an opinion on the conformity of those financial statements with generally accepted accounting principles.

The audit committee reviewed and discussed with management our audited financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2016 that was filed with the SEC on March 14, 2017, or the Form 10-K. The audit committee also reviewed and discussed with KPMG LLP the audited financial statements in the Form 10-K. In addition, the audit committee discussed with KPMG LLP those matters required to be discussed by Auditing Standard No. 61, as amended, as adopted by the Public Company Accounting Oversight Board, or the PCAOB, in Rule 3200T. Additionally, KPMG LLP provided to the audit

committee the written disclosures and the letter required by applicable requirements of the PCAOB regarding KPMG LLP's communications with the audit committee concerning independence. The audit committee also discussed with KPMG LLP its independence from the company.

In reliance on the reviews and discussions described above, the audit committee recommended to the company's board of directors that the audited financial statements be included in the company's annual report on Form 10-K and filed with the SEC. The audit committee and the company's board of directors also have recommended, subject to stockholder approval, the ratification of the appointment of KPMG LLP as the company's independent registered public accounting firm for 2017.

The foregoing report has been furnished by the board of directors.

Respectfully submitted,

Alexander Casdin, Chairman Heinrich Dreismann, Ph.D. James Freddo, M.D.

Compensation Committee

The compensation committee of our board of directors currently consists of Dr. Bristol, Mr. Casdin and Dr. Dreismann. Dr. Dreismann serves as the chairman of the committee. Our board of directors has determined that all members of the compensation committee are independent directors, as defined in the Nasdaq qualification standards. The compensation committee is governed by a written charter approved by our board of directors. Our compensation committee reviews and approves policies relating to compensation and benefits of our officers and employees. The compensation committee reviews and approves corporate goals and objectives relevant to the compensation of our Chief Executive Officer and other executive officers, evaluates the performance of these officers in light of those goals and objectives and approves the compensation of these officers based on such evaluations. The compensation committee also reviews and approves the issuance of stock options and other awards under our equity plan. The compensation committee reviews and evaluates, at least annually, the performance of the compensation committee and its members, including compliance by the compensation committee with its charter.

Nominating and Corporate Governance Committee

The members of our nominating and corporate governance committee are Dr. Bristol, Mr. Hoerter and Dr. Freddo. Dr. Freddo serves as the chairman of the committee. Our board of directors has determined that all members of the nominating and corporate governance committee are independent directors, as defined in the Nasdaq qualification standards. The nominating and corporate governance committee is governed by a written charter approved by our board of directors. The nominating and corporate governance committee is responsible for assisting our board of directors in discharging the board's responsibilities regarding the identification of qualified candidates to become board members, the selection and recommendation to the board of directors of nominees for election as directors at our annual meetings of stockholders (or special meetings of stockholders at which directors are to be elected), and the selection and recommendation to the board of directors of candidates to fill any vacancies on our board of directors and any committees thereof. In addition, the nominating and corporate governance committee is responsible for overseeing our corporate governance policies, reporting and making recommendations to our board of directors concerning governance matters and oversight of the evaluation of our board of directors.

Director Nomination Process

Director Qualifications

The goal of the nominating and corporate governance committee of the board of directors is to assemble a board of directors that brings to our company a variety of perspectives and skills derived from high quality business and professional experience. In evaluating director nominees, the nominating and corporate governance committee considers the following factors:

personal and professional integrity, ethics and values;

experience in corporate management, such as serving as an officer or former officer of a publicly held company;

strong finance experience;

experience relevant to our industry and with relevant social policy concerns;

experience as a board member of another publicly held company;

relevant academic expertise or other proficiency in an area of our operations, such as clinical, medical or commercial experience in the pharmaceutical and/or companion diagnostics areas;

diversity of expertise and experience in substantive matters pertaining to our business relative to other board members;

diversity of background and perspective, including, but not limited to, with respect to age, gender, race, place of residence and specialized experience;

practical and mature business judgment, including, but not limited to, the ability to make independent analytical inquiries; and

any other relevant qualifications, attributes or skills.

Other than the foregoing, there are no stated minimum criteria for director nominees, although the nominating and corporate governance committee may also consider such other factors as it may deem to be in the best interests of our company and our stockholders. The nominating and corporate governance committee does, however, believe it appropriate for at least one, and preferably, several, members of our board of directors to meet the criteria for an "audit committee financial expert" as defined by SEC rules, and that a majority of the members of our board of directors meet the definition of "independent director" under Nasdaq qualification standards. The nominating and corporate governance committee also believes it appropriate for our President and Chief Executive Officer to serve as a member of our board of directors.

Identification and Evaluation of Nominees for Directors

The nominating and corporate governance committee identifies nominees for director by first evaluating the current members of our board of directors willing to continue in service. Current members with qualifications and skills that are consistent with the nominating and corporate governance committee's criteria for board service and who are willing to continue in service are considered for re-nomination, balancing the value of continuity of service by existing members of our board of directors with that of obtaining a new perspective.

If any member of our board of directors does not wish to continue in service, if our board of directors decides not to re-nominate a member for re-election or if the board of directors decides to expand the size of the board, the nominating and corporate governance committee identifies the desired skills and experience of a new nominee in light of the criteria above. The nominating and corporate governance committee generally polls our board of directors and members of management for their recommendations. The nominating and corporate governance committee may also review the composition and qualification of the boards of directors of our

competitors, and may seek input from industry experts or analysts. The nominating and corporate governance committee reviews the qualifications, experience and background of the candidates. In making its determinations, the nominating and corporate governance committee evaluates each individual in the context of our board of directors as a whole, with the objective of assembling a group that can best perpetuate the success of our company and represent stockholder interests through the exercise of sound business judgment. After review and deliberation of all feedback and data, the nominating and corporate governance committee makes its recommendation to our board of directors. Historically, the nominating and corporate governance committee has not relied on third-party search firms to identify director candidates. The nominating and corporate governance committee may in the future choose to do so in those situations where particular qualifications are required or where existing contacts are not sufficient to identify an appropriate candidate.

We have not received director candidate recommendations from our stockholders, and we do not have a formal policy regarding consideration of such recommendations. However, any recommendations received from stockholders will be evaluated in the same manner that potential nominees suggested by board members, management or other parties are evaluated.

Director Compensation

In December 2013, our board of directors approved a director compensation program applicable to our non-employee directors. That program provided for annual cash compensation of \$35,000 for each non-employee member of our board of directors.

On March 10, 2016, our board of directors amended the director compensation program so that this annual compensation amount is \$40,000 beginning with the 2016 fiscal year. In addition, our lead independent director, if any, will receive an additional annual cash retainer of \$20,000, the chair of our audit committee will receive an additional annual cash retainer of \$15,000, the chair of our compensation committee will receive an additional annual cash retainer of \$10,000 and the chair of our nominating and corporate governance committee will receive an additional annual cash retainer of \$7,500. Audit committee members will receive an additional annual cash retainer of \$5,000 and nominating and corporate governance committee members will receive an additional annual cash retainer of \$3,500. Under the March 2016 director compensation program, each of our non-employee directors was eligible to receive an annual grant of options to purchase 15,000 shares of our common stock at each annual meeting of our stockholders, beginning with the 2016 annual meeting, and upon appointment, new non-employee directors were eligible to receive an initial grant of options to purchase 24,000 shares of our common stock. It was anticipated that all such option grants will be granted under the 2014 Plan, or any other equity compensation plan our board of directors and stockholders may approve and adopt in the future.

On March 10, 2016, each of Mr. Casdin and Dr. Dreismann was granted a fully-vested option to purchase 15,000 shares of our common stock under the 2014 Plan.

On December 8, 2016, in connection with his appointment as non-employee director, our board of directors granted to Mr. Hoerter an option to purchase 24,000 shares of our common stock under the 2014 Plan. The options will vest as to one-third of the total number of shares subject to the award on the first anniversary of the date of grant, and the remainder vesting in equal monthly installments over the two years thereafter.

On March 9, 2017, our board of directors further amended the director compensation program. The cash compensation under the amended director compensation program remained unchanged from the cash compensation under the director compensation program adopted in March 2016. However, under the amended director compensation program, each of our non-employee directors will be eligible to receive an annual grant of options to purchase 20,000 shares of our common stock at each annual meeting of our stockholders, beginning with the 2017 annual meeting, and upon appointment, new non-employee directors are eligible to receive an

initial grant of options to purchase 40,000 shares of our common stock. Initial grants will vest over three years, with one-third of the options vesting on the first anniversary of the date of grant and the remainder vesting in equal monthly installments over the two years thereafter. Annual grants will vest on the first to occur of (1) the first anniversary of the date of grant or (2) the next occurring annual meeting of our stockholders. In addition, all of the options granted to the non-employee directors will vest in full immediately prior to the occurrence of a change in control. It is anticipated that all such option grants will be granted under the 2014 Plan, or any other equity compensation plan our board of directors and stockholders may approve and adopt in the future.

The table below summarizes all compensation earned by each of our non-employee directors for services performed during our fiscal year ended December 31, 2016. Dr. Lim is not in the table below because he receives no separate compensation for his services as a director of our company; all of the compensation earned by Dr. Lim during our 2016 fiscal year as an executive officer of our company is reflected in the Summary Compensation Table below.

<u>Name</u>	Fees earned or paid in cash (\$)	Option awards (\$)(1)	All other compensation (\$)	Total (\$)
James Bristol, Ph.D.(2)	48,500	55,569	_	104,069
Alexander Casdin(3)	63,281	120,969	_	184,250
Heinrich Dreismann, Ph.D.(4)	57,500	120,969	_	178,469
James Freddo, M.D.(5)	55,000	55,569	_	110,569
Steven Hoerter (6)	2,609	104,160	-	106,769

- (1) Amounts represent the grant date fair value of the option awards, determined in accordance with FASB ASC Topic 718. All awards are amortized over the vesting life of the award. For information on the valuation assumptions with respect to these option grants, refer to footnotes 2 and 11 in our financial statements for the fiscal year ended December 31, 2016 included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2016 filed on March 14, 2017.
- (2) As of December 31, 2016, Dr. Bristol held 39,000 outstanding stock options.
- (3) As of December 31, 2016, Mr. Casdin held 70,666 outstanding stock options.
- (4) As of December 31, 2016, Dr. Dreismann held 70,666 outstanding stock options.
- (5) As of December 31, 2016, Dr. Freddo held 50,666 outstanding stock options.
- (6) As of December 31, 2016, Mr. Hoerter held 24,000 outstanding stock options.

Director Attendance at Annual Meetings

Although we do not have a formal policy regarding attendance by members of our board of directors at our annual meeting, we encourage all of our directors to attend.

Communications with our Board of Directors

Stockholders seeking to communicate with our board of directors should submit their written comments to our corporate secretary, Ignyta, Inc., 4545 Towne Centre Court, San Diego, California 92121. The corporate secretary will forward such communications to each member of our board of directors; provided that, if in the opinion of our corporate secretary it would be inappropriate to send a particular stockholder communication to a specific director, such communication will only be sent to the remaining directors (subject to the remaining directors concurring with such opinion).

Corporate Governance

Our company's Code of Business Conduct and Ethics, Corporate Governance Guidelines, Audit Committee Charter, Compensation Committee Charter and Nominating and Corporate Governance Committee Charter are available, free of charge, on our website at www.ignyta.com. Please note, however, that the information contained on the website is not incorporated by reference in, or considered part of, this proxy statement. We will also provide copies of these documents as well as our company's other corporate governance documents, free of charge, to any stockholder upon written request to Ignyta, Inc., 4545 Towne Centre Court, San Diego, California 92121.

Vote Required; Recommendation of the Board of Directors

If a quorum is present and voting at the annual meeting, the two nominees receiving the highest number of "For" votes will each be elected to our board of directors. Votes withheld from any nominee, abstentions and broker non-votes will be counted only for purposes of determining a quorum. Broker non-votes will have no effect on this proposal as brokers or other nominees are not entitled to vote on such proposal in the absence of voting instructions from the beneficial owner.

OUR BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT THE STOCKHOLDERS VOTE FOR THE ELECTION OF JONATHAN E. LIM, M.D. AND JAMES BRISTOL, PH.D. PROXIES SOLICITED BY THE BOARD OF DIRECTORS WILL BE SO VOTED UNLESS YOU SPECIFY OTHERWISE ON YOUR PROXY CARD.

PROPOSAL 2:

RATIFICATION OF SELECTION OF INDEPENDENT REGISTERED PUBLIC ACCOUNTANTS

The audit committee has selected KPMG LLP as the company's independent registered public accountants for the fiscal year ending December 31, 2017 and has further directed that management submit the selection of independent registered public accountants for ratification by the stockholders at the annual meeting. KPMG LLP has audited Ignyta's financial statements since 2016. Representatives of KPMG LLP are expected to be present at the annual meeting, will have an opportunity to make a statement if they so desire, and will be available to respond to appropriate questions.

Stockholder ratification of the selection of KPMG LLP as the company's independent registered public accountants is not required by Delaware law, the company's second amended and restated certificate of incorporation, or the company's amended and restated bylaws. However, the audit committee is submitting the selection of KPMG LLP to the stockholders for ratification as a matter of good corporate practice. If the stockholders fail to ratify the selection, the audit committee will reconsider whether to retain that firm. Even if the selection is ratified, the audit committee in its discretion may direct the appointment of different independent registered public accountants at any time during the year if the audit committee determines that such a change would be in the best interests of the company and its stockholders.

Independent Registered Public Accountants' Fees

The following table represents aggregate fees for professional audit services rendered by KPMG LLP and Mayer Hoffman McCann P.C. related to the fiscal years ended December 31, 2016 and 2015, respectively.

	Year End	ed December 31,
	2016	2015
	(KPMG)	(Mayer Hoffman)
Audit Fees(1)	\$254,775	\$ 186,373
Audit Related Fees	_	-
Tax Fees	-	_
All Other Fees	-	_
	\$254,775	\$ 186,373
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(1) Audit fees consist of fees and out-of-pocket expenses whether or not yet invoiced for professional services provided in connection with the audit of our annual financial statements, review of our quarterly financial statements, due diligence procedures to support comfort and/or consent letters in connection with our public offerings and the resale registration statements relating to our private placements of common stock, and related services that are normally provided in connection with statutory and regulatory filings or engagements.

Pre-Approval Policies and Procedures

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. Prior to February 28, 2014, when our audit committee was formed, our full board of directors had responsibility for the activities that were delegated to the audit committee. All audit and permissible non-audit services were pre-approved by our audit committee or board of directors in accordance with this policy during the fiscal years ended December 31, 2016 and 2015. 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.

Vote Required; Recommendation of the Board of Directors

The affirmative vote of a majority of the shares of common stock present or represented by proxy and entitled to vote at the meeting will be required to ratify the selection of KPMG LLP. Abstentions will be counted toward the tabulation of votes cast on this proposal and will have the same effect as negative votes. The approval of Proposal 2 is a routine proposal on which a broker or other nominee has discretionary authority to vote. Accordingly, no broker non-votes will likely result from this proposal.

OUR BOARD OF DIRECTORS UNANIMOUSLY RECOMMENDS THAT THE STOCKHOLDERS VOTE TO RATIFY THE SELECTION OF KPMG LLP AS OUR INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM FOR THE FISCAL YEAR ENDING DECEMBER 31, 2017. PROXIES SOLICITED BY OUR BOARD OF DIRECTORS WILL BE SO VOTED UNLESS STOCKHOLDERS SPECIFY OTHERWISE ON THEIR PROXY CARDS.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table sets forth certain information regarding the beneficial ownership of our common stock as of March 31, 2017, by (i) each person who, to our knowledge, owns more than 5% of our common stock, (ii) each of our current directors and the named executive officers identified under the heading "Executive Compensation," (iii) certain of our other executive officers that may be named executive officers for the fiscal year ending December 31, 2017, and (iv) all of those directors and executive officers as a group. We have determined beneficial ownership in accordance with applicable rules of the SEC, and the information reflected in the table below is not necessarily indicative of beneficial ownership for any other purpose. Under applicable SEC rules, beneficial ownership includes any shares of common stock as to which a person has sole or shared voting power or investment power and any shares of common stock which the person has the right to acquire within 60 days after March 31, 2017 through the exercise of any option, warrant or right or through the conversion of any convertible security. Unless otherwise indicated in the footnotes to the table below and subject to community property laws where applicable that, we believe, based on the information furnished to us, each of the persons named in this table has sole voting and investment power with respect to the shares indicated as beneficially owned.

The information set forth in the table below is based on 41,836,760 shares of our common stock issued and outstanding on March 31, 2017. In computing the number of shares of common stock beneficially owned by a person and the percentage ownership of that person, we deemed to be outstanding all shares of common stock subject to options, warrants, rights or other convertible securities held by that person that are currently exercisable or will be exercisable within 60 days after March 31, 2017. We did not deem these shares outstanding, however, for the purpose of computing the percentage ownership of any other person. Except as otherwise noted, the address for each person listed in the table below is c/o Ignyta, Inc., 4545 Towne Centre Court, San Diego, California 92121.

	Number of Shares Beneficially	Percenta; Beneficial	9
Name and Address of Beneficial Owner	Owned	Owned	
5% Stockholders:			
Great Point Partners, LLC (1)	4,000,000	9.56	%
Tang Capital Partners LP (2)	3,972,800	9.50	%
City Hill Venture Partners I, LLC(3)	3,350,000	8.01	%
Eli Lilly and Company(4)	2,443,731	6.48	%
Victory Capital Management Inc. (5)	2,414,093	5.77	%
Broadfin Capital, LLC(6)	2,256,546	5.39	%
Directors and Executive Officers:			
Jonathan E. Lim, M.D.(7)	3,815,277	9.03	%
Zachary Hornby(8)	345,707		*
Jacob Chacko, M.D. (9)	218,638		*
Christian V. Kuhlen, M.D.	_		*
Pratik Multani, M.D. (10)	112,500		*
William McCarthy (11)	70,833		*
Valerie Harding Start (12)	83,333		*
James Bristol, Ph.D.(13).	45,667		*
Alexander Casdin(14)	862,130	2.06	%
Heinrich Dreismann, Ph.D.(15)	55,666		*
James Freddo, M.D.(16)	38,249		*
Steve Hoerter	_		*
All Directors and Executive Officers as a Group (12 persons)			
(17)	5,648,000	13.08	%

- (1) Based on information disclosed in the Schedule 13G/A filed with the SEC on February 14, 2017 by Great Point Partners, LLC. Represents 1,079,277 shares held by Biomedical Value Fund, L.P., or BVF, 1,555,544 shares held by Biomedical Offshore Value Fund, Ltd., or BOVF, 1,206,025 shares held by GEF-SMA, L.P., or GEF-SMA, and 159,154 shares held by Class D Series of GEF-PS, LP, or GEF-PS. Great Point Partners, LLC is the investment manager of each of BVF, BOVF, GEF-SMA and GEF-PS, and by virtue of such status may be deemed to be the beneficial owner of the shares held by BVF, BOVF, GEF-SMA and GEF-PS. Each of Dr. Jeffrey R. Jay, M.D., as senior managing member of Great Point Partners, LLC, and Mr. David Kroin, as special managing member of Great Point Partners, LLC, has voting and investment power with respect to the shares held by BVF, BOVF, GEF-SMA and GEF-PS and therefore may be deemed to be the beneficial owner of the shares held by BVF, BOVF, GEF-SMA and GEF-PS. The address of Great Point Partners, LLC is 165 Mason Street, 3rd Floor, Greenwich, Connecticut 06830.
- (2) Based on information disclosed in the Schedule 13G filed with the SEC on May 9, 2016 by Tang Capital Partners, LP. Tang Capital Partners, LP, Tang Capital Management, LLC and Kevin C. Tang share voting and dispositive power with respect to the shares. Tang Capital Management, LLC is the general partners of Tang Capital Partners, LP and Kevin C. Tang is the manager of Tang Capital Management, LLC. Mr. Tang disclaims beneficial ownership of the shares except to the extent of his pecuniary interest therein. The address of Tang Capital Partners, LP, Tang Capital Management, LLC and Mr. Tang is 4747 Executive Drive, Suite 510, San Diego, California 92121.
- (3) Dr. Jonathan E. Lim, our President, Chief Executive Officer and Chairman of our board of directors, is the Manager of City Hill Ventures, LLC, which is the Manager of City Hill Venture Partners I, LLC, and as such he and City Hill Ventures, LLC have the power to vote or dispose of the securities held of record by City Hill Venture Partners I, LLC and may be deemed to beneficially own those securities. Dr. Lim disclaims beneficial ownership of the securities held of record by City Hill Venture Partners I, LLC except to the extent of his pecuniary interest therein. The address of City Hill Venture Partners I, LLC is 11575 Sorrento Valley Road, Suite 200, San Diego, California 92121.
- (4) Based in part on information disclosed in the Schedule 13G filed with the SEC on November 16, 2015. Eli Lilly and Company has the sole power to dispose or direct the disposition of, and the sole power to vote, all of such shares. The address of Eli Lilly and Company is Lilly Corporate Center, Indianapolis, Indiana 46285.
- (5) Based on information disclosed in the Schedule 13G filed with the SEC on February 10, 2017 by Victory Capital Management Inc. The address of Victory Capital Management Inc. is 4900 Tiedeman Road, 4th Floor, Brooklyn, OH 44144.
- (6) Based on information disclosed in the Schedule 13G/A filed with the SEC on February 13, 2017 by Broadfin Capital, LLC. Broadfin Capital, LLC, Broadfin Healthcare Master Fund, Ltd. and Kevin Kotler share voting and dispositive power with respect to the shares. Mr. Kotler is the Managing Member of Broadfin Capital, LLC and Director of Broadfin Healthcare Master Fund, Ltd. Broadfin Capital, LLC and Mr. Kotler disclaim beneficial ownership of the shares except to the extent of their pecuniary interests therein. The address of Broadfin Capital, LLC and Mr. Kotler is 300 Park Avenue, 25th Floor, New York, New York 10022, and the address of Broadfin Healthcare Master Fund, Ltd. is 20 Genesis Close, Ansbacher House, Second Floor, PO Box 1344, Grand Cayman KY1-1108, Cayman Islands.
- (7) Includes (a) 3,350,000 shares of our common stock held by City Hill Venture Partners I, LLC, with respect to which Dr. Lim has sole voting and investment control, (b) 58,333 shares of our common stock held by Dr. Lim and (c) 406,944 shares underlying options held by Dr. Lim and exercisable within 60 days following March 31, 2017.

- (8) Includes 290,846 shares underlying options held by Mr. Hornby and exercisable within 60 days following March 31, 2017.
- (9) Includes 202,200 shares underlying options held by Dr. Chacko and exercisable within 60 days following March 31, 2017.
- (10) Represents 112,500 shares underlying options held by Dr. Multani and exercisable within 60 days following March 31, 2017.
- (11) Represents 70,833 shares underlying options held by Mr. McCarthy within 60 days following March 31, 2017.
- (12) Represents 83,333 shares underlying options held by Dr. Harding Start within 60 days following March 31, 2017.
- (13) Includes 24,000 shares underlying options held by Dr. Bristol and exercisable within 60 days following March 31, 2017.
- (14) Includes 55,666 shares underlying options held by Mr. Casdin and exercisable within 60 days following March 31, 2017. Also includes 806,464 shares held by Reneo Capital SPV I LP. Mr. Casdin is the Managing Member of Reneo GP, LLC, which is the General Partner of Reneo Capital SPV I LP. Mr. Casdin disclaims beneficial ownership of the shares held by Reneo Capital SPV I LP except to the extent of his pecuniary interest therein.
- (15) Represents 55,666 shares underlying options held by Dr. Dreismann and exercisable within 60 days following March 31, 2017.
- (16) Represents 35,249 shares underlying options held by Dr. Freddo and exercisable within 60 days following March 31, 2017.
- (17) Includes 1,337,237 shares underlying options exercisable within 60 days following March 31, 2017.

EXECUTIVE COMPENSATION AND OTHER INFORMATION

Our Executive Officers

The table below sets forth the name, age and position of each of our executive officers as of March 31, 2017.

Name		Position		
Executive Officers:				
Jonathan E. Lim, M.D.	45	President, Chief Executive Officer and Chairman of the Board		
Zachary Hornby	38	Chief Operating Officer		
Jacob Chacko, M.D.	38	Chief Financial Officer		
Christian V. Kuhlen, M.D.	44	General Counsel and Secretary		
William McCarthy	45	Chief Business Officer		
Pratik Multani, M.D.	50	Chief Medical Officer		
Valerie Harding Start, Ph.D.	57	Senior Vice President, Chemistry, Manufacturing, and Controls		

Business Experience

The following is a brief account of the education and business experience of our current executive officers:

The biography of Jonathan E. Lim, M.D., can be found under "Directors, Executive Officers and Corporate Governance-Board of Directors."

Zachary Hornby. Mr. Hornby joined us in August 2012 as Vice President, Corporate Development, was appointed as our Chief Financial Officer in August 2013, and was appointed Chief Operating Officer in May 2014. Prior to joining Ignyta, Mr. Hornby served as senior director of business development at Fate Therapeutics from August 2010 to August 2012. Prior to Fate Therapeutics, Mr. Hornby was director of business development at Halozyme Therapeutics from January 2008 to August 2010. Prior to Halozyme Therapeutics, Mr. Hornby was senior product manager at Neurocrine Biosciences from June 2006 to January 2008. Prior to Neurocrine Biosciences, Mr. Hornby served as a life sciences consultant at L.E.K. Consulting and in regulatory affairs and business development roles at Transkaryotic Therapies (acquired by Shire Pharmaceuticals in 2005). Mr. Hornby is a director of Independa, Inc. Mr. Hornby holds B.S. and M.S. degrees in biology from Stanford University and an M.B.A. from Harvard Business School.

Jacob Chacko, M.D. Dr. Chacko joined us in May 2014 as Chief Financial Officer. Prior to joining Ignyta, Dr. Chacko was Vice President at TPG Capital from August 2008 to May 2014. Prior to TPG, Dr. Chacko concurrently received his M.D. from UCLA and his M.B.A. from Harvard University. Previously, Dr. Chacko was an Associate serving healthcare clients at the management consulting firm McKinsey & Company. He served on the boards of directors of RentPath and EnvisionRx, was an advisor to the Audit Committee of Par Pharmaceutical, and was a board observer to IMS Health and Quintiles Transnational. Dr. Chacko received an M.Sc. in economic and social history from Oxford University, where he was a Marshall Scholar, and a B.A. in biology, B.S. in gerontology, and minor in health policy and management from the University of Southern California.

Christian V. Kuhlen, M.D. Dr. Kuhlen joined Ignyta in July 2016. Prior to joining Ignyta, Dr. Kuhlen was Vice President, General Counsel and Secretary at Genoptix, Inc. (a Novartis company), a role he served in since 2007. At Genoptix, Dr. Kuhlen was responsible for all legal and corporate governance functions, including guiding the company through its initial public offering and follow-on offerings and subsequent sale to Novartis. Prior to Genoptix, Dr. Kuhlen was an attorney with Cooley LLP focusing on the needs of public and private biotechnology companies, including financings, M&A, IP, licensing and corporate governance matters. Prior to medical school, he was a research assistant at The Scripps Research Institute in La Jolla, California. Dr. Kuhlen holds a B.S. in biochemistry and cell biology and a B.A. in economics from UC San Diego, and a J.D. and M.D. from the University of Southern California.

William McCarthy. Mr. McCarthy joined us in December 2015 as Chief Business Officer. Prior to joining Ignyta, from April 2014 to November 2015, Mr. McCarthy was Vice President, Corporate and Business Development at Foundation Medicine, Inc. Prior to Foundation Medicine, Mr. McCarthy held positions of increasing responsibility at Halozyme Therapeutics from 2007 to 2014, including Executive Director, Business Development and Senior Director, Marketing and New Product Planning. From 2006 to 2007, Mr. McCarthy was Associate Director, Finance and Business Planning at Biogen Idec, and from 2005 to 2006, he was Associate Director, New Product Planning at Neurocrine Biosciences. Prior to Neurocrine, Mr. McCarthy spent ten years as a management consultant at IMS Consulting Group, Deloitte Consulting and Cambridge Pharma Consultancy. Mr. McCarthy holds an M.B.A. from London Business School and a B.A. in economics from the University of Exeter.

Pratik Multani, M.D. Dr. Multani joined us in February 2015 as Chief Medical Officer. Prior to joining Ignyta, Dr. Multani was Chief Medical Officer at Fate Therapeutics, Inc., where he served from April 2009 to January 2015. Prior to that, Dr. Multani was Vice President of Clinical Development at Kalypsys, Inc. from 2007 to March 2009. From 2005 to 2007, he served as Senior Vice President of Clinical Development and then Chief Medical Officer at Kanisa Pharmaceuticals, Inc. From 1999 to 2004, Dr. Multani advanced from Associate Director of Oncology and Hematology to Senior Director of Medical Research at Biogen-Idec. Dr. Multani holds an M.S. in epidemiology from Harvard School of Public Health, an M.D. from Harvard Medical School and a B.S. in chemistry and biology from Yale University. He completed his Internal Medicine residency at the Massachusetts General Hospital, followed by a medical oncology fellowship at the Dana Farber/Partners joint program, after which he was a member of the transplant unit at Massachusetts General Hospital.

Valerie Harding Start, Ph.D. Dr. Harding Start joined us in September 2015 as Senior Vice President, Chemistry, Manufacturing, and Controls. Prior to joining Ignyta, Dr. Harding spent more than 25 years in positions of increasing responsibility at Pfizer, including Vice President, Product Differentiation, Vice President, Drug Product Design and Vice President, Pharmaceutical Development. Prior to Pfizer, Dr. Harding spent three years as a Scientist and Team leader at Boots and Company, preceded by three years as a Tutor and Researcher at the University of Nottingham School of Pharmacy. Dr. Harding holds a Ph.D. in Pharmaceutical Microbiology from the University of Nottingham and a B.S. in Pharmacy from the University of London.

Summary of Executive Compensation

Summary Compensation Table

The following table summarizes the compensation earned in each of our fiscal years ended December 31, 2016 and 2015 by our named executive officers, which consisted of (i) our principal executive officer, and (ii) our two next most highly compensated executive officers other than our principal executive officer who were serving as executive officers as of December 31, 2016 and whose total compensation exceeded \$100,000 during the year ended December 31, 2016.

						Non-Equity Incentive	9	
Name and Principal Position	Year ended December 31,	Salary (\$)	Bonus (\$)	Stock Awards (\$) (1)	Option Awards (\$) (2)	Plan Compensation (\$)(3)	All other Compensation (\$)(4)	Total (\$)
Jonathan E. Lim, M.D	2016	520,000	_	861,120	_	208,000	2,650	1,591,770
	2015	505,083	_	-	414,593	351,360	_	1,271,036
Zachary Hornby.	2016	395,000	-	344,448	-	126,400	2,650	868,498
Pratik Multani, M.D	2016	395,000	_	315,744	-	110,600	2,650	823,994

⁽¹⁾ Amounts represent the grant date fair value of the restricted stock unit awards granted during the fiscal years presented, determined in accordance with FASB ASC Topic 718. All awards are amortized over the vesting life of the award. For information on the valuation assumptions with respect to certain of the option grants reflected in this table, refer to footnotes 2 and 11 in our financial statements for the fiscal year ended December 31, 2016.

- (2) Amounts represent the grant date fair value of the option awards granted during the fiscal years presented, determined in accordance with FASB ASC Topic 718. All awards are amortized over the vesting life of the award. For information on the valuation assumptions with respect to certain of the option grants reflected in this table, refer to footnotes 2 and 11 in our financial statements for the fiscal year ended December 31, 2016.
- (3) Each named executive officer is eligible for a performance bonus that is based 100% upon the achievement of certain corporate performance goals and objectives. Bonuses are set based on the executive officer's base salary as of the end of the bonus year and are expected to be paid out in the first quarter of the following year. The target levels for executive bonuses are currently 50% of base salary for our chief executive officer, 40% of base salary for our chief operating officer and 35% of base salary for our other named executive officers. Each year our board of directors sets corporate goals and milestones for the year, which generally relate to factors such as clinical and non-clinical development, business development and finance and operations. The compensation committee determines the level of achievement of the corporate goals following each year. This achievement level is then applied to each named executive officer's target bonus to determine that year's total bonus opportunity, with the potential for the compensation committee to exercise discretion in setting final bonus numbers to account for superior or substandard performance of any individual. For 2016, Dr. Lim's, Mr. Hornby's and Dr. Multani's bonus amount was based on 80% corporate goals achievement and resulted in a bonus percentage equal to 40%, 32% and 28% respectively, of Dr. Lim's, Mr. Hornby's and Dr. Multani's respective annual base salaries in effect during that fiscal year. For 2015, bonus amounts were based on 120% of corporate goals achievement and resulted in a bonus percentage of 72% of Dr. Lim's annual base salary in effect during that fiscal year.
- (4) "All Other Compensation" includes \$2,650 in employer 401(k) matching contributions for each of Dr. Lim, Mr. Hornby and Dr. Multani.

Narrative Disclosure to Summary Compensation Table

No Employment Agreements; At Will Employees

We do not have formal employment agreements with our named executive officers or any of our other employees, who all serve as "at will" employees. None of our executive officers has a formal employment agreement with us, and none of them will have such a formal employment agreement unless and until our board of directors, or a committee thereof, and the applicable executive officer approve the terms of any such agreement. As a result, the amount of each of our executive officers' annual base salary, cash or other bonus compensation, equity compensation or any other form of compensation may be modified at any time at the discretion of our board of directors.

Other Elements of Compensation

Employee Benefits and Perquisites

Our named executive officers are eligible to participate in our health and welfare plans to the same extent as all full-time employees generally. We do not provide our named executive officers with any perquisites or other personal benefits.

No Tax Gross-Ups

We have not made gross-up payments to cover our named executive officers' personal income taxes that may pertain to any of the compensation paid or provided by our company.

Change in Control Benefits

Our named executive officers may become entitled to certain benefits or enhanced benefits in connection with a change in control of our company, as described below under "-Potential Payments upon Termination or Change in Control - Severance and Change in Control Severance Plan."

Outstanding Equity Awards at Fiscal Year-End

The table below summarizes the aggregate stock and option awards held by our named executive officers as of December 31, 2016.

	Option Awards (1)					Stock Awards (1)		
Name	Number of Securities Underlying Unexercise Options (#) Exercisable	5 d	Number of Securities Underlying Unexercised Options (#) Unexercisab	; 1	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock that have not Vested (#)	Market Value of Shares or Units of Stock that have not Vested (\$)
Jonathan E. Lim, M.D.		_		_		02/13/		
	6,251	(2)	694	(2)	\$0.60	2023	72,000 (8)	381,600
						12/15/		
	300,000	(3)	100,000	(3)	\$6.00	2023	_	_
						01/07/		
	47,916	(4)	52,084	(4)	\$6.58	2025	_	_
Zachary Hornby.						12/09/		
	2,083	(5)			\$0.57	2022	78,800 (9)	417,640
						02/13/		
	1,250	(2)	139	(2)	\$0.60	2023	_	_
						09/08/		
	40,625	(6)	9,375	(6)	\$1.02	2023	_	_
						12/15/		
	187,500	(3)	62,500	(3)	\$6.00	2023	_	_
						01/07/		
	23,000	(4)	25,000	(4)	\$6.58	2025	_	_
Pratik S. Multani, M.D.	04.665	(7)	400.00:	(7)	.	02/16/	45 400 (40)	
	91,666	(7)	108,334	(7)	\$6.90	2025	46,400 (10)	245,920

- (1) Information regarding potential acceleration of certain equity awards for the NEOs is provided under the heading "Potential Payments Upon Termination or Change in Control" below.
- (2) The option award has a grant date of February 14, 2013 and vests pursuant to the following schedule: 1/48th of the shares subject to the award vested on February 14, 2013, and 1/48th of the shares subject to the award vest on each monthly anniversary thereafter.
- (3) The option award has a grant date of December 16, 2013 and vests pursuant to the following schedule: 25% of the shares subject to the award vested on December 2, 2014, and 1/48th of the shares subject to the award vest on each monthly anniversary thereafter.
- (4) The option award has a grant date of January 8, 2015 and vests pursuant to the following schedule: 25% of the shares subject to the award vested on January 8, 2016, and 1/48th of the shares subject to the award vest on each monthly anniversary thereafter.
- (5) The option award has a grant date of December 10, 2012 and vests pursuant to the following schedule: 25% of the shares subject to the award vested on December 10, 2013, and 1/48th of the shares subject to the award vest on each monthly anniversary thereafter.
- (6) The option award has a grant date of September 9, 2013 and vests pursuant to the following schedule: 25% of the shares subject to the award vested on September 9, 2014, and 1/48th of the shares subject to the award vest on each monthly anniversary thereafter.
- (7) The option award has a grant date of February 17, 2015 and vests pursuant to the following schedule: 25% of the shares subject to the award vested on February 17, 2016, and 1/48th of the shares subject to the award vest on each monthly anniversary thereafter.
- (8) Represents an RSU award with a grant date of January 7, 2016, subject to time-based vesting requirements pursuant to which all shares subject the award vest on the fifth anniversary of the date of grant.
- (9) Represents (i) 50,000 RSU awards with a grant date of January 8, 2015, subject to time-based vesting requirements pursuant to which all shares subject to the award will vest on the fourth anniversary of the date of grant, and (ii) 28,800 RSU awards with a grant date of January 7, 2016, subject to time-based vesting requirements pursuant to which all shares subject to the award will vest on the fifth anniversary of the date of grant.
- (10) Represents (i) 20,000 RSU awards with a grant date of February 17, 2015, subject to time-based vesting requirements pursuant to which all shares subject to the award will vest on the fourth anniversary of the date of grant, and (ii) 26,400 RSU awards with a grant date of January 7, 2016, subject to time-based vesting requirements pursuant to which all shares subject to the award will vest on the fifth anniversary of the date of grant.

Potential Payments upon Termination or Change in Control

Except as described below, we do not have any agreements, plans or arrangements that provide for payments or benefits to our named executive officers in connection with the resignation, retirement or other termination, a change in control, or a change in a named executive officer's responsibilities following a change in control.

Severance and Change in Control Severance Plan

We maintain the Ignyta, Inc. 2013 Severance and Change in Control Severance Plan, or the Severance Plan, for the benefit of certain employees of our company or any of our parents or subsidiaries as designated by our board of directors, or our Covered Employees. Our board of directors most recently amended the Severance Plan on January 7, 2016.

Our board of directors adopted the Severance Plan to provide assurances of specified severance benefits to Covered Employees whose employment is subject to involuntarily termination by us other than for Cause (as defined in the Severance Plan) under the circumstances described in the Severance Plan, including, but not limited to, following a Change in Control (as defined in the Severance Plan). The severance benefits each Covered Employee could be entitled to receive under the Severance Plan are determined pursuant to each Covered Employee's classification as a Tier 1 Covered Employee, Tier 2 Covered Employee or Tier 3 Covered Employee. Covered Employees are classified as follows:

"Tier 1 Covered Employee" means our Chief Executive Officer.

"Tier 2 Covered Employee" means a C-level employee of our company who has been designated by our board of directors as eligible to participate in the Severance Plan.

"Tier 3 Covered Employee" means a Vice President-level employee of our company who has been designated by our board of directors as eligible to participate in the Severance Plan.

Pursuant to the Severance Plan, if, at any time before or after the 12-month period beginning on the date of a Change in Control, we (or any of our parents or subsidiaries) terminate a Covered Employee's employment other than for Cause (and other than due to death or Disability (as defined in the Severance Plan)), then the Covered Employee will be entitled to receive the following severance benefits, subject to his or her execution of a release of claims and compliance with certain restrictive covenants, including with respect to non-solicitation and non-disparagement:

Continued payment of Base Pay (as defined in the Severance Plan) for 12 months, nine months or six months following termination in the case of a Tier 1, Tier 2 or Tier 3 Covered Employee, respectively; and

Company-paid COBRA coverage for 12 months, nine months or six months following termination in the case of a Tier 1, Tier 2 or Tier 3 Covered Employee, respectively.

Pursuant to the Severance Plan, if, at any time during a specified period of time prior to a Change in Control or within the 12 month period following a Change in Control, we (or any of our parents or subsidiaries) terminate a Covered Employee's employment other than for Cause (and other than due to death or Disability) or the Covered Employee resigns for Good Reason (as defined in the Severance Plan), then the Covered Employee will be entitled to receive the following severance benefits, subject to his or her execution of a release of claims and compliance with certain restrictive covenants, including with respect to non-solicitation and non-disparagement:

The following aggregate cash amount paid in installments over the following time period:

In the case of a Tier 1 Covered Employee, the sum of 2.0 times annualized Base Pay and 2.0 times Target Bonus (each as defined in the Severance Plan) paid in equal installments over the 24-month period following termination;

In the case of a Tier 2 Covered Employee, the sum of 1.0 times annualized Base Pay and 1.0 times Target Bonus paid in equal installments over the 12-month period following termination; or

In the case of a Tier 3 Covered Employee, the sum of 0.75 times annualized Base Pay and 0.75 times Target Bonus paid in equal installments over the nine-month period following termination.

Company-paid COBRA coverage for 24 months, 12 months or nine months following termination in the case of a Tier 1, Tier 2 or Tier 3 Covered Employee, respectively.

100% accelerated vesting of the Covered Employee's Equity Compensation Awards (as defined in the Severance Plan).

The severance benefits prescribed by the Severance Plan are subject to a Section 280G better-off cutback provision, which provides that, in the event that the benefits provided to the Covered Employee pursuant to the Severance Plan or otherwise constitute parachute payments with the meaning of Section 280G of the Internal Revenue Code of 1986, as amended, or the Code, the Covered Employee's severance benefits under the Severance Plan will either be delivered in full or reduced to the extent necessary to avoid an excise tax under Section 4999 of the Code, whichever would result in the Covered Employee receiving the largest amount of severance benefits on an after-tax basis.

The Severance Plan will automatically terminate on December 16, 2019 unless otherwise extended by our board of directors.

Equity Compensation Plan Information

The following table summarizes securities available under our equity compensation plans as of December 31, 2016.

	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted average exercise price of outstanding options, warrants and rights	Number of securities available for future issuance under equity compensation plans (excluding securities reflected in the second column)
Equity compensation plans approved by			
security holders:			
Amended and Restated 2011 Stock Incentive			
Plan (1)	294,755	\$ 2.94	_
Amended and Restated 2014 Incentive			
Award Plan (2)	2,493,364	\$ 8.71	3,525,680
Equity compensation plans not approved			
by security holders:			
Amended and Restated 2011 Stock Incentive			
Plan (1) (3)	902,917	\$ 6.83	_
Employment Inducement Incentive Award			
Plan (4)	440,167	\$ 7.43	_
2015 Employment Inducement Incentive			
Award Plan (5)	1,216,562	\$ 12.61	-

⁽¹⁾ The material features of the Amended and Restated 2011 Stock Incentive Plan are described in footnote 11 to our financial statements for the fiscal year ended December 31, 2015. Effective June 11, 2014, the 2014 Incentive Award Plan replaced the Amended and Restated 2011 Stock Incentive Plan and the Employment Inducement Incentive Award Plan, and our board of directors will not grant any future awards under the Amended and Restated 2011 Stock Incentive Plan or the Employment Inducement Incentive Award Plan.

- (2) The material features of the Amended and Restated 2014 Incentive Award Plan are described in footnote 11 to our financial statements for the fiscal year ended December 31, 2016.
- (3) On December 16, 2013, our board of directors approved an amendment to the Amended and Restated 2011 Stock Incentive Plan to increase the total number of shares of our common stock available for issuance thereunder from 712,652 shares to 2,712,652 shares. That amendment became effective on December 16, 2013 upon the approval thereof by our board of directors; however, our stockholders did not approve such increase to the share reserve. Effective June 11, 2014, the 2014 Incentive Award Plan replaced the Amended and Restated 2011 Stock Incentive Plan and the Employment Inducement Incentive Award Plan, and our board of directors will not grant any future awards under the Amended and Restated 2011 Stock Incentive Plan or the Employment Inducement Incentive Award Plan.
- (4) The material features of the Employment Inducement Incentive Award Plan are described in footnote 11 to our financial statements for the fiscal year ended December 31, 2015. Effective June 11, 2014, the 2014 Incentive Award Plan replaced the Amended and Restated 2011 Stock Incentive Plan and the Employment Inducement Incentive Award Plan, and our board of directors will not grant any future awards under the Amended and Restated 2011 Stock Incentive Plan or the Employment Inducement Incentive Award Plan.
- (5) The material features of the 2015 Employment Inducement Incentive Award Plan are described in footnote 11 to our financial statements for the fiscal year ended December 31, 2015. Effective June 13, 2016, in connection with the approval of our Amended and Restated 2014 Incentive Award Plan by our stockholders, our board of directors determined that we will not grant any future awards under the 2015 Employment Inducement Incentive Award Plan.

Policies Regarding Tax Deductibility of Compensation

Section 162(m) of the Code restricts the ability of publicly held companies to take a federal income tax deduction for compensation paid to certain of their executive officers to the extent that compensation exceeds \$1.0 million per covered officer in any fiscal year. However, this limitation does not apply to compensation that is "qualified performance-based compensation" under Section 162(m) of the Internal Revenue Code. The non-performance based compensation paid in cash to our executive officers for the 2014, 2015 and 2016 fiscal years did not exceed the \$1.0 million limit per officer.

While we consider the tax deductibility of each element of executive compensation as a factor in our overall compensation program, the compensation 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.

Compensation Committee Interlocks and Insider Participation

We did not have a compensation committee until February 28, 2014. On that date, Dr. Bristol, Mr. Casdin and Dr. Dreismann were appointed to our compensation committee. None of the members of our compensation committee has ever been one of our officers or employees. None of our executive officers currently serves, or has served, as a member of the board of directors or compensation committee of any entity that has one or more executive officers serving as a member of our board of directors or compensation committee.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Except as described below and except for compensation for employment or services provided in other roles, the following is a description of transactions since January 1, 2016 to which we are or were a party in which the amount involved exceeds \$120,000, and in which any of our current directors, executive officers, holders of more than 5% of any class of our voting securities or any of their respective affiliates or immediate family members, had, or will have, a direct or indirect material interest.

We also describe below certain other transactions with our directors, executive officers and stockholders. Pursuant to the written charter of our audit committee, the audit committee is responsible for reviewing and approving all transactions in which we are a participant and in which any parties related to us, including our executive officers, our directors, beneficial owners of more than 5% of our securities, immediate family members of the foregoing persons and any other persons whom our board of directors determines may be considered related parties under Item 404 of Regulation S-K, has or will have a direct or indirect material interest.

Insider Participation in Public Offering

On May 4, 2016, we issued an aggregate of 9,200,000 shares of our common stock in an underwritten public offering at a purchase price per share of \$6.25 per share. Reneo Capital SPV I LP purchased 232,000 of these shares, for an aggregate purchase price of \$1,450,000. Alexander Casdin, a member of our board of directors, is the Managing Member of Reneo GP, LLC, which is the General Partner of Reneo Capital SPV I LP.

Indemnification of Officers and Directors

Our second amended and restated certificate of incorporation provides for indemnification of our directors and officers substantially identical in scope to that permitted under applicable Delaware law. Our second amended and restated certificate of incorporation also provides that the expenses of our directors and officers incurred in defending any applicable action, suit or proceeding must be paid by us as they are incurred and in advance of the final disposition of the action, suit or proceeding, provided that the required undertaking by the director or officer is delivered to us.

We have also entered into separate indemnification agreements with each of our current directors and executive officers consistent with Delaware law and in the form approved by our board of directors and our stockholders, and we contemplate entering into such indemnification agreements with directors and certain executive officers that may be elected or appointed in the future. Those indemnification agreements require that under the circumstances and to the extent provided for therein, we indemnify such persons to the fullest extent permitted by applicable law against certain expenses incurred by any such person as a result of such person being made a party to certain actions, suits and proceedings by reason of the fact that such person is or was a director, officer, employee or agent of our company, any entity that was a predecessor corporation of our company or any of our affiliates. The rights of each person who is a party to such an indemnification agreement are in addition to any other rights such person may have under applicable Delaware law, our second amended and restated certificate of incorporation, our bylaws, any other agreement, any vote of our stockholders, a resolution adopted by our board of directors or otherwise. We also maintain a customary insurance policy that indemnifies our directors and officers against various liabilities, including liabilities arising under the Securities Act, that may be incurred by any director or officer in his or her capacity as such.

Director Independence

Our board of directors has determined that all of our directors are independent directors within the meaning of the applicable Nasdaq listing standards, except for Jonathan Lim, M.D., our President and Chief Executive Officer.

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Under Section 16(a) of the Exchange Act, directors, officers and beneficial owners of 10% or more of our common stock are required to file with the SEC on a timely basis initial reports of beneficial ownership and reports of changes regarding their beneficial ownership of our common stock. Officers, directors and 10% beneficial owners are required by SEC regulations to furnish us with copies of all Section 16(a) forms that they file.

Based solely on our review of the copies of such forms received and the written representations from certain reporting persons, we have determined that no officer, director or 10% beneficial owner, or any other person subject to Section 16(a) of the Exchange Act, known to us was delinquent with respect to their reporting obligations as set forth in Section 16(a) of the Exchange Act during the fiscal year ended December 31, 2016.

STOCKHOLDER PROPOSALS

Proposals of stockholders intended to be presented at our annual meeting of stockholders to be held in 2018 must be received by us no later than December 29, 2017, which is 120 days prior to the first anniversary of the mailing date of this proxy, in order to be included in our proxy statement and form of proxy relating to that meeting. These proposals must comply with the requirements as to form and substance established by the SEC for such proposals in order to be included in the proxy statement. In addition, our amended and restated bylaws establish an advance notice procedure with regard to certain matters, including stockholder proposals not included in our proxy statement, to be brought before an annual meeting of stockholders. In general, notice must be received at our principal executive offices not less than 90 calendar days before nor more than 120 calendar days before the first anniversary of the date of our 2017 annual meeting of stockholders. Therefore, to be presented at our 2018 annual meeting of stockholders, such a proposal must be received by us no earlier than February 13, 2018 and no later than March 15, 2018. However, if the date of the annual meeting is more than 30 days earlier or more than 60 days later than such anniversary date, notice must be received not less than 90 calendar days before nor more than 120 calendar days before such annual meeting, or, if later, ten calendar days following the date on which public announcement of the date of such meeting is first made. If the stockholder fails to give notice by these dates, then the persons named as proxies in the proxies solicited by the board of directors for the 2018 annual meeting may exercise discretionary voting power regarding any such proposal. Stockholders are also advised to review our amended and restated bylaws which also specify requirements as to the form and content of a stockholder's notice.

ANNUAL REPORT

Our annual report for the fiscal year ended December 31, 2016 will be mailed to stockholders of record on or about April 28, 2017. Our annual report does not constitute, and should not be considered, a part of this proxy solicitation material.

Any person who was a beneficial owner of our common stock on the record date may request a copy of our annual report, and it will be furnished without charge upon receipt of a written request identifying the person so requesting a report as a stockholder of our company at such date. Requests should be directed to Ignyta, Inc., 4545 Towne Centre Court, San Diego, California 92121, Attention: Corporate Secretary.

OTHER MATTERS

We do not know of any business other than that described in this proxy statement that will be presented for consideration or action by the stockholders at the annual meeting. If, however, any other business is properly brought before the meeting, shares represented by proxies will be voted in accordance with the best judgment of the persons named in the proxies or their substitutes. All stockholders are urged to complete, sign and return the accompanying proxy card in the enclosed envelope.

By Order of the Board of Directors

/s/ JONATHAN E. LIM, M.D. Jonathan E. Lim, M.D. President, Chief Executive Officer and Chairman of the Board

San Diego, California April 28, 2017



ANNUAL MEETING OF IGNYTA, INC.

Date:	Inne	13	2017	
пяте:	June	١٦.	- Z.U.L. /	

Time: 8:00 A.M. (Pacific Daylight Time)

Place: 12670 High Bluff Drive, San Diego, California 92130

Please make your marks like this:

Use dark black pencil or pen only

Board of Directors Recommends a Vote **FOR** proposals 1 and 2.

Please Sign Here

1: Election of Class III Directors 01 Jonathan E. Lim, M.D. 02 James Bristol, Ph.D.	For		Withhold	Directors Recommen For For
2: To ratify the selection of KPMG LLP as the Company's Independent Registered Public Accounting Firm for the fiscal year ending December 31, 2017.	For	Against	Abstain	For
Authorized Signatures - This section must be completed for your Instructions to be executed.				
Please Sign Here	Please Dat	e Above		

Please Date Above

Please sign exactly as your name(s) appears on your stock certificate. If held in joint tenancy, all persons should sign. Trustees, administrators, etc., should include title and authority. Corporations should provide full name of corporation and title of authorized officer signing the proxy.



Annual Meeting of Ignyta, Inc. to be held on Tuesday, June 13, 2017 for Holders as of April 20, 2017 This proxy is being solicited on behalf of the Board of Directors

OR

VOTE BY:



INTERNET

Go To www.proxypush.com/rxdx

Cast your vote online.
View Meeting Documents.

Call

TELEPHONE

866-291-6999

Use any touch-tone telephone.

PROXY TABULATOR FOR

Have your Proxy Card/Voting Instruction Form ready.

Follow the simple recorded instructions.



OR

Mark, sign and date your Proxy Card/Voting Instruction Form.

Detach your Proxy Card/Voting Instruction Form.

Return your Proxy Card/Voting Instruction Form in the postage-paid envelope provided.

The undersigned hereby appoints Jonathan E. Lim, M.D. and Christian V. Kuhlen, M.D., and each or either of them, as the true and lawful attorneys of the undersigned, with full power of substitution and revocation, and authorizes them, and each of them, to vote all the shares of capital stock of Ignyta, Inc. which the undersigned is entitled to vote at said meeting and any adjournment thereof upon the matters specified and upon such other matters as may be properly brought before the meeting or any adjournment thereof, conferring authority upon such true and lawful attorneys to vote in their discretion on such other matters as may properly come before the meeting and revoking any proxy heretofore given.

THE SHARES REPRESENTED BY THIS PROXY WILL BE VOTED AS DIRECTED OR, IF NO DIRECTION IS GIVEN, SHARES WILL BE VOTED FOR THE ELECTION OF THE DIRECTORS IN ITEM 1, FOR THE PROPOSAL IN ITEM 2 AND IN THE DISCRETION OF THE PROXIES WITH RESPECT TO SUCH OTHER MATTERS AS MAY PROPERLY COME BEFORE THE MEETING.

All votes must be received by 11:59 P.M., Eastern Time, June 12, 2017.

		IGNYTA, INC. P.O. BOX 8016
		CARY, NC 27512-9903
EVENT #		
CLIENT #	L	

Proxy – Ignyta, Inc. Annual Meeting of Stockholders June 13, 2017, 8:00 a.m. (Pacific Daylight Time) This Proxy is Solicited on Behalf of the Board of Directors

The undersigned appoints Jonathan E. Lim, M.D. and Christian V. Kuhlen, M.D. (the "Named Proxies") and each of them as proxies for the undersigned, with full power of substitution, to vote the shares of common stock of Ignyta, Inc., a Delaware corporation ("the Company"), the undersigned is entitled to vote at the Annual Meeting of Stockholders of the Company to be held at 12670 High Bluff Drive, San Diego, California 92130, on Tuesday, June 13, 2017 at 8:00 a.m. (Pacific Daylight Time) and all adjournments thereof.

The purpose of the Annual Meeting is to take action on the following:

- 1. Proposal 1;
- 2. Proposal 2; and
- 3. Transact such other business as may properly come before the Annual Meeting or any adjournment or postponement of the Annual Meeting.

The two directors up for re-election are: Jonathan E. Lim, M.D., and James Bristol, Ph.D.

The Board of Directors of the Company recommends a vote "FOR" all nominees for director and "FOR" each proposal.

This proxy, when properly executed, will be voted in the manner directed herein. If no direction is made, this proxy will be voted "FOR" all nominees for director and "FOR" each proposal. In their discretion, the Named Proxies are authorized to vote upon such other matters that may properly come before the Annual Meeting or any adjournment or postponement thereof.

You are encouraged to specify your choice by marking the appropriate box (SEE REVERSE SIDE) but you need not mark any box if you wish to vote in accordance with the Board of Directors' recommendation. The Named Proxies cannot vote your shares unless you sign and return this card.

To attend the meeting and vote your shares	
in person, please mark this box.	