

**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

**FORM 10-K/A**  
(Amendment No. 1)

**x ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**  
**FOR THE FISCAL YEAR ENDED DECEMBER 31, 2013**

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

**FOR THE TRANSITION PERIOD FROM TO**  
**COMMISSION FILE NUMBER 000-52089**

**INVIVO THERAPEUTICS HOLDINGS CORP.**

(Exact Name of registrant as specified in its charter)

**Nevada**  
(State or other jurisdiction of  
incorporation or organization)

**36-4528166**  
(I.R.S. Employer  
Identification No.)

**One Kendall Square**  
**Suite B14402 Cambridge, Massachusetts**  
(Address of principal executive offices)

**02139**  
(Zip Code)

**(617) 863-5500**

Registrant's telephone number, including area code:

Securities registered pursuant to Section 12(b) of the Act: **None**

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

**Common Stock, par value \$0.00001 per share**  
Title of each class

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

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

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

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes **x** No o

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

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer  
o

Accelerated filer  
**x**

Non-accelerated filer o  
(Do not check if a  
smaller reporting company)

Smaller reporting company  
o

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

The aggregate market value of the voting and non-voting common equity held by non-affiliates based on the closing price of such stock on the Over-the-Counter Bulletin Board (\$4.13) on June 28, 2013 was \$238,670,234.

As of March 5, 2014, the number of shares outstanding of the registrant's common stock, \$0.00001 par value per share, was 78,994,064.

**DOCUMENTS INCORPORATED BY REFERENCE:** NONE.

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## EXPLANATORY NOTE

This Amendment No. 1 on Form 10-K/A (this "Amendment") amends the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2013, originally filed with the Securities and Exchange Commission on March 17, 2014 (the "Original Filing"). The Company is filing this Amendment solely to amend Part III of the Original Filing to include the information required by and not included in Part III of the Original Filing. The Company, which usually holds its annual meeting of stockholders in May, no longer anticipates filing its definitive proxy statement within 120 days of the end of its fiscal year ended December 31, 2013. In addition, in connection with the filing of this Amendment and pursuant to the rules of the Securities and Exchange Commission, the Company is including with this Amendment new certifications of its principal executive officer and principal financial officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002. Accordingly, Item 15 of Part IV has also been amended to reflect the filing of these new certifications.

Except as described above, no other changes have been made to the Original Filing. The Original Filing continues to speak as of the date of the Original Filing, and the Company has not updated the disclosures contained therein to reflect any events which occurred at a date subsequent to the filing of the Original Filing.

As used herein, "we," "us," "our" or the "Company" means InVivo Therapeutics Holdings Corp., together with its consolidated subsidiaries, unless otherwise noted.

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## PART III

### Item 10. Directors, Executive Officers and Corporate Governance.

#### Directors

The following table sets forth certain information regarding our current directors.

Name	Position(s) or Office(s) Held	Director Since
Richard J. Roberts, Ph.D.	Class I Director	October 2010
Kenneth DiPietro	Class I Director	December 2012
John A. McCarthy, Jr.	Non-Executive Chairman of the Board; Class II Director	April 2013
Mark D. Perrin	Chief Executive Officer; Class III Director	January 2014

At our 2014 annual meeting of our stockholders, the date of which has not been announced, our Board of Directors expects to nominate Mr. Perrin for re-election as a Class III director of the Company, to hold office for a three-year term ending at the annual meeting of stockholders in 2017. In March 2014, we received notice from Francis M. Reynolds, the Company's former Chairman, Chief Executive Officer and Chief Financial Officer, that he is nominating himself as a Class III director-nominee for election at our 2014 annual meeting of stockholders, and indicating his intention to solicit proxies for his election at the 2014 annual meeting of stockholders. In April 2014, Mr. Reynolds requested under applicable Nevada law to inspect the Company's stockholder records, and we complied with that request.

**Biographies and Qualifications.** Below are biographies of our current directors and certain information regarding each director's experience, attributes, skills and/or qualifications that led to the conclusion that the director should be serving as a director of the Company.

*Class I Directors*

**Richard J. Roberts, Ph.D.**, 70, has been a director of our Company since October 2010 and a director of InVivo Therapeutics Corporation, our wholly-owned subsidiary, since November 2008. Dr. Roberts joined InVivo Therapeutics Corporation's Scientific Advisory Board in June 2007. Dr. Roberts has been the Chief Scientific Officer at New England Biolabs since 1992. He was awarded the 1993 Nobel Prize in Physiology of Medicine along with Phillip Allen Sharp for the discovery of introns in eukaryotic DNA and the mechanism of gene-splicing. He holds a B.Sc. in Chemistry and a Ph.D. in Organic Chemistry from the University of Sheffield, U.K. Dr. Roberts brings to our Board his significant experience and understanding of the science and technology involved in our business.

**Kenneth DiPietro**, 55, has been a director of our Company since December 2012. Since February 2012, Mr. DiPietro has served as Executive Vice President of Human Resources of Biogen Idec Inc., a publicly-traded biotechnology company. Mr. DiPietro joined Biogen Idec from Lenovo Group, where he served as Senior Vice President, Human Resources from May 2005 until June 2011. From 2003 to 2005, he served as Corporate Vice President, Human Resources at Microsoft Corporation, and as Vice President, Human Resources at Dell Inc. from 1999 to 2002. Prior to that, he spent 17 years at PepsiCo, serving in a range of human resource and general management positions. Mr. DiPietro holds a B.S. degree in Industrial and Labor Relations from Cornell University. As a human resources senior executive, Mr. DiPietro brings broad cultural transformation, organizational development and corporate re-engineering experience to our Board.

#### *Class II Director*

**John A. McCarthy, Jr.**, 55, has been a director of our Company since April 2013 and non-executive Chairman of the Board since September 2013. Since December 2012, Mr. McCarthy has served as Chief Executive Officer of CryoXtract Instruments, LLC, a developer of unique automation solutions for the global life sciences industry. Prior to joining CryoXtract, Mr. McCarthy served as President and Chief Executive Officer of Qteros, Inc., an alternative energy company, from December 2009 to December 2011. During 2009, he served as Senior Vice President, Chief Financial Officer and Chief Business Officer at Microbia, Inc., a subsidiary of Ironwood Pharmaceuticals. From 2006 to 2008, he served as Executive Vice President and Chief Financial Officer at Verenum Corporation, a publicly

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traded, alternative energy company. From 2005 to 2006, Mr. McCarthy served as Senior Vice President and Chief Financial Officer of Xanthus Pharmaceuticals, Inc. From 2004 to 2005, he served as Senior Vice President Corporate Development and Chief Financial Officer of Synta Pharmaceuticals Corp., and from 2000 to 2004, he served as Executive Vice President and Chief Financial Officer of Exact Sciences Corporation, a publicly-traded developer of proprietary DNA-based diagnostic assays for the early detection of cancer. He holds an M.B.A. degree from the Harvard Business School and a B.S. degree in finance from Lehigh University. Mr. McCarthy brings to our Board his significant financial and business experience as an executive officer of private and public companies, including biotechnology companies.

#### *Class III Director*

**Mark D. Perrin**, 57, has been a director of our Company and our Chief Executive Officer since January 2014. Most recently, Mr. Perrin served as President of Dennan Consulting, a biotech consulting firm, from June 2012 to December 2013. From November 2005 to October 2010, Mr. Perrin, was President and Chief Executive Officer of ConjuChem Biotechnologies, Inc., a company developing long acting conjugated peptide therapeutics. In 2010, ConjuChem filed a voluntary assignment in bankruptcy under the Canadian Bankruptcy and Insolvency Act in order to effect an orderly liquidation of its assets, property and operations. Prior to joining ConjuChem, Mr. Perrin was Executive Vice President and Chief Commercial Officer of Orphan Medical, Inc. from 2002 to 2005, when it was acquired by Jazz Pharmaceuticals. From 1995 to 2001, he was Executive Vice President, Commercial Operations of COR Therapeutics, Inc., where he created and developed sales, marketing, and manufacturing functions for the emerging company. Before that, he served as Vice President of Marketing and Sales for Burroughs Wellcome Company where he headed all commercial operations in the US from 1992 to 1995. Mr. Perrin holds an MBA in Marketing and International Business from the Kellogg Graduate School of Management at Northwestern University and a BS in Economics from Fordham University. Mr. Perrin brings to the Board his extensive management experience in the biotechnology industry and, as our Chief Executive Officer, he provides our Board with insight into the day to day operations of our Company.

#### **Executive Officers**

The following table sets forth certain information regarding our current executive officers. Biographical information pertaining to Mr. Perrin, our Chief Executive Officer and a director of our Company, may be found in the section entitled "Directors."

Name	Position(s) or Office(s) Held
Mark D. Perrin	Chief Executive Officer; Class III Director
Steven F. McAllister	Interim Chief Financial Officer
Tamara Joseph	Senior Vice President, General Counsel and Chief Compliance Officer
Thomas Ulich, MD	Chief Scientific Officer

**Steven F. McAllister**, 55, has served as our Interim Chief Financial Officer since December 2013. Prior to joining our Company, Mr. McAllister served as Vice President of Finance and Administration for Biomet's Spine and Bone Healing Technologies division from September 2007 to March 2013. While at Biomet, he was responsible for all accounting, finance, IT, facilities and insurance operations activities in addition to leading the company's strategic planning initiatives. Previous to Biomet, Mr. McAllister worked for DePuy, Inc., a Johnson & Johnson Company, from 1999 to 2007, in various capacities of increasing responsibility including Controller—Marketing Finance, Director of Finance—Worldwide Spine, and Director of Finance—Worldwide Operations. Prior to DePuy, Mr. McAllister held various financial roles with Pfizer's medical device business from 1984 to 1999. Mr. McAllister holds a BS in Accounting from Fairleigh Dickinson University.

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**Tamara Joseph**, 51, has served as our Senior Vice President, General Counsel and Chief Compliance Officer since March 2014, after beginning to work as an independent consultant to our Company in September 2013. Ms. Joseph was appointed as an independent director of the public health non-profit

PHFE in February 2013. She is the incoming Vice Chair of PHFE's Board of Directors and is a member of its Audit Committee and its Governance and Nominating Committee. She previously served as Senior Vice President, General Counsel of Cubist Pharmaceuticals, Inc. from April 2008 to October 2012, where she was responsible for the law, compliance, risk management and government affairs departments. Prior to that, she served as Executive Vice President, General Counsel of Mayne Pharma Ltd., from 2006 to 2008. Before that, Ms. Joseph served as Vice President, General Counsel of Transkaryotic Therapies, Inc., and from 1998 to 2005, Ms. Joseph led the Biogen Idec legal department's operations outside the United States as Vice President, International Legal. Ms. Joseph began her legal career as a litigator with Fried, Frank, Harris, Shriver & Jacobson and later with Morrison & Foerster. Ms. Joseph has an AB in Economics from Duke University, a JD from University of Michigan Law School, an LLM degree in European Community Law from the College of Europe in Belgium and an LLM degree in Civil Law from the University of Paris.

**Thomas Ulich, MD**, 60, has served as our Chief Scientific Officer since February 2014. Prior to joining our Company, Dr. Ulich served as Executive Vice-President of Research and Development of ConjuChem Biotechnologies from 2006 to July 2010. In 2010, ConjuChem filed a voluntary assignment in bankruptcy under the Canadian Bankruptcy and Insolvency Act in order to effect an orderly liquidation of its assets, property and operations. Prior to that, he served as Senior Vice-President of Research and Development for Alnylam Pharmaceuticals from 2003 to 2004. He was Vice-President of Preclinical Development at Protein Therapeutics from 2001 to 2003, and was Vice-President of Preclinical Development at Amgen from 1993 to 2001. While at Amgen, he was responsible for the Departments of Pharmacology, Toxicology, Preclinical and Clinical Pharmacokinetics, Protein and Small Molecule Formulation Development, Clinical Immunology, GLP Quality, and Protein Sciences. Dr. Ulich has a BA from Dartmouth College, an MD and AP/CP Pathology Residency from UCLA Medical School, and completed his post-doctoral fellowships at the Scripps Institute for Immunology in La Jolla, CA. He has medical board certification from the American Board of Anatomic Pathology, the American Board of Clinical Pathology, and the American Board of Immunopathology. Dr. Ulich was a Professor of Pathology at the University of California from 1984 to 1993, and at Wayne State University from 2005 to 2006.

## Scientific Advisory Board

In addition to our executive officers and directors, we also have a Scientific Advisory Board that provides guidance our Company. The Scientific Advisory Board reviews the progress of our Company's product development and provides input to management regarding scientific issues relating to our product and potential markets. The Scientific Advisory Board is advisory only and does not have the power to make decisions on behalf of our Company, and may but is not required to include officers, directors or employees of our Company. We do not pay members of our advisory board any cash compensation and have compensated members of the advisory board through the issuance of stock options.

The following persons are the current members of our Scientific Advisory Board.

**Richard J. Roberts, PhD**, has been a director of our Company since October 2010 and joined the Scientific Advisory Board of InVivo Therapeutics Corporation, our wholly-owned subsidiary, in June 2007. Additional biographical information concerning Dr. Roberts may be found above in the section entitled, "Directors."

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**Robert S. Langer, ScD**, is the David H. Koch Institute Professor at the Massachusetts Institute of Technology (MIT). Dr. Langer has written over 1,250 articles. He also has approximately 1,050 issued and pending patents worldwide. Dr. Langer's patents have been licensed or sublicensed to over 250 pharmaceutical, chemical, biotechnology and medical device companies. He received his Bachelor's Degree from Cornell University in 1970 and his Sc.D. from the Massachusetts Institute of Technology in 1974, both in Chemical Engineering. He served as a member of the United States Food and Drug Administration's SCIENCE Board from 1995 - 2002 and as its Chairman from 1999 - 2002. Dr. Langer has received over 220 major awards including the 2006 United States National Medal of Science, the Charles Stark Draper Prize and the 2008 Millennium Prize. In 1989, Dr. Langer was elected to the Institute of Medicine of the National Academy of Sciences, and in 1992 he was elected to both the National Academy of Engineering and to the National Academy of Sciences. Dr. Langer has received honorary doctorates from 22 national and international universities.

**V. Reggie Edgerton, PhD**, has been the Director of U.C.L.A.'s Edgerton Neuromuscular Research Lab since 1968 and is a professor in the Departments of Physiological Sciences, Neurobiology and Neurosurgery at U.C.L.A. His research is focused on neural control of movement and how this neural control adapts to altered use and after spinal cord injury. He completed his Ph.D. under the direction of Drs. Wayne Van Huss, Rex Carrow, and William Heusner at Michigan State University. Dr. Edgerton served on the Scientific Advisory Board of The Christopher Reeves Foundation (CDRF) and his laboratory is one of eight in the world receiving funding from the CDRF. Dr. Edgerton has co-authored two books and is the author of approximately 400 research papers. He is the recent recipient of the 2012 J. Allyn Taylor International Prize in Medicine and the Reeve-Irvine Research Award for his work in spinal cord injury.

**Jonathan R. Slotkin, MD**, is a clinical neurosurgeon and research scientist. Clinically, Dr. Slotkin has expertise in complex spinal surgery, minimally invasive spinal surgery, spinal oncology surgery and brain tumor surgery. Dr. Slotkin completed residency training in neurosurgery at Harvard Medical School, Brigham and Women's Hospital. He performed a fellowship in complex spinal surgery with Dr. Eric J. Woodard. He is the co-editor of a two-volume publication on spinal surgery. Dr. Slotkin is currently the Director of Spinal Surgery, Geisinger Neurosurgeries Institute, and Director of Spinal Cord Research at Geisinger Health System. Dr. Slotkin has authored or co-authored several peer-reviewed scientific publications in the areas of repair after spinal cord injury in animal models, and in vivo quantum dot labeling of neural stem cells.

**Eric J. Woodard, MD**, is a clinical neurosurgeon and research scientist. Dr. Woodard is currently Chief of the Section of Neurosurgery at New England Baptist Hospital. Dr. Woodard received his medical degree from Pennsylvania State University and completed his residency in Neurological surgery at Emory University. Following residency, Dr. Woodard completed a fellowship in complex spinal surgery at the Medical College of Wisconsin under Dr. Sanford Larsen. He is a member of numerous professional societies including the American Association of Neurological Surgeons, the Congress of Neurological Surgeons, and the Joint section of the AANS/CNS for Spine and Peripheral nerve. He has also served extensively over the last 18 years as faculty, Board member, foundation trustee, and Chairman of the board of AOSpine North America. Dr. Woodard has been a member of the editorial board for the Journal of Spinal Disorders & Techniques and Spine Universe, and is a reviewer for The New England Journal of Medicine and Neurosurgery.

## Involvement in Certain Legal Proceedings

None of our directors or executive officers has (i) been convicted in or is currently subject to a pending criminal proceeding or (ii) been a party to a civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceeding was or is subject to a judgment, decree or final

order enjoining future violations of, or prohibiting or mandating activities subject to any federal or state securities or banking laws including, without limitation, in any way limiting involvement in any business activity, or finding any violation with respect to such law. No bankruptcy petition has been filed by or against the business of which any of our directors or officers was an executive officer or a general partner, whether at the time of the bankruptcy or for the two years prior thereto, other than Mr. Perrin and Dr. Ulich, who were the former Chief Executive Officer and Executive Vice President, respectively, of ConjuChem Biotechnologies which filed for bankruptcy in 2010.

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## SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Exchange Act requires our directors and executive officers and persons who own more than 10% of a registered class of our equity securities (collectively, “Reporting Persons”) to file reports of beneficial ownership and changes in beneficial ownership with the Securities and Exchange Commission. Based solely upon review of copies of such reports, or other written representations from Reporting Persons, we believe that, during fiscal 2013, all Reporting Persons complied with all applicable requirements of Section 16(a) of the Exchange Act, except that our former Acting Chief Financial Officer Sean Moran did not report four transactions on a timely basis and filed one Form 3 late, and our former Chief Executive Officer/Chief Financial Officer Frank Reynolds did not report 12 transactions on a timely basis and filed six Form 4s late.

### Corporate Governance

#### *Code of Ethics*

We previously adopted a Code of Business Conduct and Ethics that applies to all employees, officers and directors of our Company, including our principal executive officer, principal financial officer and principal accounting officer or controller, or persons performing similar functions. Our Code of Business Conduct and Ethics is available in the “Investor Relations” section of our website, [www.invivotherapeutics.com](http://www.invivotherapeutics.com). A copy of our Code of Business Conduct and Ethics can also be obtained free of charge by contacting our Secretary, c/o InVivo Therapeutics Holdings Corp., One Kendall Square, Suite B14402, Cambridge, Massachusetts 02139. We intend to satisfy the disclosure requirement under Item 5.05 of Form 8-K regarding any amendment to, or waiver from, a provision of our Code of Business Conduct and Ethics by posting such information on the website specified above.

#### *Audit Committee*

Our Board of Directors has a standing Audit Committee established in accordance with Section 3(a)(58)(A) of the Exchange Act. The current members of our Audit Committee are John A. McCarthy, Jr. (Chairman), Kenneth DiPietro and Dr. Richard J. Roberts.

The Board of Directors has determined that all of the members of the Audit Committee are independent (as defined by the listing standards of the Nasdaq Stock Market and the applicable SEC rules), and that the Audit Committee members meet the independence requirements contemplated by Rule 10A-3 under the Exchange Act. The Board has determined that John A. McCarthy, Jr. is an “audit committee financial expert” (as defined in Item 407(d)(5) of Regulation S-K).

### Procedure for Nominating Directors

There have been no material changes to the procedures by which security holders may recommend nominees to our Board of Directors.

The Governance, Nominating and Compensation (or “GNC”) Committee will consider director candidates who are recommended by our stockholders. Such recommendation for nomination must be in writing and include the following:

- the name and address of the stockholder making the recommendation;

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- the number of shares of our common stock that such stockholder owns beneficially and holds of record;
- the name and address of the individual recommended for consideration as a director nominee;
- the principal occupation and experience of the director nominee;
- the total number of shares of our common stock that the stockholder making the recommendation will vote for the director nominee;
- a written statement from the stockholder making the recommendation stating whether the director nominee has indicated his or her willingness to serve if elected and why such recommended candidate would be able to fulfill the duties of a director; and
- any other information regarding the director nominee that is required to be included in a proxy statement filed pursuant to the rules of the SEC.

Nominations must be sent to the GNC Committee by U.S. mail, courier or expedited delivery service to InVivo Therapeutics Holdings Corp., One Kendall Square, Suite B14402, Cambridge, Massachusetts 02139, Attn: Secretary. The Secretary will then provide the nomination to the GNC Committee for consideration. Assuming that the required material has been provided on a timely basis, the GNC Committee will evaluate stockholder-recommended candidates by following substantially the same process, and applying substantially the same criteria, as it follows for candidates submitted by others.

### Item 11. Executive Compensation.

#### Compensation Discussion and Analysis



This Compensation Discussion and Analysis explains our compensation philosophy, objectives, policies and practices with respect to our Chief Executive Officer and other executive officers, and the compensation of our named executive officers in place in 2013.

## **Overview**

The primary objectives of our executive compensation program are to attract, motivate, retain and reward high-quality executives and to align the interests of our executives with our stockholders by having a “pay-for-performance” philosophy, tying a portion of our executive officers and senior management’s compensation to our overall company business goals and individual performance goals.

Historically, the GNC Committee combined short and long-term incentives to achievement of specified corporate and individual performance objectives. As we further develop our compensation practices to align them with comparable companies, we will continue to focus on improving our internal process for determining and reviewing compensation of all of our employees, including our executive officers. Our executive compensation structure not only aims to be competitive in our industry, but also to be fair relative to compensation paid to other professionals within our organization. As our business evolves, we seek to foster a performance-oriented culture, where individual performance is aligned with organizational objectives.

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### ***Role of the Compensation Committee***

The GNC Committee approves, administers and interprets our executive compensation and benefits policies. Our GNC Committee is appointed by the Board of Directors, and consists entirely of directors who are “independent” under the NASDAQ Rules, “outside directors” for purposes of Section 162(m) of the Internal Revenue Code and “non-employee directors” for purposes of Rule 16b-3 under the Exchange Act. Our GNC Committee is currently composed of Mr. DiPietro, who serves as Chairman, Mr. McCarthy and Dr. Roberts.

Our GNC Committee reviews and makes recommendations to the Board of Directors with respect to our executive compensation and benefit program to ensure alignment with our compensation philosophy, and, subject to the approval of our Board, is responsible for establishing the compensation packages offered to our executive officers.

### ***Compensation-Setting Process***

On an annual basis, the GNC Committee reviews and determines the compensation of our Chief Executive Officer and, with input from management, the compensation of our other executive officers, including our named executive officers. This review is based on an evaluation of each officer’s performance and financial or other information as the GNC Committee may request, including surveys of executive compensation practices at comparable companies. Our GNC Committee makes all determinations regarding executive compensation and our Chief Executive Officer does not attend any portion of meetings at which his compensation is discussed.

The GNC Committee may, in its sole discretion, retain, at our Company’s expense, an independent counsel and other advisors it deems necessary or appropriate to carry out its duties. Historically, in making compensation decisions, the GNC Committee generally has not used the services of a compensation consultant, nor does it utilize competitive analysis comparisons such as benchmarking or peer group target percentiles. However, the GNC Committee does draw upon the geography-specific business knowledge of our management and our Board of Directors to form a general understanding of how local market practices may impact our ability to hire and retain executives and general surveys of executive compensation practices of comparable companies. The GNC Committee did not retain any outside compensation consultants in connection with its 2013 executive compensation decision-making process. In 2014, the GNC Committee retained Towers Watson to review named executive officer compensation and our outside director compensation program.

### ***Compensation Risk Assessment***

In reviewing our compensation policy and practices for our named executive officers as well as for other employees, the GNC Committee evaluated whether any unnecessary risk-taking was associated with our compensation policies. The committee did not identify any risks arising from our compensation policies and practices reasonably likely to have a material adverse effect on our Company.

### ***Stockholder Advisory Vote on Executive Compensation***

Our Board and GNC Committee and management value the opinions of our stockholders, including their advisory votes regarding the compensation paid to our named executive officers, which are often referred to as “Say-on-Pay” votes. At our 2013 annual meeting, a majority of votes were cast, on an advisory basis, in favor of holding Say-on-Pay votes every three years. Accordingly we will include in our proxy materials an advisory Say-on- Pay proposal every three years until the next required vote on the frequency of advisory Say-on-Pay votes. At our 2013 annual meeting, we asked our stockholders to approve, on an

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advisory basis, the 2012 compensation of our named executive officers as disclosed in our 2013 proxy statement. Over 98.5% of votes cast approved the 2012 compensation of our named executive officers.

The GNC Committee took into account the results of this advisory vote when making compensation decisions through the remainder of 2013. The advisory vote affected the GNC Committee’s executive compensation decisions and policies by reaffirming our compensation policies, and the GNC Committee will continue to take these policies and past practice into consideration in determining future compensation decisions. The GNC Committee will continue to consider the results of the advisory vote on executive compensation in future executive compensation policies and decisions.

### ***Executive Compensation Program***

Generally, our executive compensation program consists of five components: base salary, annual bonus incentives, long-term equity incentives, benefits and, in some cases, severance or termination protection.

**Base Salary.** The GNC Committee reviews the individual salaries of our executive officers on an annual basis. The base salary for each executive is based on consideration of internal factors, such as the individual's experience, skills and performance and the pay of other members of the executive team, as well as information on executive compensation practices at comparable companies. When determining the base salary of any executive, we also consider business requirements for certain skill sets, individual experience, and the responsibilities of the executive and other factors. The GNC Committee believes that a competitive base salary is necessary to attract and subsequently retain a management team with the requisite skills to lead our Company.

**Annual Cash Incentive Bonus Plan.** In 2012, the GNC Committee established an annual cash incentive bonus plan for executive officers as a means of providing performance-based incentives that motivate and reward superior managerial performance. The plan outlines general performance goals and business criteria upon which each executive officer's performance will be evaluated. The target bonus and the specific performance goals and business criteria with respect to a particular plan year will be approved each year by the GNC Committee. Performance will be measured against these specific performance goals and business criteria. Generally, performance will be evaluated based on financial and operational performance goals and business criteria. Financial performance goals and business criteria include targets tied to capital raising, stock price, trading volume, research coverage and institutional ownership. Operational performance goals and business criteria include targets tied to regulatory filings and approvals, pre-clinical and clinical trials and related results, publications, intellectual property, joint ventures and joint developments, product development, and manufacturing capabilities. The GNC Committee also has discretion to grant bonuses in excess of the bonus calculated based on the level of achievement and in excess of the target bonus if it determines that such bonuses are warranted under the circumstances and are in the best interests of our Company and our stockholders.

For 2013, Mr. Reynolds, our former Chief Executive Officer and Chief Financial Officer, was the only executive officer eligible to participate in the annual cash incentive bonus plan. In November 2012, the GNC Committee set financial, operational and "stretch" goals for Mr. Reynolds. However, because Mr. Reynolds resigned from our Company in August 2013, no bonus was earned for 2013 performance.

**Long-Term Equity Incentives.** The GNC Committee awards equity incentive compensation in the form of stock options to our executive officers, consistent with the practices of peer organizations. These awards reflect a "pay-for-performance" principle and align the interests of our executive officers to the interest of our stockholders in building long-term value in our Company.

Our executive officers are eligible to receive annual awards of stock options, although an annual stock option grant is not guaranteed. Individual determinations are made by the GNC Committee with

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respect to the frequency and number of stock options to be recommended to be granted to the executive officers. In making these determinations, the GNC Committee considers performance relative to the strategic and financial objectives of the Company, the previous year's individual performance of each executive officer and recommendations of management with respect to executive officers other than our Chief Executive Officer. We also typically award long-term incentive grants in the form of stock options to key new hires.

Our stock options generally vest over a four-year period, with 25% vesting on the first anniversary of the date of grant and thereafter on a monthly basis in 36 equal installments. The exercise price of these options are at the fair market value of our common stock on the date the options are granted which is the closing price of the stock on the date of grant or, if later, the date of hire. We expect that we will continue to provide key new employees with initial option grants to provide long-term compensation incentives and we will continue to rely on performance-based and retention grants to key employees.

**Benefits.** We provide the following benefits to our executive officers generally on the same basis as the benefits provided to all employees: health and dental insurance, life insurance, short and long-term disability, and a 401(k) profit sharing plan. These benefits are consistent with those offered by other companies and specifically with those companies with which we compete for employees. As noted below in "Agreements with Named Executive Officers," we may also provide additional benefits or perquisites under contractual agreements to our executive officers.

**Severance/Termination Benefits.** Under contractual agreements with certain executive officers, we have agreed to provide severance payments in connection with termination of the executive officer, including in connection with a change in control. These arrangements are described below in the Executive Compensation section under "Potential Payments upon Termination or Change-in-Control."

### **2013 Compensation to Named Executive Officers**

In 2013, we experienced significant change in our senior management team following the departure of our former Chief Executive Officer and Chief Financial Officer, Frank Reynolds. Michael Astrue and Gregory Perry provided important transitional assistance to our Company in their capacities as interim executive officers during our search for new, permanent executive leadership.

Mr. Astrue joined our Company in August 2013 to serve as Interim Chief Executive Officer, and he also served for a short period in 2013 as our interim principal financial officer. Under our employment agreement with Mr. Astrue described below, Mr. Astrue received a salary at an annual rate of \$480,000 and was eligible for a bonus, based on achievement of certain objectives, in an amount equal to 50% of his salary due under the term of the agreement. In December 2013, the GNC Committee determined that the objectives required to earn a bonus under his employment agreement had been met and that, in light of Mr. Astrue's performance, determined to award him a bonus equal to 100% of his salary, to be paid in shares of our common stock in lieu of cash (108,848 shares). Mr. Astrue served as our Interim Chief Executive Officer until the expiration of his agreement in January 2014.

Mr. Perry joined our Company in September 2013 to serve as Interim Chief Financial Officer. Under our employment agreement with Mr. Perry described below, Mr. Perry received a salary at an annual rate of \$370,000 in 2013 and was eligible for a bonus, based on achievement of certain objectives, in an amount equal to 40% of his salary due under the term of the agreement. In December 2013, the GNC Committee determined that the objectives required to earn a bonus under his employment agreement had been met and awarded him a bonus equal to 40% of his salary, to be paid in shares of our common stock in lieu of cash (22,374 shares). Mr. Perry served as our Interim Chief Financial Officer until the expiration of his agreement in December 2013.

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Steven McAllister, our Interim Chief Financial Officer, joined our Company on December 31, 2013. Under the terms of our offer letter with Mr. McAllister, Mr. McAllister received a pro-rated portion of his annual salary of \$260,000 for service in 2013.

Sean Moran became our Acting Chief Financial Officer in August 2013 and served in that role until his resignation in September 2013. Prior to becoming our Acting Chief Financial Officer, Mr. Moran was our Director of Finance. Mr. Moran's compensation in 2013 consisted of his salary. No bonuses were paid to Mr. Moran for 2013 and equity awards made to Mr. Moran in 2013 were forfeited as a result of his resignation.

Frank Reynolds served as our Chief Executive Officer and Chief Financial Officer until his departure in August 2013. As a result of his resignation, no bonuses were paid to Mr. Reynolds for 2013 and an option to purchase 600,000 shares of our common stock granted to Mr. Reynolds in November 2012 was forfeited.

Brian Hess, our Chief Technology Officer, joined our Company in January 2012. He received an option grant of 50,000 shares and an option grant of 75,000 shares in 2013 based on an assessment of his performance in 2013. We also continue to pay the cost of Mr. Hess attending the Executive MBA Program at MIT's Sloan School of Management.

### **Agreements with Named Executive Officers**

*Michael J. Astrue, former Interim Chief Executive Officer.* Under our employment agreement with Mr. Astrue, Mr. Astrue agreed to serve as Interim Chief Executive Officer until January 10, 2014. Mr. Astrue received a salary at an annual rate of \$480,000 and was eligible to receive benefits to the same extent as provided to other senior management employees, including medical and dental benefits. In addition, at the end of the agreement term, subject to his performance of specified objectives, Mr. Astrue was eligible to receive a cash bonus equal to 50% of his total salary due under the full term of the agreement, except that he was not eligible to receive the bonus if (i) we terminated the employment agreement as a result of a material breach by Mr. Astrue or (ii) Mr. Astrue terminated the employment agreement for any reason. If Mr. Astrue's employment had been terminated prior to the end of its term (other than by us as a result of a material breach by Mr. Astrue or by Mr. Astrue for any reason), Mr. Astrue would have received a lump-sum payment equal to his remaining salary through the agreement term and the cash bonus, to the extent eligible.

*Gregory Perry, former Interim Chief Financial Officer.* Under our employment agreement with Mr. Perry, Mr. Perry agreed to serve as Interim Chief Financial Officer for a term of three months, subject to extension upon mutual agreement of us and Mr. Perry. We agreed with Mr. Perry to extend his term until December 30, 2013. Mr. Perry received a salary at an annual rate of \$370,000. In lieu of medical and dental benefits, we paid Mr. Perry \$1,800 per month, and Mr. Perry was eligible to receive such other fringe benefits to the same extent as provided to other senior management employees (excluding medical and dental benefits). In addition, at the end of the agreement term, subject to his performance of specified objectives, Mr. Perry was eligible to receive a bonus equal to 40% of his total salary due under the full term of the agreement, except that he was not eligible to receive the bonus if (i) we terminated the employment agreement as a result of a material breach by Mr. Perry or (ii) Mr. Perry terminated the employment agreement for any reason. If Mr. Perry's employment was terminated prior to the end of its term (other than by us as a result of a material breach by Mr. Perry or by Mr. Perry for any reason), Mr. Perry would have received a lump-sum payment equal to his remaining salary through the agreement term and the cash bonus, to the extent eligible.

*Steven McAllister, Interim Chief Financial Officer.* Under the terms of our employment agreement with Mr. McAllister, Mr. McAllister agreed to serve as Interim Chief Financial Officer until

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April 30, 2014, which date may be extended upon mutual agreement of our Company and Mr. McAllister. In addition, we may choose to convert the role from an interim position to a permanent position. Mr. McAllister receives an annual salary of \$260,000 and is eligible to receive benefits to the same extent as provided to other senior management employees, including medical and dental benefits. In addition, at the end of the agreement term, subject to his performance of specified objectives, Mr. McAllister is eligible to receive a cash bonus equal to 50% of his total salary due under the full term of the employment agreement, except that he shall not be eligible to receive the bonus if (i) we terminate the employment agreement as a result of a material breach by Mr. McAllister or (ii) Mr. McAllister terminates the employment agreement for any reason. If Mr. McAllister's employment is terminated prior to the end of its term (other than by us as a result of a material breach by Mr. McAllister or by Mr. McAllister for any reason), Mr. McAllister will receive a lump-sum payment equal to his remaining salary through the agreement term and the cash bonus, to the extent eligible. If we choose to convert the role from an interim position to a permanent position, then (i) we will grant Mr. McAllister an option to purchase 150,000 shares of our common stock, (ii) all bonus payments made in 2015 and subsequent years will be determined based on the provisions of the bonus plan governing executive bonuses at that time, except that the target bonus will remain at 50% of annual salary, and (iii) Mr. McAllister's salary will be reviewed annually and will be adjusted upward (but not downward without his consent) no less frequently than annually.

*Sean Moran, former Acting Chief Financial Officer.* We entered into an employment agreement with Mr. Moran in October 2010 pursuant to which Mr. Moran served as our Director of Finance. Under the terms of this agreement, Mr. Moran was entitled to an initial annual salary of \$235,000, to be reviewed annually and adjusted upward (but not downward without his consent) no less frequently than annually. Mr. Moran was eligible to receive benefits to the same extent as provided to other senior management employees, including medical and dental benefits.

*Frank M. Reynolds, former Chief Executive Officer and Chief Financial Officer.* We entered into an amended and restated executive employment agreement with Frank Reynolds, our former Chief Executive Officer and Chief Financial Officer, on March 5, 2012. The agreement established Mr. Reynolds' compensation as follows: (i) an annual base salary of \$545,000 for 2012 (increased to \$600,000 for 2013); (ii) an annual bonus, with a 2012 target of \$260,000 (increased to \$286,00 for 2013), subject to the achievement of performance targets approved by the GNC Committee under the Annual Cash Bonus Plan for Executive Officers; (iii) a one-time cash bonus of \$100,000 as consideration for Mr. Reynolds' service as Chief Financial Officer and efforts to find and appoint a new Chief Financial Officer; (iv) \$6,000 per month for housing and living expenses in Massachusetts for so long as he maintains his primary residence outside of Massachusetts, subject to a tax gross up; and (v) other annual fringe benefits in the amount of \$20,200 per year, subject to a tax gross up. Mr. Reynolds was also granted an option in March 2012 to purchase 590,000 shares of our common stock under our 2010 Equity Incentive Plan. The agreement also contains various restrictive covenants, including covenants relating to non-competition, non-solicitation, confidentiality and cooperation.



## 2014 Developments

In late 2013, we announced the appointment of Mark D. Perrin as our Chief Executive Officer, effective January 6, 2014. Under our employment agreement with Mr. Perrin, Mr. Perrin receives an annual salary of \$400,000 and is eligible to receive an annual cash bonus equal to 50% of his annual salary, subject to his performance of specified objectives to be established by the Board (or a designated Board committee) each year. Mr. Perrin is eligible to receive all medical, dental and other benefits to the same extent as provided to other senior management employees. In connection with his relocation to the Boston area, we agreed to arrange up to 12 months of corporate housing and will pay Mr. Perrin \$20,000 for moving expenses. Mr. Perrin received an initial option grant to purchase 2,000,000 shares of our common stock. This option vests over a four-year period, with 25% vesting on the first anniversary of the grant date and

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the remainder vesting monthly in 36 equal installments until fully vested on the fourth anniversary of the grant date. Mr. Perrin is also entitled to severance payments if his employment is terminated by us without cause, or by Mr. Perrin for “good reason,” then (i) we are obligated to pay severance (consisting of base salary in effect at the time of termination and his prior year’s annual bonus) to Mr. Perrin for a period of one year and (ii) with respect to any such terminations occurring subsequent to the first anniversary of the commencement of his employment, the unvested portion of any stock options held by him will vest to the extent of 12 additional months. Severance payments and the accelerated vesting of options are contingent on execution of a general release of claims against our Company, and are in addition to any accrued obligations to Mr. Perrin unpaid by us prior to the time of termination. The agreement also contains various restrictive covenants, including covenants relating to non-competition, non-solicitation, confidentiality and assignment of inventions.

## Executive Compensation

Set forth below is information regarding the compensation of (i) all persons serving as our Chief Executive Officer or Chief Financial Officer at any time during 2013 and (ii) our other most highly compensated executive in office at the end of 2013. Such officers are collectively referred to as our “named executive officers.” Mr. Perrin, our current principal executive officer, is not included in the disclosure below as he was appointed our Chief Executive Officer in January 2014, after the end of our fiscal year.

### Summary Compensation Table

The following table sets forth information regarding our named executive officers’ compensation for fiscal years 2013, 2012 and 2011.

Name and Principal Position	Fiscal Year	Salary	Bonus	Stock Awards(1)	Options/SAR Awards(1)	All Other Compensation	Total
Michael J. Astrue(2) Former Interim Chief Executive Officer	2013	\$ 173,538	\$ —	\$ 234,023	\$ —	\$ —	\$ 407,561
Gregory Perry(3) Former Interim Chief Financial Officer	2013	\$ 83,962	\$ —	\$ 48,104	\$ —	\$ —	\$ 132,066
Steven McAllister(4) Interim Chief Financial Officer	2013	\$ 1,000	\$ —	\$ —	\$ —	\$ —	\$ 1,000
Sean Moran(5) Former Acting Chief Financial Officer	2013	\$ 236,393	\$ —	\$ —	\$ 96,565	\$ 7,721	\$ 340,679
Frank Reynolds(6) Former Chief Executive Officer, Former President, Former Chief Financial Officer	2013	\$ 413,077	\$ —	\$ —	\$ —	\$ 128,586	\$ 541,663
	2012	\$ 545,000	\$ 287,000	\$ —	\$ 1,606,621	\$ 228,776	\$ 2,667,397
	2011	\$ 477,000	\$ 230,000	\$ —	\$ 149,500	\$ 246,008	\$ 1,102,508
Brian Hess(7) Chief Technology Officer	2013	\$ 225,000	\$ —	\$ —	\$ 246,388	\$ 81,332	\$ 552,720
	2012	\$ 125,792	\$ 40,000	\$ —	\$ 464,680	\$ 47,090	\$ 677,562

(1) The amounts shown in these columns represent the aggregate grant date fair value of awards computed in accordance with Financial Accounting Standards Board (“FASB”) Accounting Standards Codification Topic 718, not the actual amounts paid to or realized by the named executive officer during fiscal 2013. The assumptions used in determining grant date fair value of these awards are set forth in Note 13 to our Consolidated Financial Statements appearing in our Original Filing, which was originally filed with the SEC on March 17, 2014.

(2) Mr. Astrue joined our Company on August 22, 2013 as Interim Chief Executive Officer. Mr. Astrue served in that role until January 6, 2014. Mr. Astrue also served as interim principal financial officer from September 10, 2013 until September 16, 2013. The amount in the “Stock

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Award” column represents the stock award Mr. Astrue received in lieu of a cash bonus. The number of shares of common stock was determined based on 100% of his salary to be paid during the term of his employment with the Company, divided by the closing price of our common stock on the date the GNC Committee approved the bonus in December 2013.

(3) Mr. Perry joined our Company on September 16, 2013 as Interim Chief Financial Officer and served in that role until his departure from our Company on December 30, 2013. The amount in the “Stock Award” column represents the stock award Mr. Perry received in lieu of a cash bonus. The number of shares of common stock was determined based on 40% of his salary to be paid during the term of his employment with the Company, divided by the closing price of our common stock on the date the GNC Committee approved the bonus in December 2013.

(4) Mr. McAllister joined our Company as Interim Chief Financial Officer on December 31, 2013.

(5) Mr. Moran was appointed Acting Chief Financial Officer on August 22, 2013 and served in that role until his resignation effective September 9, 2013. Prior to becoming Acting Chief Financial Officer, Mr. Moran was our Director of Finance. The amount in the “All Other Compensation” column represents the amount of matching contributions under our Company’s 401(k) plan.

(6) The amount in the “All Other Compensation” column for 2013 represents (i) \$42,000 in living expenses, (ii) \$5,950 in auto allowance, (iii) \$10,000 for a professional membership, (iv) \$10,000 in travel allowance for Mr. Reynolds’ daughter, (v) \$29,341 for a tax gross-up on auto allowance and living expenses, (vi) \$16,226 for vacation accrued in 2013, (v) \$7,098 for life insurance premiums and (vi) \$7,971 in matching contributions under our Company’s 401(k) plan. The amounts in the “All Other Compensation” column and “Total” column for 2012 and 2011 have been corrected to include \$12,500 and \$5,017, respectively, of matching contributions under our Company’s 401(k) plan in those prior years. Mr. Reynolds resigned from our Company effective August 22, 2013.

(7) Brian Hess joined our Company in January 2012. Mr. Hess was an executive officer during 2013 but is no longer deemed to be an executive officer. The amount in the “All Other Compensation” column for 2013 represents (i) \$69,000 paid by our Company on behalf of Mr. Hess for his participation in the MIT Sloan School of Management Executive MBA Program and (ii) \$12,332 in matching contributions under our Company’s 401(k) plan. The amounts in the “All Other Compensation” column and “Total” column for 2012 have been corrected to include \$42,000 paid on behalf of Mr. Hess for the Executive MBA Program in 2012 and \$5,090 of matching contributions under our Company’s 401(k) plan in 2012.

## Grant of Plan-Based Awards

Name	Grant Date	All Other Stock Awards: Number of Shares of Stock or Units (#)	All Other Option Awards: Number of Securities Underlying Options (#)	Exercise or Base Price of Option Awards (\$/Sh)	Grant Date Fair Value of Stock and Option Awards(1)
Michael Astrue	12/04/2013	108,848	—	—	\$ 234,023
Gregory Perry	12/04/2013	22,374	—	—	\$ 48,104
Steven McAllister		—	—	—	—
Sean Moran(2)	03/22/2013	—	50,000	\$ 2.48	\$ 96,565
Frank Reynolds		—	—	—	—
Brian Hess(3)	04/16/2013	—	50,000	\$ 3.24	\$ 125,260
	12/19/2013	—	75,000	\$ 1.95	\$ 120,728

- (1) The grant date fair value of each equity award was computed in accordance with FASB Accounting Standards Codification Topic 718.
- (2) This award was terminated as a result of Mr. Moran's resignation from our Company in September 2013.
- (3) These option grants vest 25% on the first anniversary of the date of grant, and thereafter in 36 equal monthly installments.

## Outstanding Equity Awards at 2013 Fiscal Year-End

The following table summarizes the equity awards made to our named executive officers that were outstanding at December 31, 2013. Each option award reflected in the below table vests as to 25% of the shares on the first anniversary of the grant date, and 1/36 per month thereafter, for thirty six months.

### Option Awards

Name	Award Grant Date	No. of Securities Underlying Unexercised Options (#) Exercisable	No. of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price (\$)	Option Expiration Date
Michael J. Astrue	—	—	—	—	—
Gregory Perry	—	—	—	—	—
Steven McAllister	—	—	—	—	—
Sean Moran	—	—	—	—	—
Frank Reynolds	—	—	—	—	—
Brian Hess	01/17/2012	59,896	65,104	\$ 2.53	01/17/2022
	10/26/2012	58,333	141,667	\$ 1.69	10/26/2022
	04/16/2013	—	50,000	\$ 3.24	04/16/2023
	12/19/2013	—	75,000	\$ 1.95	12/19/2023

## Option Exercises and Stock Vested

The following table provides information regarding stock vested and options exercised during 2013 for each of our named executive officers.

### 2013 Option Exercises and Stock Vested

Name	Option Awards		Stock Awards(1)	
	Number of Shares Acquired on Exercise (#)	Value Realized on Exercise (\$)	Number of Shares Acquired on Vesting (#)	Value Realized on Vesting (\$)
Michael J. Astrue	—	—	108,848	\$ 234,023
Gregory Perry	—	—	22,374	\$ 48,104
Steve McAllister	—	—	—	—
Sean Moran	331,767	\$ 901,225	—	—
Frank Reynolds	151,042	\$ 19,635	—	—
Brian Hess	—	—	—	—

- (1) These amounts represent stock awards to Messrs. Astrue and Perry in lieu of bonus payments earned under their respective employment agreements with our Company.

## Pension Benefits

We do not offer to our executive officers or employees any pension plan or similar plan that provides for payments or other benefits at, following or in connection with retirement.

## Non-Qualified Deferred Compensation

We do not offer to our executive officers or employees any defined contribution or similar plan that provides for the deferral of compensation on a basis that is not tax-qualified. We offer a 401(k) Profit Sharing Plan to all of our employees eligible to participate. We make matching contributions to the 401(k) plan on behalf of participating employees in the form of shares of our common stock, up to a maximum of 5% of the employee's annual compensation. Company matching contributions under the 401(k) plan are subject to vesting based on years of service, becoming 100% vested after four years of service. Any company matching contributions made to our named executive officers are reflected in the "All Other Compensation" column of the Summary Compensation Table above.

## Potential Payments upon Termination or Change-in-Control

Certain of our named executive officers are entitled to payments upon termination of employment or a change in control in certain circumstances. Under our agreement with Mr. McAllister, if his employment is terminated prior to the end of its term (other than by us as a result of a material breach by Mr. McAllister or by Mr. McAllister for any reason), Mr. McAllister is entitled to a lump-sum payment equal to his remaining salary through the agreement term and any cash bonus, to the extent eligible.

Certain of our former executive officers were also entitled to payments upon a termination of employment or change in control under certain circumstances. None of these former executives were eligible to receive severance payments under the terms of their employment agreements in connection with their departures from our Company in 2013.

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## Director Compensation

The following table sets forth compensation earned and paid to each individual who served as a non-employee director during 2013. During 2013, we had one employee director, Mr. Reynolds, who did not receive any compensation for his service as a director. Compensation received by Mr. Reynolds in 2013 is described above in "Executive Compensation." Mr. Perrin was appointed our Chief Executive Officer in January 2014 and as an employee director, he will not receive any compensation for his service as a director.

**Director Compensation Table for the Fiscal Year Ended December 31, 2013**

Name	Fees Earned or Paid in Cash (\$)	Stock Awards (\$)	Option Awards \$(1)(2)	All Other Compensation (\$)	Total (\$)
Kenneth DiPietro	\$ 38,000	—	\$ 70,610	—	\$ 108,610
John A. McCarthy, Jr.(3)	\$ 34,250	—	\$ 190,610	—	\$ 224,860
George Nolen(4)	\$ 28,500	—	—	—	\$ 28,500
Dr. Richard J. Roberts	\$ 38,000	—	\$ 70,610	—	\$ 108,610
Adam Stern(5)	\$ 14,000	—	—	—	\$ 14,000

- (1) The amounts shown in this column represent the aggregate grant date fair value of the awards computed in accordance with FASB Accounting Standards Codification 718, not the actual amounts paid to or realized by the director during 2013. The assumptions used in determining grant date fair value of these awards are set forth in Note 13 to our Consolidated Financial Statements appearing in our Original Filing, which was originally filed with the SEC on March 17, 2014.
- (2) As of December 31, 2013, the aggregate number of vested and unvested options to purchase shares of our common stock outstanding for each current and former director listed above was as follows: Mr. DiPietro, 100,000 shares; Mr. McCarthy, 100,000 shares; Mr. Nolen, 273,935 shares; Dr. Roberts, 1,067,547 shares; and Mr. Stern, 150,000 shares.
- (3) Mr. McCarthy joined the Board of Directors in April 2013 and was appointed non-executive Chairman of the Board in September 2013.
- (4) Mr. Nolen's term as a director expired on May 23, 2013.
- (5) Mr. Stern's term as a director expired on May 23, 2013.

## Narrative to Director Compensation Table

The Board of Directors has adopted a compensation policy for non-employee directors. The policy provides that each non-employee director shall be paid an annual retainer of \$25,000 per year (paid quarterly and delivered at each regularly scheduled quarterly Board meeting). In addition, the policy provides that the lead independent director (if one is selected), chairman of the GNC Committee and the chairman of the Audit Committee shall each receive an additional annual fee of \$5,000 (paid annually and delivered at first regularly scheduled quarterly Board meeting of the year), and that the non-executive Chairman of the Board receive an additional annual fee of \$5,000 (paid quarterly). Each non-employee director shall also receive \$1,000 for each in-person board meeting attended, \$500 for each telephonic board meeting attended, and \$500 for each board committee meeting attended. Each non-employee director will also receive an annual grant, on December 10 of each calendar year, of a nonqualified stock

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option under our 2010 Equity Incentive Plan to purchase up to 50,000 shares of our common stock at an exercise price equal to the closing price of our common stock on the date of grant, and that such option shall be exercisable as to 1/12 of the original number of shares subject to the option on the one-

month anniversary of the grant date and shall be exercisable as to an additional 1/12 of the original number of shares subject to the option each monthly anniversary thereafter until fully vested on the 12-month anniversary of the grant date, provided that such director remains a director of our Company on each such vesting date.

### Compensation Committee Interlocks and Insider Participation

None of the members of the GNC Committee was at any time during 2013 or at any other time an officer or employee of our Company. None of our executive officers serves as a member of the board of directors or compensation committee of any other entity that has one or more executive officers serving as a member of our Board or the GNC Committee.

### Compensation Committee Report

The Governance, Nominating and Compensation Committee has reviewed and discussed the Compensation Discussion and Analysis included in this Amendment with management. Based on those reviews and discussions, the GNC Committee has recommended to the Board that the Compensation Discussion and Analysis be included in this Amendment to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2013.

#### GOVERNANCE, NOMINATING AND COMPENSATION COMMITTEE

Kenneth DiPietro, Chairman

John A. McCarthy, Jr.

Dr. Richard J. Roberts

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### Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

#### Equity Compensation Plan Information

The following table provides certain information as of December 31, 2013 about shares of our common stock that may be issued under our equity compensation plans:

Plan Category	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 remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
Equity compensation plans approved by security holders	8,055,522	\$ 1.56	5,135,757
Equity compensation plans not approved by security holders	—	—	—
Total	8,055,522	\$ 1.56	5,135,757

#### Security Ownership of Certain Beneficial Owners and Management

The following table sets forth certain information as of March 31, 2014, with respect to the beneficial ownership of our common stock by:

- each of our directors and named executive officers listed in the 2013 Summary Compensation Table;
- all of our executive officers and directors as a group; and
- each person known by us to beneficially own more than 5% of the outstanding shares of our common stock.

Unless otherwise indicated in the footnotes to the following table, each person named in the table has sole voting and investment power and that person's address is c/o InVivo Therapeutics Holdings Corp., One Kendall Square, Suite B14402, Cambridge, Massachusetts 02139. Shares of our common stock subject to options or warrants currently exercisable or exercisable within 60 days of March 31, 2014 are deemed outstanding for computing the share ownership and percentage of the person holding such options and warrants, but are not deemed outstanding for computing the percentage of any other person. The percentage ownership of our common stock of each person or entity named in the following table is based on 79,021,039 shares of our common stock outstanding as of March 31, 2014.

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Name of Beneficial Owner	Number of Shares of Common Stock Beneficially Owned	Percentage of Common Stock Beneficially Owned
<b>Directors and Named Executive Officers</b>		
Michael J. Astrue(1)	108,848	*
Kenneth DiPietro(2)	70,833	*
Brian Hess(3)	167,726	*

Steven McAllister	—	—
John A. McCarthy, Jr.(2)	70,833	*
Sean Moran(4)	60,000	*
Mark D. Perrin	—	—
Gregory Perry(5)	22,374	*
Frank Reynolds(6)	9,406,908	10.6%
Dr. Richard J. Roberts(2)	1,038,380	1.3%
All directors and executive officers as a group (7 persons)(7)	1,180,046	1.5%
<b>5% Stockholders</b>		
Robert S. Langer(8)	6,749,578	8.5%

\* Less than one percent.

- (1) Mr. Astrue’s employment with the Company ended in January 2014.
- (2) Represents shares issuable upon the exercise of stock options within 60 days of March 31, 2014.
- (3) Includes 165,626 shares issuable upon the exercise of stock options within 60 days of March 31, 2014.
- (4) Mr. Moran resigned from the Company in September 2013. Reflects amounts reported on a Form 4 filed with the SEC on September 4, 2013.
- (5) Mr. Perry’s employment with the Company ended in December 2013.
- (6) Mr. Reynolds resigned from the Company in August 2013. Reflects amounts reported through March 31, 2013 on a Form 4 filed with the SEC on April 3, 2014. Mr. Reynolds’ address is 81 Lake Shore Road, Salem, New Hampshire 03079.
- (7) Represents shares issuable upon the exercise of options within 60 days of March 31, 2014.
- (8) Mr. Langer’s address is 98 Montvale Road, Newton, Massachusetts 02459.

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

#### Related Party Transaction Policy

The Audit Committee reviews and oversees all related party transactions on an ongoing basis. A “related-party transaction” is a transaction that meets the minimum threshold for disclosure in an annual report or proxy statement under applicable SEC rules (generally, transactions involving amounts exceeding \$120,000 in which a “related person” or entity has a direct or indirect material interest).

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“Related persons” include a company’s executive officers, directors, beneficial owners of 5% or more of our common stock, immediate family members of these persons and entities in which one of these persons has a direct or indirect material interest. When a potential related-party transaction is identified, management presents it to the Audit Committee to determine whether to approve or ratify it.

The Audit Committee reviews the material facts of any related-party transaction and either approves or disapproves of entering into the transaction. In the course of reviewing the related-party transaction, the Audit Committee considers whether (i) the transaction is fair and reasonable to our Company, (ii) under all of the circumstances the transaction is in, or not inconsistent with, our Company’s best interests, and (iii) the transaction will be on terms no less favorable to our Company than we could have obtained in an arms’-length transaction with an unrelated third party. If advance approval of a related-party transaction is not feasible, then the transaction will be considered and, if the Audit Committee determines it to be appropriate, ratified by the Audit Committee. No director may participate in the approval of a transaction for which he or she is a related party.

When a related-party transaction is ongoing, any amendments or changes are reviewed and the transaction is reviewed annually for reasonableness and fairness to our Company.

For fiscal 2013, no related-party transactions exceeding \$120,000 were identified.

#### Director Independence

We are not currently listed on any national securities exchange or quoted on an inter-dealer quotation system that has a requirement that our Board of Directors be independent. However, in evaluating the independence of the members and the composition of the committees of our Board of Directors, the Board of Directors utilizes the definition of “independence” as that term is defined by the listing standards of the Nasdaq Stock Market and applicable SEC rules, including the rules relating to the independence standards of an audit committee and the non-employee director definition of Rule 16b-3 promulgated under the Securities Exchange Act of 1934, as amended (the “Exchange Act”). Using these standards, the Board of Directors has determined that Dr. Roberts and Messrs. McCarthy and DiPietro are currently “independent” directors.

### Item 14. Principal Accounting Fees and Services.

Our independent registered public accounting firm for the fiscal years ended December 31, 2013 and 2012 was Wolf & Company, P.C.

#### Principal Accounting Fees

The following table shows the aggregate fees paid or accrued for audit and other services provided for the years ended December 31, 2013 and 2012:



	2013	2012
Audit Fees	\$ 112,013	\$ 99,849
Audit-Related Fees	\$ 26,950	\$ 45,545
Tax Fees	—	—
All Other Fees	—	—
Total Fees	\$ 138,963	\$ 145,394

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**Audit Fees** consisted of fees incurred for professional services rendered for the audit of consolidated financial statements and internal control over financial reporting and for reviews of our interim consolidated financial statements included in our quarterly reports on Form 10-Q.

**Audit-Related Fees** related to the review of financial information and consents in conjunction with Form S-8 and Form S-3 filings.

**Pre-Approval Policies and Procedures**

Our Audit Committee is responsible for pre-approving all services provided by our independent registered public accounting firm. All of the above services and fees were reviewed and approved by the Audit Committee before the services were rendered. The Audit Committee has considered the nature and amount of fees billed by Wolf & Company, P.C. and believes that the provision of services for activities unrelated to the audit is compatible with maintaining Wolf & Company, P.C.'s independence.

**PART IV**

**Item 15. Exhibits, Financial Statement Schedules.**

(b) Exhibits

The exhibits listed in the "Index to Exhibits" immediately preceding the exhibits are filed as part of this Amendment to the Original Filing.

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**SIGNATURES**

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

**INVIVO THERAPEUTICS HOLDINGS CORP.**

Date: April 29, 2014

By: /s/ STEVEN F. MCALLISTER  
Steven F. McAllister  
Interim Chief Financial Officer

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**EXHIBIT INDEX**

Exhibit No.	Description
31.1	Certification by the Principal Executive Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.
31.2	Certification by the Principal Financial Officer pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.

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**CERTIFICATION OF CHIEF EXECUTIVE OFFICER PURSUANT TO  
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002  
(18 U.S.C. SECTION 1350)**

I, Mark D. Perrin, certify that:

1. I have reviewed this Amendment No. 1 to the Annual Report on Form 10-K of InVivo Therapeutics Holdings Corp. for the fiscal year ended December 31, 2013;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: April 29, 2014

By: /s/ MARK D. PERRIN

Mark D. Perrin  
Chief Executive Officer  
(Principal Executive Officer)

**CERTIFICATION OF CHIEF FINANCIAL OFFICER PURSUANT TO  
SECTION 302 OF THE SARBANES-OXLEY ACT OF 2002  
(18 U.S.C. SECTION 1350)**

I, Steven F. McAllister, certify that:

1. I have reviewed this Amendment No. 1 to the Annual Report on Form 10-K of InVivo Therapeutics Holdings Corp. for the fiscal year ended December 31, 2013;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: April 29, 2014

By: /s/ STEVEN F. MCALLISTER  
Steven F. McAllister  
Interim Chief Financial Officer  
(Principal Financial Officer)

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