IDERA PHARMACEUTICALS, INC.
Form S-1
March 11, 2013
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As filed with the Securities and Exchange Commission on March 11, 2013

Registration No. 333-

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, D.C. 20549

For the Fiscal Year Ended December 31, 2012

FORM S-1

REGISTRATION STATEMENT

UNDER

THE SECURITIES ACT OF 1933

Idera Pharmaceuticals, Inc.

(Exact name of registrant as specified in its charter)

Delaware	**2836**	**04-3072298**
(State or other jurisdiction of	**(Primary Standard Industrial**	**(I.R.S. Employer**

incorporation or organization)	Classification Code Number)	Identification Number)

167 Sidney Street

Cambridge, Massachusetts 02139

(617) 679-5500

(Address, including zip code, and telephone number, including area code, of registrant s principal executive offices)

Sudhir Agrawal, D. Phil.

Chairman of the Board of Directors, President

and Chief Executive Officer

Idera Pharmaceuticals, Inc.

167 Sidney Street

Cambridge, Massachusetts 02139

(617) 679-5500

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

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Approximate date of commencement of proposed sale to the public: As soon as practical after this Registration Statement becomes effective.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. ¨

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ¨

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ¨

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. ¨

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	¨	Accelerated filer	¨
Non-accelerated filer	x (Do not check if a smaller reporting company)	Smaller reporting company	¨

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Proposed Maximum Aggregate Offering Price[1]	Amount of Registration Fee
Common Stock, $0.001 par value per share[2][3]		
Common Stock Purchase Warrants[3]		[4]
Shares of Common Stock, $0.001 par value per share, underlying Common Stock Purchase Warrants[2]		
Total Registration Fee	$ 40,000,000	$ 5,456

(1) Estimated solely for the purpose of calculating the amount of registration fee pursuant to Rule 457(o) under the Securities Act.
(2) Pursuant to Rule 416, the securities being registered hereunder include such indeterminate number of additional shares of common stock as may be issued after the date hereof as a result of stock splits, stock dividends or similar transactions
(3) Includes shares the underwriters have the option to purchase to cover over-allotments, if any.
(4) No registration fee required pursuant to Rule 457(g) under the Securities Act.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

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The information in this prospectus is not complete and may be changed. We may not sell these securities under this registration statement until the registration statement filed with the Securities and Exchange Commission is declared effective. This prospectus is not an offer to sell any securities, and we are not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED MARCH 11, 2013

PRELIMINARY PROSPECTUS

Idera Pharmaceuticals, Inc.

Shares of Common Stock

Warrants to Purchase up to Shares of Common Stock

We are offering shares of our common stock and warrants to purchase up to shares of our common stock (and the shares of common stock that are issuable from time to time upon exercise of the warrants). Each share of common stock is being sold together with a warrant to purchase up to shares of our common stock at an exercise price of $ per share. The shares of common stock and warrants are immediately separable and will be issued separately in this offering.

Our common stock is listed on the Nasdaq Capital Market under the symbol IDRA. The last sale price of our common stock on March 8, 2013, as reported by the Nasdaq Capital Market, was $0.67 per share. We do not intend to list the warrants on the Nasdaq Capital Market, any other national securities exchange or any other nationally recognized trading system.

Investing in our common stock involves risks. Please read carefully the section entitled Risk Factors beginning on page 8 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

	Per Share	Per Warrant	Total
Public Offering Price	$	$	$
Underwriting Discounts and Commissions	$	$	$
Proceeds to Us, Before Expenses	$	$	$

The above summary of offering proceeds to us does not give effect to any exercise of the warrants being issued in this offering.

We have granted the underwriter the right, exercisable within a 30-day period, to purchase up to an additional shares of our common stock and/or additional warrants to purchase up to shares of our common stock solely to cover over-allotments. If the underwriter exercises its over-allotment right in full, the total underwriting discounts and commissions payable by us will be $, and the total proceeds to us, before expenses, will be $.

The underwriter expects to deliver the shares of common stock and warrants against payment on or about , 2013.

Piper Jaffray

Prospectus dated , 2013

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You should rely only on the information contained in this prospectus or in any free writing prospectus we may authorize to be delivered or made available to you. We have not authorized anyone to provide you with different information. We are offering to sell, and seeking offers to buy, shares of our common stock and warrants only in jurisdictions where offers and sales are permitted. The information in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or any sale of shares of our common stock or warrants.

For investors outside the United States: We have not and the underwriters have not done anything that would permit this offering or possession or distribution of this prospectus in any jurisdiction where action for that purpose is required, other than in the United States. Persons outside the United States who come into possession of this prospectus must inform themselves about, and observe any restrictions relating to, the offering of the shares of common stock and the distribution of this prospectus outside the United States.

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PROSPECTUS SUMMARY

This summary highlights information contained elsewhere in this prospectus. This summary does not contain all of the information you should consider before investing in our securities. You should read this entire prospectus carefully, especially the Risk Factors section beginning on page 8 and our financial statements and the related notes appearing at the end of this prospectus, before making an investment decision.

As used in this prospectus, unless the context otherwise requires, references to we, us, our and Idera Pharmaceuticals refer to the operations of Idera Pharmaceuticals, Inc.

Overview

We are a clinical stage biotechnology company engaged in the discovery and development of novel synthetic DNA- and RNA-based drug candidates that are designed to modulate immune responses mediated through Toll-like Receptors, or TLRs. We are focusing our development efforts on the treatment of autoimmune and inflammatory diseases. We have two drug candidates, IMO-3100, a TLR7 and TLR9 antagonist, and IMO-8400, a TLR7, TLR8, and TLR9 antagonist, in clinical development for the treatment of autoimmune and inflammatory diseases. We recently announced top-line data from a Phase 2 clinical trial of IMO-3100 in patients with moderate to severe plaque psoriasis. We believe that the results of this trial provide clinical proof of concept for our approach of targeting specific TLRs for the treatment of psoriasis and potentially other autoimmune and inflammatory diseases.

TLRs are specific receptors present in immune system cells. Using a chemistry-based approach, we have created synthetic DNA- and RNA-based compounds that are targeted to TLR3, TLR7, TLR8, and TLR9. A TLR antagonist is a compound that blocks activation of an immune response through the targeted TLR. A TLR agonist is a compound that stimulates an immune response through the targeted TLR.

We believe that the modulation of immune responses through TLRs provides a rationale for the development of drug candidates to treat a broad range of diseases, including autoimmune and inflammatory diseases, cancer and respiratory diseases, and for use as vaccine adjuvants. We are a party to a collaboration alliance with Merck Sharp & Dohme Corp. (formerly Merck & Co., Inc.), or Merck & Co., for the use of agonists of TLR7, TLR8, and TLR9 as adjuvants in the development of vaccines for cancer, infectious diseases, and Alzheimer s disease. We are seeking to enter into additional collaborative alliances with third parties with respect to our TLR-targeted programs in oncology, hematological malignancies, respiratory diseases, and the use of TLR3 agonists as vaccine adjuvants.

Autoimmune and Inflammatory Disease Program. In December 2012, we announced top-line data from a randomized double-blinded, placebo-controlled Phase 2 clinical trial of IMO-3100 that we conducted in 44 adult patients with moderate to severe plaque psoriasis. In this Phase 2 trial, patients received doses of IMO-3100 once weekly for four weeks. In addition, in this Phase 2 trial, IMO-3100 showed clinical activity in patients with psoriasis. We believe that the results of this trial provide clinical proof of concept for our approach of targeting specific TLRs for the treatment of psoriasis and potentially other autoimmune and inflammatory diseases.

We are conducting a Phase 1 clinical trial to evaluate the safety and pharmacodynamics of IMO-8400 in healthy subjects. The first portion of the trial involved escalating single doses of IMO-8400 and the

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second portion of the trial involves four weekly doses of IMO-8400. We completed dosing in the escalating single-dose portion of this trial in the first quarter of 2013. In this portion of the trial, IMO-8400 was well-tolerated and showed target engagement of TLR7, TLR8, and TLR9 in these subjects. We have commenced dosing in the multiple-dose portion of the trial. We anticipate data from the multiple-dose portion of this trial in the second quarter of 2013.

Based on the clinical activity of IMO-3100 observed in our four-week Phase 2 clinical trial of IMO-3100 in patients with psoriasis, we have determined that the next step in our development program is to conduct a Phase 2 clinical trial in patients with psoriasis with a treatment period of up to 12 weeks. Based on our evaluation of the comparative profiles of IMO-3100 and IMO-8400, including the engagement of TLR8 by IMO-8400, we have determined to focus our resources on the development of IMO-8400 and to conduct this trial in patients with psoriasis with IMO-8400. We expect that we could initiate this trial as early as the second quarter of 2013. We also plan to initiate a Phase 2 clinical trial of IMO-8400 in patients with lupus in the second half of 2013. Our plans to conduct these Phase 2 trials with IMO-8400 are subject to successful completion of the ongoing Phase 1 trial of IMO-8400. In addition, we intend to consider conducting a proof-of-concept study of IMO-8400 in an orphan autoimmune disease indication. Our ability to conduct all or any of the two Phase 2 trials and the proof-of-concept study is subject to our ability to raise the funding, whether in this offering or otherwise, to fund the conduct of these trials and the study.

Vaccine Adjuvant Collaboration. In January 2012, we announced that Merck & Co. had selected several of our TLR7, TLR8 or TLR 9 agonists for evaluation and use as vaccine adjuvant candidates in the fields of cancer, infectious diseases, and Alzheimer s disease.

Additional Programs. In addition to our TLR program in autoimmune and inflammatory diseases, and our collaboration with Merck & Co. for the use of TLR7, TLR8, and TLR9 agonists as vaccine adjuvants, we have identified TLR drug candidates for applications in the treatment of cancer, hematological malignancies and respiratory diseases, and created TLR3 agonists for use as vaccine adjuvants. We have also created gene silencing oligonucleotides, or GSOs, which are designed to inhibit the production of disease-associated proteins by targeting RNA. We believe our GSO technology provides us with a platform from which drug candidates for multiple disease indications can be developed. We are seeking to enter into collaborations with third parties to advance these drug candidates and technology platform. Except in connection with collaborations, we do not plan to expend any additional resources on these programs.

Risk Factors

Our business is subject to numerous risks and uncertainties. As a clinical stage biotechnology company, we face many risks inherent in our business and our industry generally, including the risks and uncertainties described below. You should carefully consider all of the information set forth in this prospectus and, in particular, the information under the heading Risk Factors, prior to making an investment in our securities.

We are heavily dependent on the development of our clinical stage lead TLR-targeted drug candidates, IMO-3100 and IMO-8400, and on our collaborative alliance with Merck & Co.

We need to raise substantial additional funds to conduct research and development, including preclinical testing and clinical trials of our drug candidates, and to fund our operations. Additional financing may not be available to us in the timeframe or amounts that we need, on terms that are acceptable to us or at all. Our independent auditors have expressed substantial doubt about our ability to continue as a going concern.

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Our common stock would be delisted from the Nasdaq Capital Market on May 22, 2013 if we fail to satisfy the continued listing requirements by such date.

We have incurred substantial losses and expect to continue to incur losses, and we may not be successful in reversing this trend.

We may not be able to successfully develop and commercialize our drug candidates if our clinical trials are unsuccessful, or if they are delayed or terminated.

We may not be able to obtain marketing approval for products resulting from our development efforts.

The value of our technology and products is dependent on our ability to protect our intellectual property rights.

Our Corporate Information

Our executive offices are located at 167 Sidney Street, Cambridge, MA 02139, our telephone number is (617) 679-5500 and our Internet address is www.iderapharma.com. The information on our website is not incorporated by reference in this prospectus and should not be considered to be part of this prospectus. Our website address is included in this prospectus as an inactive technical reference only.

Idera® and IMO® are our trademarks. All other trademarks and service marks appearing in this registration statement are the property of their respective owners.

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The Offering

Common stock offered by us	shares of common stock. Each share of common stock is being sold together with a warrant to purchase up to shares of our common stock.
Warrants offered by us	Warrants to purchase up to shares of our common stock. Each warrant will have an exercise price of $ per share, will be exercisable upon issuance and will expire from the date of issuance. This prospectus also relates to the offering of shares of common stock issuable upon exercise of the warrants.
Common stock to be outstanding after this offering	shares.
Over-allotment option	Up to shares of common stock and/or warrants to purchase up to shares of our common stock. The option is exercisable, in whole or in part, for a period of 30 days from the date of this prospectus.
Use of proceeds	We intend to use the net proceeds to us from this offering, together with our existing cash resources, to fund clinical trials of IMO-8400 and for working capital and other general corporate purposes. See Use of Proceeds for more information.
Risk factors	You should read the Risk Factors section and other information included in this prospectus for a discussion of factors to consider carefully before deciding to invest in shares of our common stock.
Nasdaq Capital Market listing	Our common stock is listed on the Nasdaq Capital Market under the symbol IDRA. We do not intend to list the warrants on the Nasdaq Capital Market, any other nationally recognized securities exchange or any other nationally recognized trading system.

The number of shares of our common stock to be outstanding after this offering set forth above is based on 27,642,969 shares of our common stock outstanding as of December 31, 2012, and assumes the sale of shares of common stock in this offering and no exercise of the warrants issued in this offering.

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Unless otherwise indicated, all information in this prospectus, including the number of shares of our common stock to be outstanding after this offering set forth above, excludes the shares of common stock issuable upon exercise of the warrants being offered by us in this offering and also excludes the following:

- 5,657,256 shares of common stock issuable upon exercise of stock options outstanding as of December 31, 2012, at a weighted-average exercise price of $4.96 per share;
- 2,413,469 shares of common stock reserved as of December 31, 2012 for future issuance under our equity incentive plans;
- 1,926 shares of common stock reserved as of December 31, 2012 for issuance upon any conversion of our outstanding Series A convertible preferred stock, or Series A preferred stock;
- 6,266,175 shares of common stock reserved as of December 31, 2012 for issuance upon any conversion of our outstanding Series D redeemable convertible preferred stock, or Series D preferred stock;
- 8,484,840 shares of common stock reserved as of December 31, 2012 for issuance upon any conversion of our outstanding Series E convertible preferred stock, or Series E preferred stock; and
- 12,923,892 shares of common stock issuable upon exercise of warrants outstanding as of December 31, 2012, at a weighted average exercise price of $1.24 per share.

In addition, unless otherwise indicated, this prospectus also reflects and assumes the following:

- no exercise of outstanding options or warrants; and
- no exercise by the underwriters of their over-allotment option.

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Summary Financial Data

The following table sets forth a summary of our historical financial data at the date and for the periods indicated. The summary historical financial data presented below for the years ended December 31, 2012, 2011 and 2010 and as of December 31, 2012 have been derived from our audited financial statements, which are included elsewhere in this prospectus. The summary historical financial data presented below for the years ended December 31, 2009 and 2008 are derived from audited financial statements, which are not included in this prospectus. Our historical results are not necessarily indicative of results to be expected in any future period.

The summary historical financial data presented below should be read in conjunction with Management s Discussion and Analysis of Financial Condition and Results of Operations and our financial statements and the related notes thereto, which are included elsewhere in this prospectus. The summary historical financial data in this section is not intended to replace our financial statements or the related notes thereto.

	Year Ended December 31,				
	2012	2011	2010	2009	2008
	(In thousands, except per share data)				
Alliance revenue	$ 51	$ 53	$ 16,110	$ 34,518	$ 26,450
Operating expenses:					
Research and development	13,673	17,969	24,226	18,570	16,152
General and administrative	6,279	7,939	9,867	8,561	9,798
Total operating expenses	19,952	25,908	34,093	27,131	25,950
(Loss) income from operations	(19,901)	(25,855)	(17,983)	7,387	500
Other income (expense):					
Decrease in fair value of warrant liability	675	1,974			
Investment income, net	9	30	116	145	1,344
Interest expense			(2)	(3)	(92)
Foreign currency exchange (loss) gain	(23)	75	(94)	(27)	(267)
(Loss) income before income taxes	(19,240)	(23,776)	(17,963)	7,502	1,485
Income tax benefit				44	24
Net (loss) income	$ (19,240)	$ (23,776)	$ (17,963)	$ 7,546	$ 1,509
Preferred stock accretion and dividends	3,210	4,548			
Net (loss) income applicable to common stockholders	$ (22,450)	$ (28,324)	$ (17,963)	$ 7,546	$ 1,509
Basic net (loss) income per share applicable to common stockholders	$ (0.81)	$ (1.03)	$ (0.71)	$ 0.32	$ 0.07
Diluted net (loss) income per share applicable to common stockholders	$ (0.81)	$ (1.03)	$ (0.71)	$ 0.31	$ 0.06
Shares used in computing basic net (loss) income per common share applicable to common stockholders[1]	27,639	27,623	25,139	23,420	22,655
Shares used in computing diluted net (loss) income per common share applicable to common stockholders[1]	27,639	27,623	25,139	24,079	25,331

	As of December 31, 2012	
	Actual	As Adjusted[2] (unaudited)
	(In thousands)	
Balance Sheet Data:		

Cash, cash equivalents and investments	$ 10,096
Working capital	6,163
Total assets	10,823
Capital lease obligations	12
Redeemable preferred stock	5,921
Accumulated deficit	(394,658)
Total stockholders equity	706

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(1) Computed on the basis described in Note 11 of notes to financial statements appearing elsewhere in this prospectus.

(2) As adjusted to reflect our issuance and sale in this offering of shares of common stock and warrants to purchase shares of our common stock at an assumed public offering price of $ per share of common stock and related warrant, which price was the last reported sale price of our common stock on the Nasdaq Capital Market on , 2013, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us and excluding the proceeds, if any, from the exercise of the warrants issued pursuant to this offering.

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RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider the risks described below, together with all of the other information included in this prospectus, before making an investment decision. Our business, financial condition and results of operations could be materially and adversely affected by any of these risks or uncertainties. In that case, the market price of our common stock could decline, and you may lose all or part of your investment.

Risks Relating to Our Financial Results and Need for Financing

We will need additional financing, which may be difficult to obtain. Our failure to obtain necessary financing or doing so on unattractive terms could result in the termination of our operations and the sale and license of our assets or otherwise adversely affect our research and development programs and other operations.

We had cash and cash equivalents of approximately $10.1 million at December 31, 2012. We believe that without the proceeds of this offering our existing cash and cash equivalents would only be sufficient to fund our operations at least into the third quarter of 2013 based on our current operating plan, including the completion of our ongoing Phase 1 clinical trial of IMO-8400 in healthy subjects that we initiated in the fourth quarter of 2012, and preparations for the further advancement of our autoimmune and inflammatory disease program. We believe, however, that the net proceeds of this offering, together with our existing cash and cash equivalents, will enable us to fund our operations at least into based on our current operating plan. Specifically, we believe that our available funds following this offering will be sufficient to enable us to . We expect that these funds will not be sufficient to enable us to conduct any other clinical development of IMO-3100 or IMO-8400 or any other development of our other product candidates or technologies. It is also possible that we will not achieve the progress that we expect with respect to IMO-8400 because the actual costs and timing of clinical development activities are difficult to predict and are subject to substantial risks and delays.

We expect that we will require substantial additional funds beyond the proceeds of this offering to conduct research and development, including preclinical testing and clinical trials of our drug candidates and to fund our operations. We are seeking and expect to continue to seek additional funding through collaborations, the sale or license of assets or financings of equity or debt securities. We believe that the key factors that will affect our ability to obtain funding are:

- the results of our clinical and preclinical development programs, including the top-line results of the Phase 2 trial of IMO-3100 and anticipated results of the ongoing Phase 1 clinical trial of IMO-8400;
- developments related to our existing collaboration with Merck & Co.;
- our ability to maintain the listing of our common stock on the Nasdaq Capital Market or an alternative national securities exchange;
- the cost, timing, and outcome of regulatory reviews;
- competitive and potentially competitive products and technologies and investors receptivity to our drug candidates and the technology underlying them in light of competitive products and technologies;
- the receptivity of the capital markets to financings by biotechnology companies generally and companies with drug candidates and technologies such as ours specifically; and
- our ability to enter into additional collaborations with biotechnology and pharmaceutical companies and the success of such collaborations.

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In addition, increases in expenses or delays in clinical development may adversely impact our cash position and require additional funds or further cost reductions.

Additional financing may not be available to us when we need it or may not be available to us on favorable or acceptable terms or at all. We could be required to seek funds through collaborative alliances or through other means that may require us to relinquish rights to some of our technologies, drug candidates or drugs that we would otherwise pursue on our own. In addition, if we raise additional funds by issuing equity securities, our then existing stockholders will experience dilution. The terms of any financing may adversely affect the holdings or the rights of existing stockholders. An equity financing that involves existing stockholders may cause a concentration of ownership. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends, and are likely to include rights that are senior to the holders of our common stock. Any additional debt financing or equity that we raise may contain terms, such as liquidation and other preferences, or liens or other restrictions on our assets, which are not favorable to us or our stockholders.

If we are unable to obtain adequate funding on a timely basis or at all, we will be required to terminate, modify or delay preclinical or clinical trials of one or more of our drug candidates, significantly curtail or terminate discovery or development programs for new drug candidates, relinquish rights to portions of our technology, drug candidates and/or products or terminate our operations and pursue a liquidation of the company through a sale or license of assets or a possible bankruptcy.

Our independent auditors have expressed substantial doubt about our ability to continue as a going concern.

We have received a report from Ernst & Young LLP, our independent registered public accounting firm, regarding our financial statements as of December 31, 2012 and for the fiscal year then ended, which included an explanatory paragraph stating that the financial statements were prepared assuming we will continue as a going concern. The report also stated that our recurring losses and negative cash flows from operations will require us to raise additional capital or obtain alternative means of financial support, or both, prior to December 31, 2013 in order to continue to fund our operations. These factors raise substantial doubt about our ability to continue as a going concern. As, without the proceeds of this offering, we only have cash resources to fund our operations into the third quarter of 2013, we will need to raise substantial additional funds in order to conduct research and development, including preclinical testing and clinical trials of our drug candidates, and to fund our operations. The going concern explanatory paragraph included in our auditor s report on our financial statements could inhibit our ability to finance our operations. If we are unable to obtain adequate funding on a timely basis or at all, we will be required to terminate, modify or delay preclinical or clinical trials of one or more of our drug candidates, significantly curtail or terminate discovery or development programs for new drug candidates, relinquish rights to portions of our technology, drug candidates and/or products or terminate our operations and pursue a liquidation of the company through a sale or license of assets or a possible bankruptcy.

We must meet the Nasdaq Capital Market continued listing requirements or we risk delisting. If our common stock is delisted, our stock price may decline and it will likely make it more difficult for us to sell securities in a financing and for our stockholders to trade our stock.

Our common stock began trading on the Nasdaq Capital Market on February 7, 2013. In order to continue the listing of our common stock on the Nasdaq Capital Market, we are required to satisfy the $2.5 million stockholders equity requirement on or before May 22, 2013 and to otherwise meet the continued listing requirements of the Nasdaq Capital Market. If we do not meet these requirements by such date, our common stock will be delisted.

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Prior to February 7, 2013, our common stock was traded on the Nasdaq Global Market where we were required to meet specified financial requirements, including requirements that we maintain a minimum closing bid price of at least $1.00 per share for our common stock and that we maintain a minimum stockholders equity of $10.0 million or a minimum market value of listed securities of $50.0 million. On June 7, 2012, we received a notification letter from the Nasdaq Listing Qualifications staff of the Nasdaq Stock Market advising us that we were not in compliance with the $50.0 million minimum market value of listed securities requirement for continued listing on the Nasdaq Global Market pursuant to Nasdaq Listing Rule 5450(b)(2)(A). Nasdaq also noted in its letter that we did not satisfy the alternative requirement under Nasdaq Listing Rule 5450(b)(1)(A), which requires registrants to maintain a minimum of $10.0 million in stockholders equity. Nasdaq also stated in its letter that, in accordance with Nasdaq Listing Rule 5810(c)(3)(C), we had been provided a compliance period of 180 calendar days, or until December 4, 2012, to regain compliance with the minimum $50.0 million market value continued listing requirement.

On December 5, 2012, we received a letter from the Listing Qualifications Staff of the Nasdaq Stock Market advising us that we had not regained compliance with the minimum $50.0 million market value of listed securities requirement set forth in Nasdaq Listing Rule 5450(b)(2)(A) or the minimum $10.0 million stockholders equity alternative continued listing requirement set forth in Nasdaq Listing Rule 5450(b)(1)(A), and that, unless we requested a hearing before the Nasdaq Listing Qualifications Hearings Panel, or Panel, trading in our common stock would be suspended at the opening of business on December 14, 2012, and our common stock would be delisted from the Nasdaq Global Market. We requested a hearing before the Panel at which we requested continued listing pending our return to compliance. Our hearing request stayed the suspension of trading and delisting of our common stock pending the conclusion of the hearing process. On February 5, 2013, the Panel granted our request to transfer the listing of our common stock from the Nasdaq Global Market to the Nasdaq Capital Market and to continue the listing of our common stock on the Nasdaq Capital Market, provided that we have satisfied the $2.5 million stockholders equity requirement on or before March 31, 2013, and have otherwise met the continued listing requirements of the Nasdaq Capital Market. On March 5, 2013, we received a revised determination from the Panel indicating that the Panel had extended the date by which we are required to satisfy the $2.5 million stockholders equity requirement for continued listing on that market and otherwise meet the continued listing requirements of the Nasdaq Capital Market from March 31, 2013 to May 22, 2013. In addition, by May 22, 2013, we are required to provide the Panel with additional information regarding our projected burn-rate and stockholders equity through May 31, 2014.

In addition, on November 26, 2012, we received a letter from the Listing Qualifications Staff of the Nasdaq Stock Market indicating that, based on the closing bid price of our common stock for the 30 consecutive business days prior to November 26, 2012, we no longer satisfied the requirement that our common stock maintain a minimum bid price of $1.00 per share as required by Nasdaq Listing Rule 5450(a)(1). Nasdaq stated in its letter that in accordance with Nasdaq Listing Rule 5810(c)(3)(A), we had been provided 180 calendar days, or until May 28, 2013, to regain compliance with the minimum bid price requirement. The Nasdaq letter stated that if, at any time before May 28, 2013, the closing bid price of our common stock is at or above $1.00 per share for a minimum of 10 consecutive business days, we will be deemed to have regained compliance with the minimum bid price requirement and the matter will be closed. If we do not regain compliance with the minimum bid price requirement by May 28, 2013, Nasdaq will provide us with a written notification that our common stock is subject to delisting. We may be eligible to receive an additional 180 day grace period (for a total of 360 days from November 26, 2012) to regain compliance with the minimum bid price requirement provided that we

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satisfy the continued listing standard for market value of publicly held shares and all other applicable initial listing standards for the Nasdaq Capital Market, other than the minimum bid price requirement, as of May 28, 2013.

If our common stock is delisted from Nasdaq, it may be eligible to trade on the Over-The-Counter Bulletin Board, which may be a less liquid market, or on the pink sheets. In such case, our stockholders ability to trade, or obtain quotations of the market value of, shares of our common stock would be severely limited because of lower trading volumes and transaction delays. These factors could contribute to lower prices and larger spreads in the bid and ask prices for our securities. There can be no assurance that our common stock, if delisted from the Nasdaq Capital Market, will be listed on a national securities exchange, a national quotation service, the Over-The-Counter Bulletin Board or the pink sheets. Delisting from Nasdaq, or even the issuance of a notice of potential delisting, would also result in negative publicity, make it more difficult for us to raise additional capital, adversely affect the market liquidity of our common stock, reduce security analysts coverage of us and diminish investor, supplier and employee confidence.

We have incurred substantial losses and expect to continue to incur losses. We will not be successful unless we reverse this trend.

We have incurred losses in every year since our inception, except for 2002, 2008, and 2009 when our recognition of revenues under license and collaboration agreements resulted in our reporting net income for those years. As of December 31, 2012, we had an accumulated deficit of $394.7 million. Since January 1, 2001, we have primarily been involved in the development of our TLR pipeline. From January 1, 2001 to December 31, 2012, we incurred losses of $134.5 million. We incurred losses of $260.2 million prior to December 31, 2000 during which time we were primarily involved in the development of non-TLR targeted antisense technology. These losses, among other things, have had and will continue to have an adverse effect on our stockholders equity, total assets, and working capital.

We have never had any products of our own available for commercial sale and have received no revenues from the sale of drugs. As of January 31, 2013, almost all of our revenues have been from collaborative and license agreements. We have devoted substantially all of our efforts to research and development, including clinical trials, and we have not completed development of any drug candidates. Because of the numerous risks and uncertainties associated with developing drugs, we are unable to predict the extent of any future losses, whether or when any of our drug candidates will become commercially available, or when we will become profitable, if at all. We expect to incur substantial operating losses in future periods.

Risks Relating to Our Business, Strategy and Industry

We are depending heavily on the development of TLR-targeted drug candidates for the treatment of autoimmune and inflammatory diseases. If we terminate the development of the program or any of our drug candidates in the program, are unable to successfully develop and commercialize any of our drug candidates, or experience significant delays in doing so, our business may be materially harmed.

We have invested a significant portion of our time and financial resources in the development of our clinical stage lead drug candidates, IMO-3100 and IMO-8400, as part of our autoimmune and inflammatory disease program. Based on the clinical activity of IMO-3100 observed in our four-week Phase 2 clinical trial of IMO-3100 in patients with psoriasis, we have determined that the next step in our development program is to conduct a Phase 2 clinical trial in patients with psoriasis to, among other things, evaluate the clinical activity of IMO-8400 with a treatment period of up to 12 weeks. Based on our evaluation of the comparative profiles of IMO-3100 and IMO-8400, including the engagement of TLR8 by IMO-8400, we have determined to focus our resources on the development of IMO-8400 and to conduct this trial in patients with psoriasis with IMO-8400. We plan to conduct this trial at one site in Europe. In March 2013, we submitted to the regulatory authorities in Europe the proposed protocol for

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this trial. Under the proposed protocol, 32 adult patients with moderate to severe plaque psoriasis would be randomized into one of four cohorts and receive placebo or IMO-8400 at a dose level of 0.075, 0.15, or 0.3 mg/kg/week for 12 weeks. We expect that we could initiate this trial as early as the second quarter of 2013. We also plan to initiate a Phase 2 clinical trial of IMO-8400 in patients with lupus in the second half of 2013. Our plans to conduct these Phase 2 trials with IMO-8400 are subject to successful completion of the ongoing Phase 1 trial of IMO-8400. In addition, we intend to consider conducting a proof-of-concept study of IMO-8400 in an orphan autoimmune disease indication. Our ability to conduct all or any of the Phase 2 trials and the proof-of-concept study is subject to our ability to raise funding, whether in this offering or otherwise, to fund the conduct of these trials and the study.

As such, we anticipate that our ability to generate product revenues will depend heavily on the successful development and commercialization of our drug candidates in our autoimmune and inflammatory disease program. Our ability to generate product revenues will also depend on the development and commercialization of the drug candidates being developed under our collaboration with Merck & Co. Our efforts, and the efforts of Merck & Co., to develop and commercialize these compounds are at an early stage and are subject to many challenges. We have experienced setbacks with respect to our programs for IMO-3100, IMO-2125, and IMO-2055, including:

During the fourth quarter of 2010, we commenced additional nonclinical studies of IMO-3100 in light of some reversible immune responses that were observed in the 13-week nonclinical toxicology studies and that were inconsistent with observations made in our other nonclinical studies of IMO-3100. In June 2011, we submitted a Phase 2 protocol to the United States Food and Drug Administration, or FDA, to conduct a 12-week clinical trial of IMO-3100 in patients with psoriasis. In July 2011, the FDA placed a clinical hold on the protocol that we had submitted. In October 2011, we submitted to FDA a new Phase 2 protocol to evaluate IMO-3100 in adult patients with moderate to severe plaque psoriasis, over a four-week treatment period. In December 2011, the FDA removed the clinical hold. We subsequently initiated in the second quarter of 2012 the fourweek Phase 2 clinical trial that we completed in the fourth quarter of 2012. We cannot be certain that the FDA will allow us to conduct further clinical trials of IMO-3100 for treatment periods of more than four weeks or at all without additional clinical or preclinical data.

In April 2011, we chose to delay initiation of our planned 12-week Phase 2 randomized clinical trial of IMO-2125 plus ribavirin in treatment-naïve, genotype 1 hepatitis C virus, or HCV, patients based on preliminary observations in an ongoing 26-week chronic nonclinical toxicology study of IMO-2125 in rodents. We subsequently completed a 39-week chronic nonclinical toxicology study of IMO-2125 in non-human primates in which there were no similar observations. During the third quarter of 2011, we re-assessed and prioritized our drug development programs, and determined to discontinue further investment of internal resources on the development of IMO-2125 for the treatment of HCV.

In July 2011, Merck KGaA, Darmstadt, Germany, or Merck KGaA, informed us that, based on increased incidence of neutropenia and electrolyte imbalances reported in its Phase 1 trial of IMO-2055 in combination with cisplatin/5-FU and cetuximab in patients with first-line squamous cell carcinoma of the head and neck, or SCCHN, and subsequent re-evaluation of its clinical development program, Merck KGaA had determined that it would not conduct further clinical development of IMO-2055. In November 2011, as part of an agreed-upon termination of our collaboration with Merck KGaA, we regained global rights to IMO-2055 and our other TLR9 agonists, including preclinical lead drug candidates selected for further evaluation under the collaboration, for the treatment of cancer. In May 2012, we announced that in the Phase 2 trial of IMO-2055 in combination with cetuximab in patients with second-line SCCHN, the combination of IMO-2055 and cetuximab did not meet the primary endpoint of the trial.

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We intend to seek to enter into collaborations with pharmaceutical companies to advance the use of our TLR candidates. Our setbacks with respect to our programs for IMO-3100, IMO-2125, and IMO-2055 could negatively impact our ability to license any of such compounds to a third party.

Our ability to successfully develop and commercialize these drug candidates, or other potential candidates, will depend on our ability to overcome these recent challenges and on several factors, including the following:

- the drug candidates demonstrating activity in clinical trials;
- the drug candidates demonstrating an acceptable safety profile in nonclinical toxicology studies and during clinical trials;
- timely enrollment in clinical trials of IMO-8400 and other drug candidates, which may be slower than anticipated, potentially resulting in significant delays;
- satisfying conditions imposed on us and/or our collaborators by the FDA or equivalent foreign regulatory authorities regarding the scope or design of clinical trials;
- the ability to demonstrate to the satisfaction of the FDA, or equivalent foreign regulatory authorities, the safety and efficacy of the drug candidates through current and future clinical trials;
- timely receipt of necessary marketing approvals from the FDA and equivalent foreign regulatory authorities;
- the ability to combine our drug candidates and the drug candidates being developed by Merck & Co. and any other collaborators safely and successfully with other therapeutic agents;
- achieving and maintaining compliance with all regulatory requirements applicable to the products;
- establishment of commercial manufacturing arrangements with third-party manufacturers;
- the successful commercial launch of the drug candidates, assuming FDA approval is obtained, whether alone or in combination with other products;
- acceptance of the products as safe and effective by patients, the medical community, and third-party payors;
- competition from other companies and their therapies;
- changes in treatment regimes;

successful protection of our intellectual property rights from competing products in the United States and abroad; and

a continued acceptable safety and efficacy profile of the drug candidates following marketing approval.

If our clinical trials are unsuccessful, or if they are delayed or terminated, we may not be able to develop and commercialize our products.

In order to obtain regulatory approvals for the commercial sale of our products, we are required to complete extensive clinical trials in humans to demonstrate the safety and efficacy of our drug candidates. Clinical trials are lengthy, complex, and expensive processes with uncertain results. We may not be able to complete any clinical trial of a potential product within any specified time period. Moreover, clinical trials may not show our potential products to be both safe and efficacious. The FDA or other equivalent foreign regulatory agencies may not allow us to complete these trials or commence and complete any other clinical trials. For example, in July 2011, the FDA placed a clinical hold on a protocol we had submitted for a proposed Phase 2 clinical trial of IMO-3100 in patients with psoriasis.

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The results from preclinical testing of a drug candidate that is under development may not be predictive of results that will be obtained in human clinical trials. In addition, the results of early human clinical trials may not be predictive of results that will be obtained in larger scale, advanced stage clinical trials. Furthermore, interim results of a clinical trial do not necessarily predict final results, and failure of any of our clinical trials can occur at any stage of testing. Companies in the biotechnology and pharmaceutical industries, including companies with greater experience in preclinical testing and clinical trials than we have, have suffered significant setbacks in clinical trials, even after demonstrating promising results in earlier trials. Moreover, effects seen in nonclinical studies, even if not observed in clinical trials, may result in limitations or restrictions on clinical trials. Numerous unforeseen events may occur during, or as a result of, preclinical testing, nonclinical testing or the clinical trial process that could delay or inhibit the ability to receive regulatory approval or to commercialize drug products.

Other companies developing drugs targeted to TLRs have experienced setbacks in clinical trials. For example in 2007, Coley Pharmaceutical Group, which since has been acquired by Pfizer, Inc., discontinued four clinical trials for PF-3512676, its investigational TLR9 agonist compound, in combination with cytotoxic chemotherapy in cancer, and suspended its development of Actilon®, a TLR9 agonist, for HCV infection. In July 2007, Anadys Pharmaceuticals, Inc. and its partner Novartis Pharmaceuticals, Ltd., or Novartis, discontinued the development of ANA975, the investigational TLR7 agonist compound for HCV infection. Dynavax Technologies Corporation, or Dynavax, announced in May 2008 discontinuation of the clinical development program for TOLAMBA®, an investigational vaccine which contained a TLR9 agonist adjuvant, and in February 2013 Dynavax announced receipt of a Complete Response Letter from FDA regarding its Biological License Application for HEPLISAV®, which is an investigational hepatitis B vaccine that contains a TLR9 agonist adjuvant. These setbacks with respect to TLR-targeted drug candidates may result in enhanced scrutiny by regulators or institutional review boards, or IRBs, of clinical trials of TLR-targeted drug candidates, including our TLR-targeted drug candidates, which could result in regulators or IRBs prohibiting the commencement of clinical trials, requiring additional nonclinical studies as a precondition to commencing clinical trials or imposing restrictions on the design or scope of clinical trials that could slow enrollment of trials, increase the costs of trials or limit the significance of the results of trials. Such setbacks could also adversely impact the desire of investigators to enroll patients in, and the desire of patients to enroll in, clinical trials of TLR-targeted drug candidates.

Other events that could delay or inhibit conduct of our clinical trials include:

- regulators or IRBs may not authorize us to commence a clinical trial or conduct a clinical trial at a prospective trial site;
- nonclinical or clinical data may not be readily interpreted, which may lead to delays and/or misinterpretation;
- our nonclinical tests, including toxicology studies, or clinical trials may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional nonclinical testing or clinical trials or we may abandon projects that we expect may not be promising;
- the rate of enrollment or retention of patients in our clinical trials may be lower than we expect;
- we might have to suspend or terminate our clinical trials if the participating subjects experience serious adverse events or undesirable side effects or are exposed to unacceptable health risks;
- regulators or IRBs may hold, suspend or terminate clinical research for various reasons, including noncompliance with regulatory requirements, issues identified through inspections of manufacturing or clinical trial operations or clinical trial sites, or if, in their opinion, the participating subjects are being exposed to unacceptable health risks;

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regulators may hold or suspend our clinical trials while collecting supplemental information on, or clarification of, our clinical trials or other clinical trials, including trials conducted in other countries or trials conducted by other companies;

we, along with our collaborators and subcontractors, may not employ, in any capacity, persons who have been debarred under the FDA s Application Integrity Policy, or similar policy under foreign regulatory authorities. Employment of such debarred persons, even if inadvertent, may result in delays in the FDA s or foreign equivalent s review or approval of our products, or the rejection of data developed with the involvement of such person(s);

the cost of our clinical trials may be greater than we currently anticipate; and

our products may not cause the desired effects or may cause undesirable side effects or our products may have other unexpected characteristics.

The rate of completion of clinical trials is dependent in part upon the rate of enrollment of patients. For example, in our Phase 1 clinical trial of IMO-2125 in patients with chronic HCV infection who had not responded to the current standard of care therapy, completion of each cohort took longer than anticipated due to enrollment procedures. Patient accrual is a function of many factors, including:

the size of the patient population;

the proximity of patients to clinical sites;

the eligibility criteria for the trial;

the nature of the trial, including the pattern of patient enrollment;

the existence of competitive clinical trials; and

the availability of alternative treatments.

We do not know whether clinical trials will begin as planned, will need to be restructured or will be completed on schedule, if at all. Significant clinical trial delays also could allow our competitors to bring products to market before we do and impair our ability to commercialize our products.

Delays in commencing clinical trials of potential products could increase our costs, delay any potential revenues, and reduce the probability that a potential product will receive regulatory approval.

Our drug candidates and our collaborators drug candidates will require preclinical and other nonclinical testing and extensive clinical trials prior to submission of any regulatory application for commercial sales. In conducting clinical trials, we cannot be certain that any planned clinical trial will begin on time, if at all. Delays in commencing clinical trials of potential products could increase our product development costs, delay any potential revenues, and reduce the probability that a potential product will receive regulatory approval.

Commencing clinical trials may be delayed for a number of reasons, including delays in:

manufacturing sufficient quantities of drug candidate that satisfy the required quality standards for use in clinical trials;

demonstrating sufficient safety to obtain regulatory approval for conducting a clinical trial;

reaching an agreement with any collaborators on all aspects of the clinical trial;

reaching agreement with contract research organizations, if any, and clinical trial sites on all aspects of the clinical trial;

resolving any objections from the FDA or any regulatory authority on an Investigational New Drug application, or IND, or proposed clinical trial design;

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obtaining IRB approval for conducting a clinical trial at a prospective site; and

enrolling patients in order to commence the clinical trial.

The technologies on which we rely are unproven and may not result in any approved and marketable products.

Our technologies or therapeutic approaches are relatively new and unproven. We have focused our efforts on the research and development of RNA- and DNA-based compounds targeted to TLRs and on GSOs. Neither we nor any other company have obtained regulatory approval to market such compounds as therapeutic drugs, and no such products currently are being marketed. It is unknown whether the results of preclinical studies with TLR-targeted compounds will be indicative of results that may be obtained in clinical trials, and results we have obtained in the clinical trials we have conducted to date may not be predictive of results in subsequent large-scale clinical trials. Further, the chemical and pharmacological properties of RNA- and DNA-based compounds targeted to TLRs or of GSOs may not be fully recognized in preclinical studies and small-scale clinical trials, and such compounds may interact with human biological systems in unforeseen, ineffective or harmful ways that we have not yet identified.

As a result of these factors, we may never succeed in obtaining regulatory approval to market any product. Furthermore, the commercial success of any of our products for which we may obtain marketing approval from the FDA or other regulatory authorities will depend upon their acceptance by patients, the medical community, and third-party payors as clinically useful, safe, and cost-effective. In addition, if products being developed by our competitors have negative clinical trial results or otherwise are viewed negatively, the perception of our technologies and market acceptance of our products could be impacted negatively.

Our recent setbacks with respect to our TLR-targeted compounds, together with the setbacks experienced by other companies developing TLR-targeted compounds, may result in a negative perception of our technology and our TLR-targeted compounds, impact our ability to obtain marketing approval of these drug candidates and adversely affect acceptance of our technology and our TLR-targeted compounds by patients, the medical community and third-party payors.

Our efforts to educate the medical community on our potentially unique approaches may require greater resources than would be typically required for products based on conventional technologies or therapeutic approaches. The safety, efficacy, convenience, and cost-effectiveness of our products as compared to competitive products will also affect market acceptance.

We face substantial competition, which may result in others discovering, developing or commercializing drugs before or more successfully than us.

We are developing our TLR-targeted drug candidates for use in the treatment of autoimmune and inflammatory diseases and for use as vaccine adjuvants. We have two drug candidates in clinical development in our autoimmune and inflammatory disease program. We are also collaborating with Merck & Co. for the use of agonists of TLR7, TLR8, and TLR9 as vaccine adjuvants for cancer, infectious diseases and Alzheimer s disease. Finally, we are seeking to enter into collaborative alliances with pharmaceutical companies to advance our TLR-targeted programs in oncology and respiratory diseases, and for the use of TLR3 agonists as vaccine adjuvants, as well as applications of our GSO technology platform. For all of these disease areas, there are many other companies, public and private, that are actively engaged in discovery, development, and commercializing products and technologies that may compete with our drug candidates and programs, including TLR targeted compounds as well as non-TLR targeted therapies.

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Our principal competitor developing TLR-targeted compounds for autoimmune and inflammatory diseases is Dynavax, with its collaborator, GlaxoSmithKline plc., or GlaxoSmithKline. Merck & Co. s vaccines using our TLR7, TLR8 or TLR9 agonists as adjuvants may compete with vaccines using TLR agonists as adjuvants being developed or marketed by GlaxoSmithKline, Novartis, Dynavax, VaxInnate, Inc., Intercell AG and Cytos Biotechnology AG.

Some of these potentially competitive products have been in development or commercialized for years, in some cases by large, well established pharmaceutical companies. Many of the marketed products have been accepted by the medical community, patients, and third-party payors. Our ability to compete may be affected by the previous adoption of such products by the medical community, patients, and third-party payors. Additionally, in some instances, insurers and other third-party payors seek to encourage the use of generic products, which makes branded products, such as our drug candidates, potentially less attractive, from a cost perspective, to buyers.

We recognize that other companies, including large pharmaceutical companies, may be developing or have plans to develop products and technologies that may compete with ours. Many of our competitors have substantially greater financial, technical, and human resources than we have. In addition, many of our competitors have significantly greater experience than we have in undertaking preclinical studies and human clinical trials of new pharmaceutical products, obtaining FDA and other regulatory approvals of products for use in health care and manufacturing, and marketing and selling approved products. Our competitors may discover, develop or commercialize products or other novel technologies that are more effective, safer or less costly than any that we are developing. Our competitors may also obtain FDA or other regulatory approval for their products more rapidly than we may obtain approval for ours.

We anticipate that the competition with our products and technologies will be based on a number of factors including product efficacy, safety, availability, and price. The timing of market introduction of our products and competitive products will also affect competition among products. We expect the relative speed with which we can develop products, complete the clinical trials, and approval processes and supply commercial quantities of the products to the market to be important competitive factors. Our competitive position will also depend upon our ability to attract and retain qualified personnel, to obtain patent protection or otherwise develop proprietary products or processes, and protect our intellectual property, and to secure sufficient capital resources for the period between technological conception and commercial sales.

Competition for technical and management personnel is intense in our industry, and we may not be able to sustain our operations or grow if we are unable to attract and retain key personnel.

Our success is highly dependent on the retention of principal members of our technical and management staff, including Dr. Sudhir Agrawal. Dr. Agrawal serves as our Chairman of the Board of Directors, President and Chief Executive Officer. Dr. Agrawal has made significant contributions to the field of oligonucleotide-based drug candidates, and has led the discovery and development of our compounds targeted to TLRs. He is named as an inventor on over 400 patents and patent applications in countries around the world. Dr. Agrawal provides us with leadership for our management team and research and development activities. The loss of Dr. Agrawal s services would be detrimental to our ongoing scientific progress and the execution of our business plan.

We are a party to an employment agreement with Dr. Agrawal that expires on October 19, 2015, but automatically extends annually for additional one year periods. This agreement may be terminated by us or Dr. Agrawal for any reason or no reason at any time upon notice to the other party. We do not carry key man life insurance for Dr. Agrawal.

Furthermore, our future growth will require hiring a number of qualified technical and management personnel. Accordingly, recruiting and retaining such personnel in the future will be critical to our

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success. There is intense competition from other companies and research and academic institutions for qualified personnel in the areas of our activities. If we are not able to continue to attract and retain, on acceptable terms, the qualified personnel necessary for the continued development of our business, we may not be able to sustain our operations or growth.

Regulatory Risks

We may not be able to obtain marketing approval for products resulting from our development efforts.

All of the drug candidates that we are developing, or may develop in the future, will require additional research and development, extensive preclinical studies, nonclinical testing, clinical trials, and regulatory approval prior to any commercial sales. This process is lengthy, often taking a number of years, is uncertain, and is expensive. Since our inception, we have conducted clinical trials of a number of compounds. Currently two of our compounds, IMO-3100 and IMO-8400, are in clinical development. The FDA and other regulatory authorities may not approve any of our potential products for any indication.

We may need to address a number of technological challenges in order to complete development of our products. Moreover, these products may not be effective in treating any disease or may prove to have undesirable or unintended side effects, unintended alteration of the immune system over time, toxicities or other characteristics that may preclude our obtaining regulatory approval or prevent or limit commercial use. If we do not obtain necessary regulatory approvals, our business will be adversely affected.

We are subject to comprehensive regulatory requirements, which are costly and time consuming to comply with; if we fail to comply with these requirements, we could be subject to adverse consequences and penalties.

The testing, manufacturing, labeling, advertising, promotion, export, and marketing of our products are subject to extensive regulation by governmental authorities in Europe, the United States, and elsewhere throughout the world.

In general, submission of materials requesting permission to conduct clinical trials may not result in authorization by the FDA or any equivalent foreign regulatory agency to commence clinical trials. Further, permission to continue ongoing trials may be withdrawn by the FDA or other regulatory agencies at any time after initiation, based on new information available after the initial authorization to commence clinical trials or for other reasons. In addition, submission of an application for marketing approval to the relevant regulatory agency following completion of clinical trials may not result in the regulatory agency approving the application if applicable regulatory criteria are not satisfied, and may result in the regulatory agency requiring additional testing or information.

Even if we obtain regulatory approval for any of our product candidates, we will be subject to ongoing FDA obligations and regulatory oversight. Any regulatory approval of a product may contain limitations on the approved indicated uses for which the product may be marketed or requirements for costly post-marketing testing and surveillance to monitor the safety or efficacy of the product. Any product for which we obtain marketing approval, along with the facilities at which the product is manufactured, any post-approval clinical data, and any advertising and promotional activities for the product will be subject to continual review and periodic inspections by the FDA and other regulatory agencies.

Both before and after approval is obtained, failure to comply with regulatory requirements, or discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, may result in:

- the regulatory agency s delay in approving, or refusal to approve, an application for marketing of a product or a supplement to an approved application;

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restrictions on our products or the marketing or manufacturing of our products;

withdrawal of our products from the market;

warning letters;

voluntary or mandatory product recalls;

fines;

suspension or withdrawal of regulatory approvals;

product seizure or detention;

refusal to permit the import or export of our products;

injunctions or the imposition of civil penalties; and

criminal penalties.

We have only limited experience in regulatory affairs and our products are based on new technologies; these factors may affect our ability or the time we require to obtain necessary regulatory approvals.

We have only limited experience in filing the applications necessary to obtain regulatory approvals. Moreover, the products that result from our research and development programs will likely be based on new technologies and new therapeutic approaches that have not been extensively tested in humans. The regulatory requirements governing these types of products may be more rigorous than for conventional drugs. As a result, we may experience a longer regulatory process in connection with obtaining regulatory approvals of any product that we develop.

Failure to obtain regulatory approval in jurisdictions outside the United States will prevent us from marketing our products abroad.

We intend to market our products, if approved, in markets outside the United States, which will require separate regulatory approvals and compliance with numerous and varying regulatory requirements. The approval procedures vary among such markets and may involve requirements for additional testing, and the time required to obtain approval may differ from that required to obtain FDA approval. Approval by the FDA does not ensure approval by regulatory authorities in other countries or jurisdictions, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities in other foreign countries or by the FDA. The foreign regulatory approval process may include all of the risks associated with obtaining FDA approval. We may not obtain foreign regulatory approvals on a timely basis, if at all.

Risks Relating to Collaborators

If we are unable to establish additional collaborative alliances, our business may be materially harmed.

Collaborators provide the necessary resources and drug development experience to advance our compounds in their programs. We are seeking to enter into collaborative alliances with pharmaceutical companies to advance our TLR-targeted programs in oncology, infectious diseases, respiratory diseases, and the use of TLR3 agonists as vaccine adjuvants, as well as applications of our GSO technology platform.

Upfront payments and milestone payments received from collaborations help to provide us with the financial resources for our internal research and development programs. Our internal programs are focused on developing TLR-targeted drug candidates for the potential treatment of autoimmune and inflammatory diseases. We believe that additional resources will be required to advance compounds in all of these areas. If we do not reach agreements with additional collaborators in the future, we may not be able to obtain the expertise and resources necessary to achieve our business objectives, our ability to advance our compounds will be jeopardized and we may fail to meet our business objectives.

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We may have difficulty establishing additional collaborative alliances, particularly with respect to our TLR-targeted drug candidates and technology. Potential partners may note that our TLR collaborations with Novartis and with Merck KGaA have been terminated. Potential partners may also be reluctant to establish collaborations with respect to IMO-2125, IMO-3100, IMO-2055, and our other TLR-targeted drug candidates, given our recent setbacks with respect to these drug candidates. We also face, and expect to continue to face, significant competition in seeking appropriate collaborators.

Even if a potential partner were willing to enter into a collaborative alliance with respect to our TLR-targeted compounds or technology, the terms of such a collaborative alliance may not be on terms that are favorable to us. Moreover, collaborations are complex and time consuming to negotiate, document, and implement. We may not be successful in our efforts to establish and implement collaborations on a timely basis.

Our existing collaboration and any collaborations we enter into in the future may not be successful.

An important element of our business strategy includes entering into collaborative alliances with corporate collaborators, primarily large pharmaceutical companies, for the development, commercialization, marketing, and distribution of some of our drug candidates. In December 2007, we entered into an exclusive, worldwide license agreement with Merck KGaA to research, develop, and commercialize products containing our TLR9 agonists for treatment of cancer, excluding cancer vaccines. In December 2006, we entered into an exclusive license and research collaboration with Merck & Co. to research, develop, and commercialize vaccine products containing our TLR7, TLR8, and TLR9 agonists in the fields of cancer, infectious diseases, and Alzheimer s disease.

Any collaboration that we enter into may not be successful. For instance, in July 2011, Merck KGaA informed us that it had determined not to conduct further clinical development of IMO-2055, and in November 2011, we entered into an agreement with Merck KGaA terminating our collaboration with them. The success of our collaborative alliances, if any, will depend heavily on the efforts and activities of our collaborators. Our existing collaboration and any potential future collaborations have risks, including the following:

- our collaborators may control the development of the drug candidates being developed with our technologies and compounds including the timing of development;
- our collaborators may control the public release of information regarding the developments, and we may not be able to make announcements or data presentations on a schedule favorable to us;
- disputes may arise in the future with respect to the ownership of rights to technology developed with our collaborators;
- disagreements with our collaborators could delay or terminate the research, development or commercialization of products, or result in litigation or arbitration;
- we may have difficulty enforcing the contracts if any of our collaborators fail to perform;
- our collaborators may terminate their collaborations with us, which could make it difficult for us to attract new collaborators or adversely affect the perception of us in the business or financial communities;
- our collaboration agreements are likely to be for fixed terms and subject to termination by our collaborators in the event of a material breach or lack of scientific progress by us;
- our collaborators may have the first right to maintain or defend our intellectual property rights and, although we would likely have the right to assume the maintenance and defense of our intellectual property rights if our collaborators do not, our ability to do so may be

compromised by our collaborators acts or omissions;

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our collaborators may challenge our intellectual property rights or utilize our intellectual property rights in such a way as to invite litigation that could jeopardize or invalidate our intellectual property rights or expose us to potential liability;

our collaborators may not comply with all applicable regulatory requirements, or may fail to report safety data in accordance with all applicable regulatory requirements;

our collaborators may change the focus of their development and commercialization efforts. Pharmaceutical and biotechnology companies historically have re-evaluated their priorities following mergers and consolidations, which have been common in recent years in these industries. For example, we have a strategic partnership with Merck & Co., which merged with Schering-Plough, which has been involved with certain TLR-targeted research and development programs. Although the merger has not affected our partnership with Merck & Co. to date, management of the combined company could determine to reduce the efforts and resources that the combined company will apply to its strategic partnership with us or terminate the strategic partnership. The ability of our products to reach their potential could be limited if our collaborators decrease or fail to increase spending relating to such products;

our collaborators may under fund or not commit sufficient resources to the testing, marketing, distribution or development of our products; and

our collaborators may develop alternative products either on their own or in collaboration with others, or encounter conflicts of interest or changes in business strategy or other business issues, which could adversely affect their willingness or ability to fulfill their obligations to us.

Given these risks, it is possible that any collaborative alliance into which we enter may not be successful. Collaborations with pharmaceutical companies and other third parties often are terminated or allowed to expire by the other party. For example, effective as of February 2010, Novartis terminated the research collaboration and option agreement that we entered into with it in May 2005, and in November 2011, we entered into an agreement with Merck KGaA terminating our collaboration with them. In addition, Merck & Co. may terminate its license and research collaboration agreement by giving us 90 days advance notice. The termination or expiration of our agreement with Merck & Co. or any other collaboration agreement that we enter into in the future may adversely affect us financially and could harm our business reputation.

Risks Relating to Intellectual Property

If we are unable to obtain patent protection for our discoveries, the value of our technology and products will be adversely affected.

Our patent positions, and those of other drug discovery companies, are generally uncertain and involve complex legal, scientific, and factual questions. Our ability to develop and commercialize drugs depends in significant part on our ability to:

obtain patents;

obtain licenses to the proprietary rights of others on commercially reasonable terms;

operate without infringing upon the proprietary rights of others;

prevent others from infringing on our proprietary rights; and

protect our trade secrets.

We do not know whether any of our patent applications or those patent applications that we license will result in the issuance of any patents. Our issued patents and those that may be issued in the future, or those licensed to us, may be challenged, invalidated or circumvented, and the rights granted thereunder

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may not provide us proprietary protection or competitive advantages against competitors with similar technology. Moreover, intellectual property laws may change and negatively impact our ability to obtain issued patents covering our technologies or to enforce any patents that issue. Because of the extensive time required for development, testing, and regulatory review of a potential product, it is possible that, before any of our products can be commercialized, any related patent may expire or remain in force for only a short period following commercialization, thus reducing any advantage provided by the patent.

Because patent applications in the United States and many foreign jurisdictions are typically not published until 18 months after filing, or in some cases not at all, and because publications of discoveries in the scientific literature often lag behind actual discoveries, neither we nor our licensors can be certain that we or they were the first to make the inventions claimed in issued patents or pending patent applications, or that we or they were the first to file for protection of the inventions set forth in these patent applications.

As of January 31, 2013, we owned 66 U.S. patents and patent applications and 161 patents and patent applications throughout the rest of the world for our TLR-targeted immune modulation technologies. These patents and patent applications include novel chemical compositions of matter and methods of use of our IMO compounds, including IMO-3100, IMO-8400 and IMO-2055. As of January 31, 2013, all of our intellectual property covering immune modulatory compositions and methods of their use is based on discoveries made solely by us. These patents expire at various dates ranging from 2017 to 2031. With respect to IMO-3100, we have issued U.S. patents that cover the chemical composition of matter of IMO-3100 and methods of its use that will expire at the earliest in 2026. With respect to IMO-8400, we have U.S. patent applications that cover the chemical composition of matter of IMO-8400 and methods of its use that will expire at the earliest in 2031. With respect to IMO-2055, we have issued U.S. patents that cover the chemical composition of matter of IMO-2055 and methods of its use, including in combination with marketed cancer products, with the earliest composition claims in the United States expiring in 2023.

As of January 31, 2013, we owned three U.S. patent applications and six worldwide patent applications for our GSO compounds and methods of their use. Patents issuing from these patent applications, if any, would expire at the earliest in 2030.

In addition to our TLR-targeted and GSO patent portfolios, we are the owner or hold licenses of patents and patent applications related to antisense technology. As of January 31, 2013, our antisense patent portfolio included 93 U.S. patents and patent applications and 85 patents and patent applications throughout the rest of the world. These antisense patents and patent applications include novel compositions of matter, the use of these compositions for various genes, sequences and therapeutic targets, and oral and other routes of administration. Some of the patents and patent applications in our antisense portfolio were in-licensed. These in-licensed patents expire at various dates ranging from 2013 to 2022.

Third parties may own or control patents or patent applications and require us to seek licenses, which could increase our development and commercialization costs, or prevent us from developing or marketing products.

Although we have many issued patents and pending patent applications in the United States and other countries, we may not have rights under certain third-party patents or patent applications related to our products. Third parties may own or control these patents and patent applications in the United States and abroad. In particular, we are aware of third-party U.S. patents that contain broad claims related to the use of certain oligonucleotides for stimulating an immune response, although we do not believe that these claims are valid. In addition, there may be other patents and patent applications related to our products of which we are not aware. Therefore, in some cases, in order to develop, manufacture, sell or

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import some of our products, we or our collaborators may choose to seek, or be required to seek, licenses under third-party patents issued in the United States and abroad or under third-party patents that might issue from U.S. and foreign patent applications. In such an event, we would be required to pay license fees or royalties or both to the licensor. If licenses are not available to us on acceptable terms, we or our collaborators may not be able to develop, manufacture, sell or import these products.

We may lose our rights to patents, patent applications or technologies of third parties if our licenses from these third parties are terminated. In such an event, we might not be able to develop or commercialize products covered by the licenses.

Currently, we have not in-licensed any patents or patent applications related to our TLR-targeted drug candidate programs or our GSO compounds and methods of their use. However, we are party to six royalty-bearing license agreements under which we have acquired rights to patents, patent applications, and technology of third parties in the field of antisense technology, which may be applicable to our TLR antisense. Under these licenses we are obligated to pay royalties on net sales by us of products or processes covered by a valid claim of a patent or patent application licensed to us. We also are required in some cases to pay a specified percentage of any sublicense income that we may receive. These licenses impose various commercialization, sublicensing, insurance, and other obligations on us.

Our failure to comply with these requirements could result in termination of the licenses. These licenses generally will otherwise remain in effect until the expiration of all valid claims of the patents covered by such licenses or upon earlier termination by the parties. The issued patents covered by these licenses expire at various dates ranging from 2013 to 2022. If one or more of these licenses is terminated, we may be delayed in our efforts, or be unable, to develop and market the products that are covered by the applicable license or licenses.

We may become involved in expensive patent litigation or other proceedings, which could result in our incurring substantial costs and expenses or substantial liability for damages or require us to stop our development and commercialization efforts.

There has been substantial litigation and other proceedings regarding patent and other intellectual property rights in the biotechnology industry. We may become a party to various types of patent litigation or other proceedings regarding intellectual property rights from time to time even under circumstances where we are not practicing and do not intend to practice any of the intellectual property involved in the proceedings. For instance, in 2002, 2003, and 2005, we became involved in interference proceedings declared by the United States Patent and Trademark Office for some of our antisense and ribozyme patents. All of these interferences have since been resolved. We are neither practicing nor intending to practice the intellectual property that is associated with any of these interference proceedings.

The cost to us of any patent litigation or other proceeding even if resolved in our favor, could be substantial. Some of our competitors may be able to sustain the cost of such litigation or proceedings more effectively than we can because of their substantially greater financial resources. If any patent litigation or other proceeding is resolved against us, we or our collaborators may be enjoined from developing, manufacturing, selling or importing our drugs without a license from the other party and we may be held liable for significant damages. We may not be able to obtain any required license on commercially acceptable terms or at all.

Uncertainties resulting from the initiation and continuation of patent litigation or other proceedings could have a material adverse effect on our ability to compete in the marketplace. Patent litigation and other proceedings may also absorb significant management time.

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Risks Relating to Product Manufacturing, Marketing and Sales, and Reliance on Third Parties

Because we have limited manufacturing experience, and no manufacturing facilities or infrastructure, we are dependent on third-party manufacturers to manufacture drug candidates for us. If we cannot rely on third-party manufacturers, we will be required to incur significant costs and devote significant efforts to establish our own manufacturing facilities and capabilities.

We have limited manufacturing experience and no manufacturing facilities, infrastructure or clinical or commercial scale manufacturing capabilities. In order to continue to develop our drug candidates, apply for regulatory approvals, and ultimately commercialize products, we need to develop, contract for or otherwise arrange for the necessary manufacturing capabilities.

We currently rely upon third parties to produce material for nonclinical and clinical testing purposes and expect to continue to do so in the future. We also expect to rely upon third parties to produce materials that may be required for the commercial production of our products. Our current and anticipated future dependence upon others for the manufacture of our drug candidates may adversely affect our future profit margins and our ability to develop drug candidates and commercialize any drug candidates on a timely and competitive basis. We currently do not have any long term supply contracts.

There are a limited number of manufacturers that operate under the FDA s current Good Manufacturing Practices, or cGMP, regulations capable of manufacturing our drug candidates. As a result, we may have difficulty finding manufacturers for our products with adequate capacity for our needs. If we are unable to arrange for third-party manufacturing of our drug candidates on a timely basis, or to do so on commercially reasonable terms, we may not be able to complete development of our drug candidates or market them.

Reliance on third-party manufacturers entails risks to which we would not be subject if we manufactured drug candidates ourselves, including:

- reliance on the third party for regulatory compliance and quality assurance;
- the possibility of breach of the manufacturing agreement by the third party because of factors beyond our control;
- the possibility of termination or nonrenewal of the agreement by the third party, based on its own business priorities, at a time that is costly or inconvenient for us;
- the potential that third-party manufacturers will develop know-how owned by such third party in connection with the production of our drug candidates that becomes necessary for the manufacture of our drug candidates; and
- reliance upon third-party manufacturers to assist us in preventing inadvertent disclosure or theft of our proprietary knowledge.

Any contract manufacturers with which we enter into manufacturing arrangements will be subject to ongoing periodic, unannounced inspections by the FDA, or foreign equivalent, and corresponding state and foreign agencies or their designees to ensure compliance with cGMP requirements and other governmental regulations and corresponding foreign standards. For example, one of our contract manufacturers notified us that it had received a cGMP warning letter from the FDA in February 2011. This contract manufacturer no longer manufactures drug product for us. Any failure by our third-party manufacturers to comply with such requirements, regulations or standards could lead to a delay in the conduct of our clinical trials, or a delay in, or failure to obtain, regulatory approval of any of our drug candidates. Such failure could also result in sanctions being imposed, including fines, injunctions, civil penalties, delays, suspension or withdrawal of approvals, product seizures or recalls, imposition of operating restrictions, total or partial suspension of production or distribution, or criminal prosecution.

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Additionally, contract manufacturers may not be able to manufacture our drug candidates at a cost or in quantities necessary to make them commercially viable. As of January 31, 2013, our third-party manufacturers have met our manufacturing requirements, but we cannot be assured that they will continue to do so. Furthermore, changes in the manufacturing process or procedure, including a change in the location where the drug substance or drug product is manufactured or a change of a third-party manufacturer, may require prior FDA review and approval in accordance with the FDA s cGMP and NDA/BLA regulations. Contract manufacturers may also be subject to comparable foreign requirements. This review may be costly and time-consuming and could delay or prevent the launch of a drug candidate. The FDA or similar foreign regulatory agencies at any time may also implement new standards, or change their interpretation and enforcement of existing standards for manufacture, packaging or testing of products. If we or our contract manufacturers are unable to comply, we or they may be subject to regulatory action, civil actions or penalties.

We have no experience selling, marketing or distributing products and no internal capability to do so.

If we receive regulatory approval to commence commercial sales of any of our drug candidates, we will face competition with respect to commercial sales, marketing, and distribution. These are areas in which we have no experience. To market any of our drug candidates directly, we would need to develop a marketing and sales force with technical expertise and with supporting distribution capability. In particular, we would need to recruit a large number of experienced marketing and sales personnel. Alternatively, we could engage a pharmaceutical or other healthcare company with an existing distribution system and direct sales force to assist us. However, to the extent we entered into such arrangements, we would be dependent on the efforts of third parties. If we are unable to establish sales and distribution capabilities, whether internally or in reliance on third parties, our business would suffer materially.

If third parties on whom we rely for clinical trials do not perform as contractually required or as we expect, we may not be able to obtain regulatory approval for or commercialize our products and our business may suffer.

We do not have the ability to independently conduct the clinical trials required to obtain regulatory approval for our drug candidates. We depend on independent clinical investigators, contract research organizations, and other third-party service providers in the conduct of the clinical trials of our drug candidates and expect to continue to do so. We contracted with contract research organizations to manage our Phase 1 clinical trials of IMO-2125 in patients with chronic HCV infection, our Phase 1 and Phase 2 clinical trials of IMO-3100, and our ongoing Phase 1 clinical trial of IMO-8400, and expect to contract with such organizations for future clinical trials. We rely heavily on these parties for successful execution of our clinical trials, but do not control many aspects of their activities. We are responsible for ensuring that each of our clinical trials is conducted in accordance with the general investigational plan and protocols for the trial. Moreover, the FDA and foreign regulatory agencies require us to comply with certain standards, commonly referred to as good clinical practices, and applicable regulatory requirements, for conducting, recording, and reporting the results of clinical trials to assure that data and reported results are credible and accurate and that the rights, integrity, and confidentiality of clinical trial participants are protected. Our reliance on third parties that we do not control does not relieve us of these responsibilities and requirements. Third parties may not complete activities on schedule, or at all, or may not conduct our clinical trials in accordance with regulatory requirements or our stated protocols. The failure of these third parties to carry out their obligations could delay or prevent the development, approval, and commercialization of our drug candidates. If we seek to conduct any of these activities ourselves in the future, we will need to recruit appropriately trained personnel and add to our infrastructure.

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The commercial success of any drug candidates that we may develop will depend upon the degree of market acceptance by physicians, patients, third-party payors, and others in the medical community.

Any products that we ultimately bring to the market, if they receive marketing approval, may not gain market acceptance by physicians, patients, third-party payors or others in the medical community. If these products do not achieve an adequate level of acceptance, we may not generate significant product revenue and we may not become profitable. The degree of market acceptance of our drug candidates, if approved for commercial sale, will depend on a number of factors, including:

- the prevalence and severity of any side effects, including any limitations or warnings contained in the product s approved labeling;
- the efficacy and potential advantages over alternative treatments;
- the ability to offer our drug candidates for sale at competitive prices;
- relative convenience and ease of administration;
- the willingness of the target patient population to try new therapies and of physicians to prescribe these therapies;
- the strength of marketing and distribution support and the timing of market introduction of competitive products; and
- publicity concerning our products or competing products and treatments.

Even if a potential product displays a favorable efficacy and safety profile, market acceptance of the product will not be known until after it is launched. Our efforts to educate patients, the medical community, and third-party payors on the benefits of our drug candidates may require significant resources and may never be successful. Such efforts to educate the marketplace may require more resources than are required by conventional technologies marketed by our competitors.

If we are unable to obtain adequate reimbursement from third-party payors for any products that we may develop or acceptable prices for those products, our revenues and prospects for profitability will suffer.

Most patients rely on Medicare, Medicaid, private health insurers, and other third-party payors to pay for their medical needs, including any drugs we may market. If third-party payors do not provide adequate coverage or reimbursement for any products that we may develop, our revenues and prospects for profitability will suffer. Congress enacted a limited prescription drug benefit for Medicare recipients in the Medicare Prescription Drug, Improvement, and Modernization Act of 2003. While the program established by this statute may increase demand for our products if we were to participate in this program, our prices will be negotiated with drug procurement organizations for Medicare beneficiaries and are likely to be lower than we might otherwise obtain. Non-Medicare third-party drug procurement organizations may also base the price they are willing to pay on the rate paid by drug procurement organizations for Medicare beneficiaries or may otherwise negotiate the price they are willing to pay.

A primary trend in the United States healthcare industry is toward cost containment. In addition, in some foreign countries, particularly the countries of the European Union, the pricing of prescription pharmaceuticals is subject to governmental control. In these countries, pricing negotiations with governmental authorities can take six months or longer after the receipt of regulatory marketing approval for a product. To obtain reimbursement or pricing approval in some countries, we may be required to conduct a clinical trial that compares the cost effectiveness of our drug candidates or products to other available therapies. The conduct of such a clinical trial could be expensive and result in delays in commercialization of our products. These further clinical trials would require additional time, resources, and expenses. If reimbursement of our products is unavailable or limited in scope or amount, or if pricing is set at unsatisfactory levels, our prospects for generating revenue, if any, could be adversely affected and our business may suffer.

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In March 2010, the Patient Protection and Affordable Care Act and the Health Care and Education Reconciliation Act became law. These health care reform laws are intended to broaden access to health insurance; reduce or constrain the growth of health care spending, especially Medicare spending; enhance remedies against fraud and abuse; add new transparency requirements for health care and health insurance industries; impose new taxes and fees on certain sectors of the health industry; and impose additional health policy reforms. Among the new fees is an annual assessment on makers of branded pharmaceuticals and biologics, under which a company s assessment is based primarily on its share of branded drug sales to federal health care programs. Such fees could affect our future profitability. Although it is too early to determine the effect of the new health care legislation on our future profitability and financial condition, the new law appears likely to continue the pressure on pharmaceutical pricing, especially under the Medicare program, and may also increase our regulatory burdens and operating costs.

Third-party payors are challenging the prices charged for medical products and services, and many third-party payors limit reimbursement for newly-approved health care products. These third-party payors may base their coverage and reimbursement on the coverage and reimbursement rate paid by carriers for Medicare beneficiaries. Furthermore, many such payors are investigating or implementing methods for reducing health care costs, such as the establishment of capitated or prospective payment systems. Cost containment pressures have led to an increased emphasis on the use of cost-effective products by health care providers. In particular, third-party payors may limit the indications for which they will reimburse patients who use any products that we may develop. Cost control initiatives could limit the price we might establish for products that we or our current or future collaborators may develop or sell, which would result in lower product revenues or royalties payable to us.

We face a risk of product liability claims and may not be able to obtain insurance.

Our business exposes us to the risk of product liability claims that is inherent in the manufacturing, testing, and marketing of human therapeutic drugs. We face an inherent risk of product liability exposure related to the testing of our drug candidates in human clinical trials and will face an even greater risk if we commercially sell any products. Regardless of merit or eventual outcome, liability claims and product recalls may result in:

- decreased demand for our drug candidates and products;
- damage to our reputation;
- regulatory investigations that could require costly recalls or product modifications;
- withdrawal of clinical trial participants;
- costs to defend related litigation;
- substantial monetary awards to clinical trial participants or patients, including awards that substantially exceed our product liability insurance, which we would then have to pay using other sources, if available, and would damage our ability to obtain liability insurance at reasonable costs, or at all, in the future;
- loss of revenue;
- the diversion of management s attention away from managing our business; and
- the inability to commercialize any products that we may develop.

Although we have product liability and clinical trial liability insurance that we believe is adequate, this insurance is subject to deductibles and coverage limitations. We may not be able to obtain or maintain adequate protection against potential liabilities. If we are unable to obtain insurance at acceptable cost or

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otherwise protect against potential product liability claims, we will be exposed to significant liabilities, which may materially and adversely affect our business and financial position. These liabilities could prevent or interfere with our commercialization efforts.

Risks Related to This Offering and Ownership of Our Common Stock

Our corporate governance structure, including provisions in our certificate of incorporation and by-laws and Delaware law, may prevent a change in control or management that stockholders may consider desirable.

Section 203 of the Delaware General Corporation Law and our certificate of incorporation and by-laws contain provisions that might enable our management to resist a takeover of our company or discourage a third party from attempting to take over our company. These provisions include:

a classified board of directors;

limitations on the removal of directors;

limitations on stockholder proposals at meetings of stockholders;

the inability of stockholders to act by written consent or to call special meetings; and

the ability of our board of directors to designate the terms of and issue new series of preferred stock without stockholder approval. As part of the financing we consummated in November 2012, we agreed that we would seek stockholder approval of an amendment to the Company s certificate of incorporation and bylaws to eliminate the classified board of directors.

In addition, Section 203 of the Delaware General Corporation Law imposes restrictions on our ability to engage in business combinations and other specified transactions with significant stockholders. These provisions could have the effect of delaying, deferring or preventing a change in control of us or a change in our management that stockholders may consider favorable or beneficial. These provisions could also discourage proxy contests and make it more difficult for you and other stockholders to elect directors and take other corporate actions. These provisions could also limit the price that investors might be willing to pay in the future for shares of our common stock.

The preferred stock and warrants issued to certain affiliates of Pillar Invest Corporation, our largest stockholder group, in connection with our Series D and Series E financing have rights, preferences and privileges that are not held by, and are preferential to the rights of, our common stockholders. As a result, the interests of Pillar and its affiliates may differ from the interests of our common stockholders.

In connection with our Series D preferred stock and Series E preferred stock financings, we issued to affiliates of Pillar Invest Corporation, or Pillar, 1,124,260 shares of our Series D preferred stock (which shares are convertible into 6,266,175 shares of our common stock), 424,242 shares of our Series E preferred stock (which shares are convertible into 8,484,840 shares of our common stock) and warrants exercisable for 11,295,490 shares of our common stock. As a result, Pillar and its affiliates are our largest stockholder. In addition, two members of our board of directors are affiliates of Pillar. In connection with their ownership of these securities, Pillar and its affiliates obtained various rights, preferences and privileges that are not held by the holders of our common stock and that in certain instances are preferential to the rights of the holders of our common stock. As a result, the interests of Pillar and its affiliates may differ from the interests of the holders of our common stock in material respects. Although there are contractual limitations on the beneficial ownership and voting rights of Pillar, Pillar may still be able to exert substantial influence over our business.

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The securities issued in our Series D and Series E financings have certain rights, preferences and privileges that may adversely affect our common stockholders and that may adversely affect our ability to obtain financing in the future.

The rights, preferences and privileges of the Series D preferred stock and Series E preferred stock that we issued and sold in our November 2011 Series D financing and November 2012 Series E financing, respectively, provide the holders of such securities with significant rights, including preferential rights with respect to dividends, liquidation and, upon certain transactions, redemption, which are not provided to the holders of our common stock. The dividend rights of the Series D preferred stock and Series E preferred stock may adversely affect our liquidity. For example, our obligation to pay quarterly cash dividends to the holders of our preferred stock has reduced and will continue to reduce the funds that would otherwise be available to us for working capital and other general corporate purposes. In addition, under certain circumstances, we are entitled to pay dividends on our Series D preferred stock in shares of common stock. If we were to pay such dividends in common stock, our existing stockholders will experience dilution. In the event of a liquidation, dissolution or winding up of our company, including a sale of our company, the holders of our Series D preferred stock and Series E preferred stock will be entitled to receive an aggregate of up to approximately $15.3 million before any cash distribution may be made or any other assets may be distributed to the holders of our common stock. Further, pursuant to the redemption rights of the Series D preferred stock, upon the occurrence of specified fundamental changes such as mergers, consolidations, business combinations, stock purchases or similar transactions (and in lieu of any liquidation preference the Series D preferred stock may otherwise be entitled to), the holders of shares of our Series D preferred stock may require that we redeem the Series D preferred stock held by them at a cash price equal to the original Series D preferred stock purchase price (approximately $9.1 million in the aggregate) plus all accrued or declared but unpaid dividends thereon.

The rights, preferences and privileges associated with our Series D preferred stock and Series E preferred stock may adversely affect our ability to obtain financing in the future, including potentially limiting the price that investors might be willing to pay in the future for shares of our common stock or our other securities.

Our stock price has been and may in the future be extremely volatile. In addition, because an active trading market for our common stock has not developed, our investors ability to trade our common stock may be limited. As a result, investors may lose all or a significant portion of their investment.

Our stock price has been volatile. During the period from January 1, 2010 to January 31, 2013, the closing sales price of our common stock ranged from a high of $6.94 per share to a low of $0.68 per share. The stock market has also experienced periods of significant price and volume fluctuations and the market prices of biotechnology companies in particular have been highly volatile, often for reasons that have been unrelated to the operating performance of particular companies. The market price for our common stock may be influenced by many factors, including:

- our cash resources;
- timing and results of nonclinical studies and clinical trials of our drug candidates or those of our competitors;
- the regulatory status of our drug candidates;
- failure of any of our drug candidates, if approved, to achieve commercial success;
- the success of competitive products or technologies;
- regulatory developments in the United States and foreign countries;
- our success in entering into collaborative agreements;

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developments or disputes concerning patents or other proprietary rights;

the departure of key personnel;

our ability to maintain the listing of our common stock on the Nasdaq Capital Market or an alternative national securities exchange;

variations in our financial results or those of companies that are perceived to be similar to us;

the terms of any financing consummated by us;

changes in the structure of healthcare payment systems;

market conditions in the pharmaceutical and biotechnology sectors and issuance of new or changed securities analysts reports or recommendations; and

general economic, industry, and market conditions.

In addition, our common stock has historically been traded at low volume levels and may continue to trade at low volume levels. As a result, any large purchase or sale of our common stock could have a significant impact on the price of our common stock and it may be difficult for investors to sell our common stock in the market without depressing the market price for the common stock or at all.

As a result of the foregoing, investors may not be able to resell their shares at or above the price they paid for such shares. Investors in our common stock must be willing to bear the risk of fluctuations in the price of our common stock and the risk that the value of their investment in our stock could decline.

You will experience immediate and substantial dilution in the net tangible book value per share of the common stock you purchase.

You will suffer immediate and dilution in the net tangible book value of the common stock you purchase in this offering. We expect that the public offering price of our common stock and related warrants in this offering will be higher than the net tangible book value per share of our outstanding common stock immediately after this offering. Purchasers of securities in this offering will experience immediate dilution of approximately $ per share in net tangible book value of the common stock.

See Dilution for a more detailed description of the dilution to new investors in the offering.

Our management will have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

Our management will have broad discretion in the application of the net proceeds from this offering and our stockholders will not have the opportunity as part of their investment decision to assess whether the net proceeds are being used appropriately. Because of the number and variability of factors that will determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. The failure by our management to apply these funds effectively could harm our business. Pending their use, we may invest the net proceeds from this offering in short-term, interest-bearing, investment grade securities. These investments may not yield a favorable return to our stockholders. See Use of Proceeds for a more detailed description of our proposed use of proceeds from this offering. We have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

Because we do not intend to pay dividends on our common stock, your returns will be limited to any increase in the value of our stock.

We have never declared or paid any cash dividends on our common stock. We are required to obtain the prior written consent or affirmative vote of the holders of at least 51% of the then outstanding shares of

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our Series E preferred stock in order to declare or pay a cash dividend on our common stock. We currently intend to retain all available funds and any future earnings to support our operations and finance the growth and development of our business and do not anticipate declaring or paying any cash dividends on our common stock for the foreseeable future. Any return to stockholders will therefore be limited to the appreciation of their stock, if any.

There is no public market for the warrants to purchase shares of our common stock being offered by us in this offering.

There is no established public trading market for the warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply to list the warrants on any national securities exchange or other nationally recognized trading system, including the Nasdaq Capital Market. Without an active market, the liquidity of the warrants will be limited.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents we incorporate by reference contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All statements, other than statements of historical fact, included or incorporated in this report regarding our strategy, future operations, collaborations, intellectual property, cash resources, financial position, future revenues, projected costs, prospects, plans, and objectives of management are forward-looking statements. The words believes, anticipates, estimates, plans, expects, intends, may, could, should, potential, likely, projects, cont similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. We cannot guarantee that we actually will achieve the plans, intentions or expectations disclosed in our forward-looking statements and you should not place undue reliance on our forward-looking statements. There are a number of important factors that could cause our actual results to differ materially from those indicated or implied by forward-looking statements. These important factors include those set forth above under the heading Risk Factors. These factors and the other cautionary statements made in this prospectus and the documents we incorporate by reference should be read as being applicable to all related forward-looking statements whenever they appear in this prospectus and the documents we incorporate by reference. In addition, any forward-looking statements represent our estimates only as of the date that this prospectus is filed with the Securities and Exchange Commission, or the SEC, and should not be relied upon as representing our estimates as of any subsequent date. We do not assume any obligation to update any forward-looking statements. We disclaim any intention or obligation to update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.

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USE OF PROCEEDS

We estimate that the net proceeds to us of the sale of the common stock and warrants that we are offering will be approximately $ million, based on an assumed public offering price of $ per share of common stock and related warrant, which price was the last reported sale price of our common stock reported on the Nasdaq Capital Market on , 2013, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us and excluding the proceeds, if any, from the exercise of the warrants issued pursuant to this offering. If the underwriters exercise their over-allotment option in full, we estimate that our net proceeds will be approximately $ million.

We intend to use the net proceeds to us from this offering, together with our existing cash resources, to fund our clinical trials of IMO-8400 and for working capital and other general corporate purposes.

This expected use of net proceeds from this offering represents our intentions based upon our current plans and business conditions. The amounts and timing of our actual expenditures may vary significantly depending on a number of factors, including the status of and results from clinical trials of IMO-8400 and whether regulatory authorities require us to perform additional clinical trials of IMO-3100 and IMO-8400 in order to obtain market approvals.

We believe that our available funds following this offering will be sufficient to enable us to . We expect that these funds will not be sufficient to enable us to conduct any other clinical development of IMO-3100 or IMO-8400 or any other development of our other product candidates or technologies. It is also possible that we will not achieve the progress that we expect with respect to IMO-8400 because the actual costs and timing of clinical development activities are difficult to predict and are subject to substantial risks and delays.

We cannot estimate the amount of net proceeds to be used for the purposes described above. We may find it necessary or advisable to use the net proceeds for other purposes, and we will have broad discretion in the application of the net proceeds.

Pending use of the proceeds as described above, we intend to invest the proceeds in short-term, interest-bearing, investment grade securities.

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DIVIDEND POLICY

We have never declared or paid cash dividends on our common stock, and we do not expect to pay any cash dividends on our common stock in the foreseeable future. We are required to obtain the prior written consent or affirmative vote of the holders of at least 51% of the then outstanding shares of our Series E preferred stock in order to declare or pay a cash dividend on our common stock.

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CAPITALIZATION

The following table sets forth our cash and cash equivalents and capitalization as of December 31, 2012, as follows:

- on an actual basis; and
- on an as adjusted basis to reflect our issuance and sale in this offering of shares of common stock and warrants to purchase shares of our common stock at an assumed public offering price of $ per share, which price was the last reported sale price of our common stock on the Nasdaq Capital Market on , 2013, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us and excluding the proceeds, if any, from the exercise of the warrants issued pursuant to this offering.

You should read this information in conjunction with our financial statements and the related notes appearing at the end of this prospectus and the Management s Discussion and Analysis of Financial Condition and Results of Operations section and other financial information contained in this prospectus.

	As of December 31, 2012	
	Actual	As Adjusted
	(In thousands except per share data)	
Cash and cash equivalents	$ 10,096	$
Series D Redeemable Convertible Preferred stock, $0.01 par value; 1,124 shares designated, issued and outstanding, actual and as adjusted; Redemption amount $9,149; Liquidation preference $9,338	$ 5,921	
Non-redeemable Preferred Stock, Common Stock and Other Stockholders Equity:		
Preferred stock, $0.01 par value, Authorized 5,000 shares		
Series E Convertible Preferred stock, $0.01 par value; 424 shares designated, issued and outstanding, actual and as adjusted; Liquidation preference $5,980	3,701	
Series A Convertible Preferred stock, $0.01 par value; 1,500 shares designated, 1 share issued and outstanding, actual and as adjusted		
Common stock, $0.001 par value; 140,000 shares authorized, 27,643 shares issued and outstanding, actual; shares issued and outstanding, as adjusted	28	
Additional paid-in capital	391,635	
Accumulated deficit	(394,658)	
Total stockholders equity	706	
Total capitalization	$ 6,627	$

The table above excludes the shares of common stock issuable upon the exercise of the warrants being offered by us in this offering and also excludes the following as of December 31, 2012:

- 5,657,256 shares of common stock issuable upon exercise of stock options outstanding as of December 31, 2012, at a weighted-average exercise price of $4.96 per share;
- 2,413,469 shares of common stock reserved as of December 31, 2012 for future issuance under our equity incentive plans;

1,926 shares of common stock reserved as of December 31, 2012 for issuance upon any conversion of our outstanding Series A preferred stock;

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6,266,175 shares of common stock reserved as of December 31, 2012 for issuance upon any conversion of our outstanding Series D preferred stock;

8,484,840 shares of common stock reserved as of December 31, 2012 for issuance upon any conversion of our outstanding Series E preferred stock; and

12,923,892 shares of common stock issuable upon exercise of warrants outstanding as of December 31, 2012, at a weighted average exercise price of $1.24 per share.

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DILUTION

If you invest in our securities in this offering, your ownership interest will be immediately diluted to the extent of the difference between the combined price per share of our common stock and related warrant in this offering and the as adjusted net tangible book value per share of our common stock upon closing of this offering. Net tangible book value per share of our common stock is determined at any date by subtracting our total liabilities from the amount of our total tangible assets (total assets less intangible assets) and dividing the difference by the number of shares of our common stock deemed to be outstanding at that date.

Our historical net tangible book value as of December 31, 2012 was approximately $706,000, or $0.03 per share of our outstanding common stock, based on 27,642,969 shares of common stock outstanding as of December 31, 2012.

Investors participating in this offering will incur immediate and significant dilution. After giving effect to the issuance and sale in this offering of shares of our common stock and warrants to purchase up to shares of our common stock in this offering, at an assumed combined public offering price of $ per share of our common stock and related warrant, which price was the last reported sale price of our common stock on the Nasdaq Capital Market on , 2013, after deducting the estimated underwriting discounts and commissions and estimated offering expenses payable by us and excluding the proceeds, if any, from the exercise of the warrants issued pursuant to this offering, our as adjusted net tangible book value as of December 31, 2012 would have been approximately $ million, or approximately $ per share of our common stock. This amount represents an immediate increase in net tangible book value of $ per share of our common stock to existing stockholders and an immediate dilution in net tangible book value of $ per share of our common stock to new investors purchasing securities in this offering. The following table illustrates this dilution:

Assumed public offering price per share of common stock and related warrant		$
Historical net tangible book value per share of our common stock as December 31, 2012	$ 0.03	
As adjusted increase in net tangible book value per share of our common stock attributable to investors participating in this offering		
As adjusted net tangible book value per share of our common stock after this offering		$
Dilution of as adjusted net tangible book value per share to new investors		$

If the underwriters over-allotment option is exercised in full, the as adjusted net tangible book value per share of our common stock after giving effect to this offering would be $ per share, which amount represents an immediate increase in net tangible book value of $ per share of our common stock to existing stockholders and an immediate dilution in net tangible book value of $ per share of our common stock to new investors purchasing securities in this offering. If any shares of our common stock are issued upon exercise of outstanding options or warrants, you will experience further dilution.

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SELECTED FINANCIAL DATA

You should read the following selected financial data in conjunction with Management s Discussion and Analysis of Financial Condition and Results of Operations and our financial statements and the related notes appearing elsewhere in this prospectus.

The statements of operations and comprehensive (loss) data for the years ended December 31, 2012, 2011 and 2010 and the balance sheet data at December 31, 2012 and 2011, are derived from our audited financial statements appearing elsewhere in this prospectus. The statements of operations and comprehensive income data for the years ended December 31, 2009 and 2008 and the balance sheet data at December 31, 2010, 2009 and 2008, are derived from our audited financial statements that are not included in this prospectus. Our historical results are not necessarily indicative of the results to be expected in any future period.

	Year Ended December 31,				
	2012	2011	2010	2009	2008
	(In thousands, except per share data)				
Statement of Operations and Comprehensive (Loss) Income Data:					
Alliance revenue	$ 51	$ 53	$ 16,110	$ 34,518	$ 26,450
Operating expenses:					
Research and development	13,673	17,969	24,226	18,570	16,152
General and administrative	6,279	7,939	9,867	8,561	9,798
Total operating expenses	19,952	25,908	34,093	27,131	25,950
(Loss) income from operations	(19,901)	(25,855)	(17,983)	7,387	500
Other income (expense):					
Decrease in fair value of warrant liability	675	1,974			
Investment income, net	9	30	116	145	1,344
Interest expense			(2)	(3)	(92)
Foreign currency exchange (loss) gain	(23)	75	(94)	(27)	(267)
(Loss) income before income taxes	(19,240)	(23,776)	(17,963)	7,502	1,485
Income tax benefit				44	24
Net (loss) income	$ (19,240)	$ (23,776)	$ (17,963)	$ 7,546	$ 1,509
Preferred stock accretion and dividends	3,210	4,548			
Net (loss) income applicable to common stockholders	$ (22,450)	$ (28,324)	$ (17,963)	$ 7,546	$ 1,509
Basic net (loss) income per share applicable to common stockholders	$ (0.81)	$ (1.03)	$ (0.71)	$ 0.32	$ 0.07
Diluted net (loss) income per share applicable to common stockholders	$ (0.81)	$ (1.03)	$ (0.71)	$ 0.31	$ 0.06
Shares used in computing basic net (loss) income per common share applicable to common stockholders (1)	27,639	27,623	25,139	23,420	22,655
Shares used in computing diluted net (loss) income per common share applicable to common stockholders (1)	27,639	27,623	25,139	24,079	25,331

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	Year Ended December 31,				
	2012	2011	2010	2009	2008
	(In thousands)				
Net (loss) income	(19,240)	(23,776)	(17,963)	7,546	1,509
Other comprehensive (loss) income:					
Decrease in unrealized gain on available for-sale securities		(13)	32	17	(44)
Other comprehensive (loss) income		(13)	32	17	(44)
Comprehensive (loss) income	$ (19,240)	$ (23,789)	$ (17,931)	$ 7,563	$ 1,465
Balance Sheet Data:					
Cash, cash equivalents and investments	$ 10,096	$ 24,571	$ 34,643	$ 40,207	$ 55,606
Working capital	6,163	18,741	32,100	23,054	32,099
Total assets	10,823	25,595	36,881	47,639	59,400
Capital lease obligations	12		8	28	49
Redeemable preferred stock	5,921	5,921			
Accumulated deficit	(394,658)	(375,418)	(351,642)	(333,679)	(341,225)
Total stockholders equity	706	12,024	33,101	33,105	22,167

(1) Computed on the basis described in Note 11 of notes to financial statements appearing elsewhere in this prospectus.

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MANAGEMENT S DISCUSSION AND ANALYSIS OF

FINANCIAL CONDITION AND RESULTS OF OPERATIONS

You should read the following discussion and analysis of our financial condition and results of operations together with our financial statements and the related notes and other financial information included elsewhere in this prospectus. Some of the information contained in this discussion and analysis or set forth elsewhere in this prospectus, including information with respect to our plans and strategy for our business, includes forward-looking statements that involve risks and uncertainties. You should review the Risk Factors section of this prospectus for a discussion of important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Overview

We are a clinical stage biotechnology company engaged in the discovery and development of novel synthetic DNA- and RNA-based drug candidates that are designed to modulate immune responses mediated through Toll-like Receptors, or TLRs. We are focusing our development efforts on the treatment of autoimmune and inflammatory diseases. We have two drug candidates, IMO- 3100, a TLR7 and TLR9 antagonist, and IMO-8400, a TLR7, TLR8, and TLR9 antagonist, in clinical development for the treatment of autoimmune and inflammatory diseases. We recently announced top-line data from a Phase 2 clinical trial of IMO-3100 in patients with moderate to severe plaque psoriasis. We believe that the results of this trial provide clinical proof of concept for our approach of targeting specific TLRs for the treatment of psoriasis and potentially other autoimmune and inflammatory diseases.

TLRs are specific receptors present in immune system cells. Using a chemistry-based approach, we have created synthetic DNA- and RNA-based compounds that are targeted to TLR3, TLR7, TLR8, and TLR9. A TLR antagonist is a compound that blocks activation of an immune response through the targeted TLR. A TLR agonist is a compound that stimulates an immune response through the targeted TLR.

We believe that the modulation of immune responses through TLRs provides a rationale for the development of drug candidates to treat a broad range of diseases, including autoimmune and inflammatory diseases, cancer and respiratory diseases, and for use as vaccine adjuvants. We are a party to a collaboration alliance with Merck Sharp & Dohme Corp. (formerly Merck & Co., Inc.), or Merck & Co., for the use of agonists of TLR7, TLR8, and TLR9 as adjuvants in the development of vaccines for cancer, infectious diseases, and Alzheimer s disease. We are seeking to enter into additional collaborative alliances with third parties with respect to our TLR-targeted programs in oncology, hematological malignancies, respiratory diseases, and the use of TLR3 agonists as vaccine adjuvants.

At December 31, 2012, we had an accumulated deficit of $394.7 million. We expect to incur substantial operating losses in future periods. We do not expect to generate significant product revenue, sales-based milestones or royalties until we successfully complete development and obtain marketing approval for drug candidates, either alone or in collaborations with third parties, which we expect will take a number of years. In order to commercialize our drug candidates, we need to complete clinical development and to comply with comprehensive regulatory requirements.

We believe our available funds following this offering will be sufficient to enable us to . We expect that these funds will not be sufficient to enable us to conduct any other clinical development of IMO-3100 or IMO-8400 or any other development of our other product candidates or technologies. It is also possible that we will not achieve the progress that we expect with respect to IMO-8400 because the actual costs and timing of clinical development activities are difficult to predict and are subject to substantial risks and delays. Accordingly, we will be required to obtain further funding through public or private equity offerings, debt financings, collaborations and licensing arrangements or other sources.

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Financing may not be available to us in the necessary timeframe, in the amounts that we need, on terms that are acceptable to us or at all. Our failure to raise capital as and when needed would have a negative impact on our financial condition and our ability to pursue our business strategy.

Critical Accounting Policies and Estimates

This management s discussion and analysis of financial condition and results of operations is based on our financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. On an ongoing basis, management evaluates its estimates and judgments, including those related to revenue recognition, stock-based compensation and our Series D redeemable convertible preferred stock and related common stock warrants. Management bases its estimates and judgments on historical experience and on various other factors that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

We regard an accounting estimate or assumption underlying our financial statements as a critical accounting estimate where:

- the nature of the estimate or assumption is material due to the level of subjectivity and judgment necessary to account for highly uncertain matters or the susceptibility of such matters to change; and
- the impact of the estimates and assumptions on financial condition or operating performance is material.

Our significant accounting policies are described in Note 2 of the notes to our financial statements appearing elsewhere in this prospectus. Not all of these significant policies, however, fit the definition of critical accounting policies and estimates. We believe that our accounting policies relating to revenue recognition, stock-based compensation and convertible preferred stock and related common stock warrants fit the description of critical accounting estimates and judgments.

Revenue Recognition

An important part of our business strategy is to enter into research and development collaborations with biotechnology and pharmaceutical corporations that bring expertise and resources to the potential research and development and commercialization of drugs based on our technology. Under our research and development collaborations, we have generally licensed specified portions of our intellectual property and provided research and development services to the collaborator during the period of continued involvement in the early portion of the collaborations. Our collaborators have generally been responsible for drug development activities initiated after the collaboration is effective. Our collaborators are also generally responsible for any commercialization activities that may be initiated if any of the drug candidates receive marketing approval from the appropriate regulatory authority. The terms of our agreements have included non-refundable license fees, research and development funding, payments based upon achievement of clinical and preclinical development milestones and royalties on product sales.

The following revenue recognition policy incorporates Accounting Standard Update, or ASU, No. 2009-13, Multiple-Element Revenue Arrangements and ASU No. 2010-17, Milestone Method of Revenue Recognition both of which we adopted on January 1, 2011. These new accounting standards did not

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affect revenue that we earned through December 31, 2012. We plan to follow No. 2009-13 prospectively for any arrangements entered into or materially modified after the adoption date. We plan to follow ASU No. 2010-17 prospectively for any future milestones.

When evaluating multiple element arrangements, we consider whether the components of the arrangement represent separate units of accounting based on specified criteria such as whether the deliverable has standalone value to the collaborator. Any fixed or determinable payments that we expect to receive under the arrangement are allocated among the separate units of accounting and the appropriate revenue recognition criteria are applied to each of these separate units. Any item that does not qualify as a separate unit of accounting is combined with other appropriate items and the combined deliverable is treated as a separate unit of accounting.

Our allocation of fixed or determinable payments to the separate units of accounting is based on the relative-selling-price method, which is based on the following hierarchy used in determining the selling price for each unit of accounting: (1) vendor specific objective evidence, or VSOE, the price at which the item is regularly sold by the vendor on a standalone basis, is the preferred method; (2) third-party evidence, or TPE, of vendors selling similar goods to similarly situated customers on a standalone basis if VSOE of selling price of a product or service is not available; and (3) best estimate of selling price if neither VSOE nor TPE of selling price of a product or service is available.

Our timing of revenue recognition from upfront license fees received under collaboration agreements depends upon the terms of the agreement.

We recognize revenue from reimbursements earned in connection with research and development collaboration agreements as related research and development costs are incurred, and contractual services are performed, provided collectability is reasonably assured. We include amounts contractually owed to us under these research and development collaboration agreements, including any earned but unbilled receivables, in receivables in our balance sheets. Our principal costs under these agreements are generally for our personnel and related expenses of conducting research and development, as well as for research and development performed by outside contractors or consultants or related research and development materials provided by third parties or for clinical trials we conduct on behalf of a collaborator.

For payments that are contingent upon milestone events or achieving a specific result from the research and development efforts, we recognize these milestone payments as revenue in their entirety upon achieving the related milestone provided the milestone meets the criteria specified below. Milestones typically consist of significant events in the development life cycle of the related technology, such as initiating clinical trials, filing for approval with regulatory agencies, and obtaining approvals from regulatory agencies. We recognize revenue from milestone payments received under collaboration agreements in their entirety upon achieving the related milestone, provided that the milestone event is substantive, its achievability was not reasonably assured at the inception of the agreement, the amount attributed to the milestone is reasonable in relation to our performance and to the amounts attributed to the other deliverables in the arrangement and we have no further performance obligations relating to the milestone event. In the event that the agreement provides for payment to be made subsequent to our standard payment terms, we recognize revenue when payment becomes due.

Amounts received prior to satisfying the above revenue recognition criteria are recorded as deferred revenue in our balance sheets. We classify amounts that we expect to recognize in the next twelve months as short-term deferred revenue. We classify amounts that we do not expect to recognize within the next twelve months as long-term deferred revenue.

Although we follow detailed guidelines in measuring revenue, certain judgments affect the application of our revenue policy. For example, we record deferred revenue, if any, on our balance sheet as short-term

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or long-term deferred revenue based on our best estimate of when such amounts would be recognized. However, these estimates are based on our collaboration agreement and our then current operating plan and, if either should change, we could recognize a different amount of deferred revenue over the subsequent twelve-month period.

Our estimate of deferred revenue also reflects our estimate of the periods of our involvement in our collaborations and the estimated periods over which our performance obligations will be completed. In some instances, the timing of satisfying these obligations can be difficult to estimate. Accordingly, our estimates may change in subsequent periods. Such changes to estimates would result in a change in revenue recognition amounts. If these estimates and judgments change over the course of these agreements, it may affect the timing and amount of revenue that we recognize and record in subsequent periods.

Stock-Based Compensation

We recognize all share-based payments to employees and directors as expense in our statements of operations and comprehensive loss based on their fair values. We record compensation expense over an award s requisite service period, or vesting period, based on the award s fair value at the date of grant. Our policy is to charge the fair value of stock options as an expense, adjusted for forfeitures, on a straight-line basis over the vesting period, which is generally four years for employees and three years for directors. Prior to December 2011, the vesting of all of our stock options was based on the passage of time and the employees continued service. In December 2011 and January 2012, we granted performance based stock options to purchase 697,500 shares of common stock to employees. As of the grant date of such options, options to purchase 174,375 shares were to vest immediately upon the achievement of various performance conditions and options to purchase 523,125 shares were to vest over a three-year service period upon the achievement of the same performance conditions. During 2012 we achieved three of the specified performance conditions. As a result, options to purchase 80,213 shares vested immediately and options to purchase 240,640 shares began vesting over a three-year period in accordance with the terms of the performance-based options. In addition, during 2012, four of the specified performance conditions were not met by their deadlines resulting in the cancellation of 156,797 performance-based options. We recognize expense over the implicit and explicit service periods for awards with performance conditions when we determine the achievement of the performance conditions to be probable.

We use the Black-Scholes option pricing model to estimate the fair value of stock option grants. The Black-Scholes model relies on a number of key assumptions to calculate estimated fair values, including assumptions as to average risk-free interest rate, expected dividend yield, expected life and expected volatility. For the assumed risk-free interest rate, we use the U.S. Treasury security rate with a term equal to the expected life of the option. Our assumed dividend yield of zero is based on the fact that we have never paid cash dividends to common stockholders and have no present intention to pay cash dividends. We use an expected option life based on actual experience. Our assumption for expected volatility is based on the actual stock-price volatility over a period equal to the expected life of the option.

If factors change and we employ different assumptions for estimating stock-based compensation expense in future periods, or if we decide to use a different valuation model, the stock-based compensation expense we recognize in future periods may differ significantly from what we have recorded in the current period and could materially affect our operating income (loss), net income (loss) and earnings (loss) per share. It may also result in a lack of comparability with other companies that use different models, methods and assumptions. The Black-Scholes option pricing model was developed for use in estimating the fair value of traded options that have no vesting restrictions and are fully transferable. These characteristics are not present in our option grants. Although the Black-Scholes option pricing model is widely used, existing valuation models, including the Black-Scholes valuation model, may not provide reliable measures of the fair values of our stock-based compensation.

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We recorded charges of $2.1 million, $2.7 million, and $3.7 million in our statements of operations and comprehensive loss for the years ended December 31, 2012, 2011 and 2010, respectively, for stock compensation expense attributable to share-based payments made to employees and directors. The decrease in stock compensation expense for 2012, as compared to 2011, was primarily due to decreases in the expense associated with employee options granted before 2009 and director options granted before 2010. The decrease in stock compensation expense for 2011, as compared to 2010, was primarily due to decreases in the expense associated with employee options granted before 2008 and director options granted before 2009, as well as 2010 stock compensation expense associated with the modification of stock options during 2010 as a result of our adoption of policies on the treatment of options in connection with director or employee retirement.

Convertible Preferred Stock and Warrants

Series D Redeemable Convertible Preferred Stock and Warrants

On November 4, 2011, we received net proceeds of $9.1 million from the sale and issuance of shares of our Series D redeemable convertible preferred stock, or Series D preferred stock, and related warrants to purchase shares of our common stock, or Series D warrants. We first assessed these financial instruments under Accounting Standards Codification, or ASC, 480, Distinguishing Liabilities from Equity , and determined that neither financial instrument was within the scope of ASC 480. We then assessed these financial instruments under ASC 815, Derivatives and Hedging as follows:

Series D Warrants. We determined that the Series D warrants were a derivative instrument as they contained a price protection feature that causes the Series D warrants to not be considered indexed to the company s own stock and to therefore not be qualified for the exemption requirements in ASC 815-40. We recorded the Series D warrants as a liability at fair value as of the November 4, 2011 transaction date and marked the recorded amount to fair value through earnings each quarter. The fair value of the Series D warrants was $3.2 million on the November 4, 2011 transaction date and $1.2 million at December 31, 2011. The $2.0 million decrease in the fair value between November 4, 2011 and December 31, 2011 was recorded as non-operating income in 2011. The fair value of the Series D warrant liability decreased from $1.2 million at December 31, 2011 to $0.5 million at November 9, 2012, the date on which we sold shares of our Series E convertible preferred stock, or Series E preferred stock, and related warrants to purchase shares of our common stock, or Series E warrants, in a financing transaction, resulting in the recognition of $0.7 million in non-operating income in 2012. The sale of shares of Series E preferred stock and Series E warrants in our November 2012 Series E financing triggered an anti-dilution adjustment under the terms of the Series D warrants, resulting in the exercise price of the Series D warrants being reduced and fixed at the minimum price of $1.46 per share. As a result, the Series D warrants are no longer being subject to any anti-dilution adjustments and now meet the exception under ASC 815-40 as they were now considered indexed to the company s own stock and met certain criteria for equity classification. Accordingly, we marked the Series D warrants to fair value through earnings as of November 9, 2012, and reclassified the remaining $0.5 million balance of the Series D warrant liability to stockholders equity at that time.

Series D Redeemable Convertible Preferred Stock. We determined that the Series D preferred stock contained three embedded features: (1) optional redemption by the company; (2) optional redemption by the holder and (3) optional conversion by the holder. We determined that each of the embedded features met the definition of a derivative. We determined that the Series D preferred stock should be considered an equity host for the purposes of assessing the embedded derivatives for potential bifurcation. We noted the following regarding these embedded features:

Optional Redemption by the Company and Optional Redemption by the Holder. We assessed the redemption features under ASC 815-40 to determine if they were eligible for the exemption from

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derivative accounting. In order to meet the exemption the feature must be indexed to the company s own stock and meet specified criteria for equity classification. We determined that both redemption features met these requirements and were not bifurcated.

Optional Conversion by the Holder. We determined that the optional conversion by holder feature was clearly and closely related to the Series D preferred stock host. As such the conversion feature did not require bifurcation under ASC 815.

We then assessed the Series D preferred stock under ASC 470, Debt, to determine if there was a beneficial conversion feature, or BCF. We determined the value of the BCF by comparing (1) the $6.3 million financing proceeds allocated to the Series D preferred stock, computed by reducing the $9.5 million gross proceeds from the Series D financing by the $3.2 million fair value of the Series D warrants, to (2) the $10.7 million intrinsic value of the common stock that the Series D preferred stock could be converted into on the date of the Series D financing. Based on this comparison, we determined the BCF to be $4.4 million which we recorded in additional paid-in capital.

As the Series D preferred stock contains a contingent put feature that is outside of our control, it is considered redeemable and we have recorded it in temporary equity. The initial carrying value of the Series D preferred stock was $1.5 million, after discounts for the portion of the financing proceeds allocated to the warrant liability, the BCF and the financing transaction costs. Since the Series D preferred stock was immediately convertible, the $4.4 million discount related to the BCF was immediately accreted to preferred dividends in 2011, resulting in an increase in the carrying value of the Series D preferred stock to $5.9 million. The sale of shares of Series E preferred stock and Series E warrants in our November 2012 Series E financing triggered an anti-dilution adjustment under the terms of the Series D preferred stock, resulting in the conversion price of the Series D preferred stock being reduced and fixed at $1.46 per share, and such shares no longer being subject to any anti-dilution adjustments. The anti-dilution adjustment to the conversion price of the Series D preferred stock resulted in an additional $1.2 million discount on the purchase price of the Series D preferred stock and resulted in an additional BCF. The $1.2 million additional BCF was immediately accreted to preferred dividends in November 2012 which resulted in the carrying value of the Series D preferred stock remaining at $5.9 million. The holders of shares of Series D preferred stock then outstanding are entitled to require us to purchase such shares of Series D preferred stock for $9.1 million plus any accrued but unpaid dividends upon the occurrence of a fundamental change of the Company. Since we have determined that a fundamental change of the Company is not currently probable, the remaining discount of $3.2 million is not accreted to preferred stock dividends in our statements of operations and comprehensive loss. Such amount will only be accreted to preferred dividends in our statements of operations and comprehensive loss at the time that the redemption becomes probable, if ever.

If we had determined that the Series D preferred stock was a debt host rather than an equity host, the conversion feature would have been bifurcated and accounted for as a derivative. If the conversion feature had been accounted for as a derivative it would have been marked to fair value each quarter with the change in fair value being recorded in other income (expense) in our statements of operations and comprehensive loss. This would have materially affected our net loss available for common stockholders and loss per share.

Series E Convertible Preferred Stock

On November 9, 2012, we received net proceeds of $6.0 million from the sale and issuance of shares of our Series E preferred stock and Series E warrants to purchase shares of our common stock. We first considered the Series E preferred stock under ASC 480 and determined that it was not mandatorily redeemable. We then identified the following three embedded features within the Series E preferred stock: (1) optional conversion by the holder; (2) optional redemption by the company; and (3) an alternative

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redemption by the company. We determined that the Series E preferred stock was equity like. We was assessed the optional conversion by the holder to be clearly and closely related to the preferred stock and thus not subject to bifurcation under ASC 815. The optional redemption by us and the alternative redemption by us were both indexed to our own stock and met the criteria for equity classification under ASC 815-40 and thus were not required to be bifurcated.

We issued the Series E preferred stock together with Series E warrants to purchase up to 8,484,840 shares of common stock. Since the Series E preferred stock and the Series E warrants were classified in stockholders equity, the gross proceeds from the financing were allocated between the Series E preferred stock and the Series E warrants based on their relative fair values at the time of the November 9, 2012 Series E financing. We computed the fair value of the warrants using the Black Scholes Model and determined it to be $2.9 million. We recorded the $2.3 million prorated value of the warrants as additional paid-in capital.

We then considered the Series E preferred stock under ASC 470-20 to determine if a BCF existed. As of the transaction date, we computed a BCF of $1.3 million using the initial stated conversion rate. Since the conversion feature is immediately exercisable, we accreted the $1.3 million BCF immediately to preferred dividends

New Accounting Pronouncements

We adopted Financial Accounting Standards Board, or FASB, ASU No. 2011-04, Fair Value Measurement (Topic 820) on a prospective basis effective January 1, 2012. ASU No. 2011-04 updates the existing fair value measurement guidance currently included in the ASC to achieve common fair value measurement and disclosure requirements in United States Generally Accepted Accounting Principles, or U.S. GAAP, and International Financial Reporting Standards. ASU No. 2011-04 is generally consistent with the Company s previous fair value measurement policies but includes additional disclosure requirements, particularly for assets and liabilities that require the use of Level 3 inputs to measure fair value. The adoption of ASU No. 2011-04 did not have a material impact on the Company s financial position or results of operations.

Effective January 1, 2012, we adopted ASU No. 2011-05, Comprehensive Income , which requires companies to present the components of net income and other comprehensive income either as one continuous statement or as two consecutive statements. ASU No. 2011-05 is applied retroactively to all periods presented. ASU No. 2011-05 eliminates the option to present components of other comprehensive income as part of the statement of changes in stockholders (deficit) equity. The update does not change the items which must be reported in other comprehensive income, how such items are measured or when they must be reclassified to net income. The adoption of ASU No. 2011-05 did not have a material impact on the Company s financial position or results of operations.

Results of Operations

Years ended December 31, 2012, 2011 and 2010

Alliance Revenue

Our alliance revenues are comprised primarily of revenue earned under various collaboration and licensing agreements which include license fees, research and development revenues, including reimbursement of internal and third-party expenses, milestones and patent-related reimbursements.

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The following table is a summary of our alliance revenue earned under our collaboration and licensing agreements:

	Year Ended December 31,			Annual Percentage Change	
	2012	2011	2010	2012/2011	2012/2011
		(In millions)			
License fees	$	$	$ 12.2		(100)%
Research and development			0.1		(100)%
Milestones			3.8		(100)%
Other	0.1	0.1			
Total alliance revenue	$ 0.1	$ 0.1	$ 16.1		(99)%

License Fees. License fees primarily include license fee revenue recognized during 2010 under our collaborations with Merck & Co. and Merck KGaA, Darmstadt, Germany, or Merck KGaA. License fee revenue during 2010 was comprised of amortization of the upfront license fee payments under these collaborations. We recognized license fee revenue ratably over the expected period of our continuing involvement in the collaborations, which has generally represented the estimated research period of the agreement.

The following table is a summary of license fees recognized under our two collaborations during 2010:

Collaborator	Year Ended December 31, 2010 (In millions)
Merck KGaA	$ 7.3
Merck & Co.	4.8

We received a $40.0 million upfront payment from Merck KGaA in Euros in February 2008 of which we received $39.7 million due to foreign currency exchange rates in effect at the time. We recognized the $40.0 million upfront payment as revenue over the twenty eight-month research term that ended in June 2010. We received a $20.0 million upfront payment from Merck & Co. in December 2006. We recognized the $20.0 million upfront payment as revenue over the two-year initial research term and the two-year extension period that ended in December 2010. Since we completed the research portions of these collaborations during 2010, all of the upfront license fee payments were fully amortized by December 2010. Consequently, the amount of license fee revenue that we recognized under the Merck KGaA and Merck & Co. collaborations decreased in 2010 and we did not recognize any license fee revenue during 2011 and 2012.

Research and Development Revenue. Research and development revenues in 2010 consisted of reimbursement of us by Merck KGaA of costs incurred by us in connection with clinical trials under our collaboration agreement with Merck KGaA. By March 2010, Merck KGaA had assumed sponsorship of these clinical trials of IMO-2055 and we did not conduct any clinical trials of IMO-2055 after 2010. As a result, we did not incur any such costs or receive any such reimbursements in 2011 and 2012 and as such did not recognize any research and development revenue in 2011 and 2012.

Milestone Revenue. In 2011 and 2012, we received no milestone payments. In 2010, we received $3.8 million as a result of the initiation by Merck KGaA of a Phase 1b clinical trial of IMO-2055 in treatment of patients with squamous cell carcinoma of the head and neck, or SCCHN.

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Other Revenue. Other revenue consisted of reimbursement by licensees of costs associated with patent maintenance.

Research and Development Expenses

Research and development expenses decreased by approximately $4.3 million, or 24%, from $18.0 million in 2011 to $13.7 million in 2012 and decreased by approximately $6.2 million, or 26%, from $24.2 million in 2010 to $18.0 million in 2011. In the following table, research and development expense is set forth in six categories which are discussed beneath the table:

	Year Ended December 31,			Annual Percentage Change	
	2012	2011	2010	2012/2011	2011/2010
		(In millions)			
IMO-3100 external development expense	$ 2.5	$ 1.7	$ 5.2	47%	(67)%
IMO-8400 external development expense	0.5				
IMO-2055 external development expense (cost of regaining rights to cancer program in 2011)		2.4		(100)%	
IMO-2125 external development expense	0.2	2.1	7.5	(90)%	(72)%
Other drug development expense	5.1	4.8	3.9	6%	23%
Basic discovery expense	5.4	7.0	7.6	(23)%	(8)%
	$ 13.7	$ 18.0	$ 24.2	(24)%	(26)%

IMO-3100 External Development Expenses. These expenses include external expenses that we have incurred in connection with IMO-3100 since November 2009, when we commenced clinical development of IMO-3100. These external expenses include payments to independent contractors and vendors for drug development activities conducted after the initiation of IMO-3100 clinical development but exclude internal costs such as payroll and overhead expenses. We incurred approximately $9.9 million in external development expenses from November 2009 through December 31, 2012, including costs associated with our clinical trials, manufacturing and process development activities related to the production of IMO-3100, and additional nonclinical toxicology studies.

The increase in IMO-3100 expenses in 2012, as compared to 2011, was primarily attributable to costs incurred in 2012 in connection with the preparation for and conduct of our Phase 2 clinical trial of IMO-3100 in patients with psoriasis that we initiated in April 2012 and for which we completed patient activities in December 2012. The increases in 2012 were partially offset by decreases in costs associated with nonclinical studies, the manufacture of IMO-3100 drug supply, costs incurred in the 2011 periods in preparation for a previously planned Phase 2 clinical trial, and data analysis of the completed Phase 1 clinical trials of IMO-3100.

The decrease in IMO-3100 expenses in 2011 as compared to 2010 was primarily attributable to lower costs in 2011 associated with nonclinical safety studies, lower expenses in 2011 associated with the manufacture of additional IMO-3100 drug supplies, and the completion of all patient activities in 2010 with respect to our Phase 1 clinical trials. These reductions in 2011 expenses for IMO-3100 relative to 2010 expenses were partially offset by 2011 costs associated with the preparation for a planned Phase 2 clinical trial.

We expect IMO-3100 expenses in 2013 to decrease relative to 2012 expenses, due to the completion of patient activities in the Phase 2 trial in 2012.

IMO-8400 External Development Expenses. These expenses include external expenses that we have incurred in connection with IMO-8400 since October 2012, when we commenced clinical development of IMO-8400. These external expenses include payments to independent contractors and vendors for

drug development activities conducted after the initiation of IMO-8400 clinical development but exclude internal costs such as payroll and overhead expenses. Since October 2012, we have incurred approximately $0.5 million in external development expenses through December 31, 2012, including costs associated with our Phase 1 clinical trial in healthy subjects that we initiated in 2012, and additional nonclinical studies. We classified the IMO-8400 external development expenses incurred prior to October 2012 as Other Drug Development Expenses.

In the fourth quarter of 2012, we initiated a Phase 1 clinical trial of IMO-8400 in healthy subjects. The first portion of this Phase 1 trial is a rising single-dose evaluation of IMO-8400 administered by subcutaneous injection. The second portion of this Phase 1 trial involved escalating dosages of IMO-8400 administered once per week for four weeks. The primary objectives of this Phase 1 clinical trial are to evaluate the safety, and pharmacodynamics of IMO-8400. This trial is being conducted at a single U.S. site.

Based on the clinical activity of IMO-3100 observed in our four-week Phase 2 clinical trial of IMO-3100 in patients with psoriasis, we have determined that the next step in our development program is to conduct a Phase 2 clinical trial in patients with psoriasis to, among other things, evaluate the clinical activity of IMO-8400 with a treatment period of up to 12 weeks. Based on our evaluation of the comparative profiles of IMO-3100 and IMO-8400, including the engagement of TLR8 by IMO-8400, we have determined to focus our resources on the development of IMO-8400 and to conduct this trial in patients with psoriasis with IMO-8400. Our plans to conduct this Phase 2 trial with IMO-8400 are subject to successful completion of the ongoing Phase 1 trial of IMO-8400. We plan to conduct this trial at one site in Europe. In March 2013, we submitted to the regulatory authorities in Europe the proposed protocol for this trial. Under the proposed protocol, 32 adult patients with moderate to severe plaque psoriasis would be randomized into one of four cohorts and receive placebo or IMO-8400 at a dose level of 0.075, 0.15, or 0.3 mg/kg/week for 12 weeks. We expect that we could initiate this trial as early as the second quarter of 2013. We also plan to initiate a Phase 2 clinical trial of IMO-8400 in patients with lupus in the second half of 2013. Our plans to conduct these Phase 2 trials with IMO-8400 are subject to successful completion of the ongoing Phase 1 trial of IMO-8400. In addition, we intend to consider conducting a proof-of-concept study of IMO-8400 in an orphan autoimmune disease indication. Our ability to conduct all or any of the two Phase 2 trials and the proof-of-concept study is subject to our ability to raise additional funding, beyond the proceeds of this offering, to fund the conduct of these trials and the study.

IMO-2055 External Development Expenses. These expenses include external expenses that we have incurred in connection with IMO-2055. These external expenses include payments to independent contractors and vendors for drug development activities conducted after the initiation of IMO-2055 clinical development, but exclude internal costs such as payroll and overhead expenses. We commenced clinical development of IMO-2055 in 2003 and from 2003 through December 31, 2012 we incurred approximately $19.9 million in external development expenses, including costs associated with our clinical trials, manufacturing, process development activities related to the production of IMO-2055, additional nonclinical toxicology studies, and the cost of regaining our rights to IMO-2055 and follow-on compounds for use in the treatment of cancer, excluding cancer vaccines, under the termination agreement discussed below.

Under our collaboration with Merck KGaA, Merck KGaA was responsible for developing IMO-2055 for the treatment of cancer excluding vaccines. Merck KGaA refers to IMO-2055 as EMD 1201081. From December 2007 to March 2010, we conducted clinical trials of IMO-2055 under the collaboration and Merck KGaA reimbursed us. As of March 2010, Merck KGaA assumed sponsorship of all ongoing clinical trials of IMO-2055 for the treatment of cancer and responsibility for all further clinical development of IMO-2055 in the treatment of cancer. As a result of Merck KGaA s assumption of sponsorship of the trials, we did not incur significant expenses for IMO-2055 development in 2010 and 2011, except for costs associated with the termination agreement discussed below.

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On November 30, 2011, we entered into an agreement to terminate our collaboration with Merck KGaA and to regain rights for developing TLR9 agonists for the treatment of cancer. In connection with the termination agreement, we agreed to reimburse Merck KGaA for up to 1.8 million ($2.4 million using a December 31, 2012 exchange rate) of Merck KGaA s costs for the third-party contract research organization that was coordinating Merck KGaA s Phase 2 trial of IMO-2055 in combination with cetuximab, payable in eleven installments commencing on March 1, 2012 including a final payment payable upon Merck KGaA s completion of certain specified activities. As of December 31, 2012, we have paid 0.8 of the 1.8 million ($1.1 million (using exchange rates in effect at the time that the payments were made) of the $2.4 million). We also agreed to pay to Merck KGaA one-time 1.0 million ($1.3 million using a December 31, 2012 exchange rate) milestone payments upon the occurrence of each of the following milestones: (i) partnering of IMO-2055 with any third party, (ii) initiation of any Phase 2 or Phase 3 clinical trial for IMO-2055 and (iii) regulatory submission of IMO-2055 in any country. We recorded, in research and development expense during 2011, 1.8 million ($2.4 million using a November 30, 2011 exchange rate) in installment payments which represents the cost of regaining our rights to IMO-2055 and our follow-on compounds for use in the treatment of cancer, excluding cancer vaccines. Under the agreement, Merck KGaA agreed to continue to conduct the Phase 2 trial of IMO-2055 in combination with cetuximab and other specified related activities and to complete and analyze all clinical trials that Merck KGaA had initiated or for which Merck KGaA had assumed sponsorship and to finalize clinical trial reports. As a result, we did not incur significant expenses for IMO-2055 development during 2012. Any milestone payments will be recorded at the time that any milestones are achieved.

We and, during the collaboration period, Merck KGaA, have conducted clinical trials of IMO-2055 alone or in combination with other anticancer agents in several cancer indications, including a Phase 1b trial of IMO-2055 in combination with erlotinib and bevacizumab in patients with advanced non-small cell lung cancer, a Phase 1b clinical trial of IMO-2055 in combination with cetuximab and the chemotherapy regimen FOLFIRI in patients with advanced colorectal cancer, a randomized Phase 2 trial of IMO-2055 in combination with cetuximab in patients with squamous cell carcinoma of the head and neck, and a Phase 2 trial of IMO-2055 monotherapy in patients with renal cell carcinoma.

We are seeking to enter into collaboration with one or more pharmaceutical companies to advance the use of IMO-2055 in the treatment of cancer.

IMO-2125 External Development Expenses. These expenses include external expenses that we have incurred in connection with IMO-2125. These external expenses include payments to independent contractors and vendors for drug development activities conducted after the initiation of IMO-2125 clinical development, but exclude internal costs such as payroll and overhead expenses. We commenced clinical development of IMO-2125 in May 2007 and from May 2007 through December 31, 2012 we incurred approximately $16.6 million in external development expenses, including costs associated with our clinical trials manufacturing, process development activities related to the production of IMO-2125, and additional nonclinical toxicology studies.

The decrease in IMO-2125 external development expenses in 2012, as compared to 2011, reflects our determination to discontinue further development of IMO-2125 in the treatment of hepatitis C virus, or HCV, in the third quarter of 2011. IMO-2125 external development expenses during 2011 included costs associated with the conduct of nonclinical toxicology studies, costs associated with the Phase 1 clinical trial in null-responder HCV patients and the Phase 1 clinical trial in treatment-naive HCV patients, and costs associated with preparation for a Phase 2 clinical trial of IMO-2125 in treatment-naïve HCV patients that we had planned to initiate in the second quarter of 2011. IMO-2125 external development expenses during 2012 were related primarily to costs associated with the completion of nonclinical studies during the first half of 2012, costs associated with data analysis of a Phase 1 clinical trial in null-responder HCV patients, and costs associated with the maintenance of the clinical drug supply.

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The decrease in IMO-2125 expenses in 2011 as compared to 2010 was attributable to decreases in costs associated with the Phase 1 clinical trial in null-responder HCV patients that we initiated in September 2007 and the Phase 1 clinical trial in treatment-naive HCV patients that we initiated in October 2009, manufacturing which occurred in 2010 but not in 2011, the preparation in 2010 for a Phase 2 clinical trial of IMO-2125 in non-responder HCV patients that we had planned to conduct, and a decrease in the cost of conducting additional nonclinical safety studies of IMO-2125. The decrease in 2011 was partially offset by costs incurred in the first half of 2011 associated with preparation for the Phase 2 clinical trial of IMO-2125 in treatment-naïve HCV patients that we had planned to initiate in the second quarter of 2011. We expect that IMO-2125 external development expenses will be significantly lower in future periods.

Other Drug Development Expenses. These expenses include external expenses associated with preclinical development of identified compounds in anticipation of advancing these compounds into clinical development. In addition, these expenses include internal costs, such as payroll and overhead expenses, associated with preclinical development and products in clinical development. The external expenses associated with preclinical compounds include payments to contract vendors for manufacturing and the related stability studies, preclinical studies, including animal toxicology and pharmacology studies, and professional fees. Internal expenses associated with products in clinical development include costs associated with our Autoimmune Disease Scientific Advisory Board.

The increase in other drug development expenses in 2012, as compared to 2011, was primarily due to costs of preclinical studies and manufacturing activities to support the Investigational New Drug application, or IND, for IMO-8400, which we submitted to the FDA in the third quarter of 2012, and was partially offset by the cost of obtaining from Novartis nonclinical and clinical trial data from studies of IMO-2134, a TLR9 agonist, which cost we accrued in 2011, costs associated with nonclinical studies and manufacturing of preclinical research compounds in 2011, and lower employee compensation during 2012.

The increase in other drug development expenses in 2011, as compared to 2010, was primarily due to increases in the cost of nonclinical studies of preclinical compounds, manufacturing expenses and consulting costs. These increases reflect costs associated with preclinical studies to support the planned submission of an IND for IMO-8400 and were partially offset by lower employee expenses in 2011. The increase in other drug development expenses during 2011 also reflects the cost of obtaining from Novartis nonclinical and clinical trial data from studies conducted by our former collaborative partner of IMO-2134.

Basic Discovery Expenses. These expenses include our internal and external expenses relating to our discovery efforts with respect to our TLR-targeted programs, including agonists and antagonists of TLR3, TLR7, TLR8, and TLR9, TLR antisense, and gene silencing oligonucleotides. These expenses reflect payments for laboratory supplies, external research, and professional fees, as well as payroll and overhead expenses. The decrease in basic discovery expenses in 2012, as compared to 2011, was primarily due to decreases in the cost of laboratory supplies and employee compensation reflecting reduced activity and reduced headcount resulting from our September 2011 re-assessment and prioritization of our drug development programs. The decrease in basic discovery expenses in 2011, as compared to 2010, was primarily due to decreases in the cost of laboratory supplies and employee expenses.

We do not know if we will be successful in developing any drug candidate from our research and development programs. At this time, and without knowing the outcome of our ongoing Phase 1 clinical trial of IMO-8400, and without an established plan for future clinical tests of drug candidates, we cannot reasonably estimate or know the nature, timing, and costs of the efforts that will be necessary to complete the remainder of the development of, or the period, if any, in which material net cash inflows

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may commence from, any drug candidate from our research and development programs. Moreover, the clinical development of any drug candidate from our research and development programs is subject to numerous risks and uncertainties associated with the duration and cost of clinical trials, which vary significantly over the life of a project as a result of unanticipated events arising during clinical development.

General and Administrative Expenses

General and administrative expenses decreased by approximately $1.6 million, or 20%, from $7.9 million in 2011 to $6.3 million in 2012 and decreased by approximately $2.0 million, or 20%, from $9.9 million in 2010 to $7.9 million in 2011. General and administrative expenses consist primarily of salary expense, stock compensation expense, consulting fees and professional legal fees associated with our patent applications and maintenance, our corporate regulatory filing requirements, our corporate legal matters, and our business development initiatives.

The $1.6 million decrease in general and administration expenses in 2012, as compared to 2011, was primarily due to lower legal costs associated with patent matters and lower employee compensation due to decreases in stock based compensation and the number of employees during 2012. These decreases were partially offset by higher corporate legal expenses associated with pursuing financing alternatives, including the financing arrangement we entered into with Cowen and Company LLC, or Cowen, in April 2012.

The $2.0 million decrease in general and administrative expenses in 2011, as compared to 2010, was primarily due to decreases in stock based compensation, employee cash compensation expenses and consulting fees associated with business and strategic initiatives in 2011. The decrease in stock compensation expense during 2011 was mainly due to higher recognized expense in 2010 associated with the modification of non-employee director stock options and lower expense recognized in 2011 due to options whose fair value had been fully amortized prior to the end of 2011. These decreases in general and administrative expenses were partially offset by increases in legal costs associated with patent matters in 2011.

Decrease in Fair Value of Warrant Liability

During November 2011 we recorded a warrant liability of $3.2 million reflecting the fair value of the Series D warrants issued in our November 2011 Series D financing. We determined the Series D warrants to be a derivative instrument because they contained a specified anti-dilution provision that did not meet the indexed to the company s own stock exemption requirements in ASC 815-40, Derivatives and Hedging Contracts in an Entity s own Stock, ASC 815-40. The Series D warrants were classified as a liability, recorded at fair value as of the transaction date and were marked to fair value through earnings each quarter. The fair value of the Series D warrants decreased to $1.2 million at December 31, 2011 primarily due to a decrease in the price of our common stock. The reduction in the fair value of the Series D warrant liability resulted in the recognition of $2.0 million in non-operating income in 2011.

The fair value of the Series D warrant liability decreased from $1.2 million at December 31, 2011 to $0.5 million at November 9, 2012 primarily due to decreases in the market price of our common stock and the remaining term of the Series D warrants resulting in the recognition of $0.7 million in non-operating income in 2012. The sale of shares of Series E preferred stock and Series E warrants in our November 2012 Series E financing triggered an anti-dilution adjustment under the terms of the Series D warrants, resulting in the exercise price of the Series D warrants being reduced and fixed at the minimum $1.46 per share and the Series D warrants no longer being subject to any anti-dilution adjustments. Once the exercise price of the Series D warrants became fixed, the Series D warrants then met the exception under ASC 815-40 as they were now indexed to the company s own stock and met certain criteria for equity

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classification, thus we marked the Series D warrants to fair value through earnings as of November 9, 2012, and we then reclassified the remaining $0.5 million Series D warrant liability to stockholders equity at that time.

Investment Income, net

Investment income was a negligible amount in 2012 and 2011 because most of our invested funds have been deposited in a money market fund which pays minimal interest. Investment income decreased from $0.1 million in 2010 to a negligible amount in 2011 due to lower average investment balances and lower interest rates in 2011.

Foreign Currency Exchange Gain (Loss)

Our foreign currency exchange loss was a negligible amount in 2012 compared to a gain of $0.1 million in 2011 and a loss of $(0.1) million in 2010. The foreign currency exchange loss during 2012 was primarily due to the impact that the weakening value of the U.S. dollar had on our Euro-denominated accrued liabilities associated with the cost of re-gaining the rights to our cancer program and our clinical trial obligations. The foreign currency exchange gain during 2011 was primarily due to the impact that the strengthening value of the U.S. dollar had on our Euro-denominated accrued liabilities associated with the cost of re-gaining the rights to our cancer program and our clinical trial obligations. The foreign currency exchange loss during 2010 was primarily due to the impact that fluctuations in U.S. Dollar/Euro currency exchange rates had on the receipt of milestone payments under our Merck KGaA collaboration in the first and third quarters of 2010. In 2009, we earned a milestone for which we had a $4.3 million receivable at December 31, 2009. Merck KGaA paid us for this milestone in February 2010 and we received $4.1 million based on foreign exchange rates in effect at the time of payment as a result of the strengthening value of the U.S. dollar. Consequently, we incurred a foreign currency exchange loss of $0.2 million on the milestone payment during the first quarter of 2010. The foreign currency exchange loss during 2010 also reflects the impact that fluctuations in U.S. Dollar/Euro currency exchange rates have on payments under our clinical trial agreements that are denominated in Euros and on the receipt of the milestone payment in the third quarter of 2010 when we earned a $3.8 million milestone for which we received $4.1 million based on foreign exchange rates in effect at the time of payment as a result of the weakening value of the U.S. dollar, resulting in a foreign currency exchange gain of $0.3 million.

Preferred Stock Accretion and Dividends

The $3.2 million in preferred stock accretion and dividends in 2012 consists of $1.3 million related to the BCF of the Series E preferred stock and $1.2 million related to the additional beneficial conversion feature of the Series D preferred stock that we have accreted to preferred dividends, as described under Critical Accounting Policies and Estimates, $0.7 million in dividends payable on shares of our Series D preferred stock and a negligible amount of dividends payable on shares of our Series E preferred stock.

The $4.5 million in preferred stock accretion and dividends in 2011 consists of $4.4 million related to the BCF of the Series D preferred stock that we have accreted to preferred dividends, as described under Critical Accounting Policies and Estimates, and $0.1 million in dividends payable on shares of our Series D preferred stock.

Net Loss Applicable to Common Stockholders

As a result of the factors discussed above, our net loss applicable to common stockholders was $22.4 million, $28.3 million and $18.0 million for the years ended December 31, 2012, 2011 and 2010, respectively. Since January 1, 2001, we have primarily been involved in the development of our TLR pipeline. From January 1, 2001 through December 31, 2012, we incurred losses of $134.5 million. We

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also incurred net losses of $260.2 million prior to December 31, 2000 during which time we were primarily involved in the development of non-TLR targeted antisense technology. Since our inception, we had an accumulated deficit of $394.7 million through December 31, 2012. We expect to continue to incur substantial operating losses in the future.

Net Operating Loss Carryforwards

As of December 31, 2012, we had cumulative net operating loss carryforwards, or NOLs, of approximately $173.3 million and $67.3 million available to reduce federal and state taxable income, which expire through 2032. In addition, we had cumulative federal and state tax credit carryforwards of $5.0 million and $5.2 million, respectively, available to reduce federal and state income taxes, which expire through 2032 and 2027, respectively. The Tax Reform Act of 1986 contains provisions, which limit the amount of NOLs and credit carryforwards that companies may utilize in any one year in the event of cumulative changes in ownership over a three-year period in excess of 50%. We have completed several financings since the effective date of the Tax Reform Act of 1986, which as of December 31, 2012, have resulted in ownership changes in excess of 50% and that will significantly limit our ability to utilize our NOL and tax credit carryforwards. Ownership changes in future periods may place additional limits on our ability to utilize net operating loss and tax credit carryforwards.

Liquidity and Capital Resources

Sources of Liquidity

We require cash to fund our operating expenses and to make capital expenditures. Historically, we have funded our cash requirements primarily through the following:

- equity and debt financing;
- license fees, research funding and milestone payments under collaborative and license agreements;
- interest income; and
- lease financings.

Series E Preferred Stock and Warrant Financing

In November 2012, we entered into a Convertible Preferred Stock and Warrant Purchase Agreement, or Series E Purchase Agreement, for the issuance and sale of shares of Series E preferred stock and Series E warrants, with Pillar Pharmaceuticals II L.P., or Pillar II, and a second purchaser, which we refer to as the Series E purchasers. Pillar II is an investment partnership managed by two of our directors and one of our significant stockholders. Pursuant to the Series E Purchase Agreement, we issued and sold to the Series E purchasers, for an aggregate purchase price of approximately $7.0 million, 424,242 shares of Series E preferred stock and Series E warrants to purchase up to 8,484,840 shares of common stock. The shares of Series E preferred stock are convertible, subject to limitations, into an aggregate of 8,484,840 shares of common stock at a conversion price of $0.70 per share. The initial exercise price of the warrants is $0.70 per share. The warrants to purchase common stock are exercisable immediately, and will expire if not exercised on or prior to November 9, 2017. We have agreed to pay to the Series E preferred stockholders quarterly dividends payable in cash in arrears at the rate of 4.6% per annum with the first dividend payment being due on March 31, 2013. Under the terms of the Series D preferred stock, any dividends that we pay to the Series E preferred stockholders will also be paid to the Series D preferred stockholders on an as-converted to common stock basis. We have agreed that, at our 2013 annual meeting of stockholders, we will propose an amendment to the Certificate of Designations, Preferences and Rights of Series D preferred stock, or the Series D Certificate of Designations, which is described below, to, among other things, modify the terms of the Series D preferred stock requiring

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payment of dividends to Series D preferred stockholders upon payment of dividends to Series E stockholders. If such amendment is approved by our stockholders, the Series E preferred stockholders would become entitled to receive dividends payable in cash quarterly in arrears at the rate of 8% per annum and the Series D preferred stockholders would cease to be entitled to corresponding dividends. If such amendment is submitted to our stockholders and it is not approved, the holders of the Series E preferred stock will no longer be entitled to receive dividends. The net proceeds to us from the Series E financing, excluding the proceeds of any future exercise of the Series E warrants, were approximately $6.0 million.

Under the terms of the Series E Purchase Agreement, we granted the Series E purchasers participation rights in future financings. In addition, we agreed to use our best efforts to file a preliminary proxy statement for our next annual meeting of stockholders that will, among other things, seek approval from our stockholders of the following matters:

- the issuance and sale by us to the Series E purchasers (together with all prior issuances and sales to Pillar Pharmaceuticals I, L.P. , or Pillar I, an investment partnership managed by one of our directors and significant stockholders) of a number of shares of common stock (including securities convertible into or exercisable for common stock) that is greater than 19.99% of our outstanding common stock or our outstanding voting power after such issuance and sale in accordance with Nasdaq Listing Rule 5635(b), or the Nasdaq Proposal;

- an amendment to our restated certificate of incorporation and bylaws, as necessary, to eliminate the classification of our board of directors; and

- an amendment to the Series D Certificate of Designations for our Series D preferred stock, which is held by Pillar I, to modify the dividend provisions of the Series D Certificate of Designations so that dividends on the Series E preferred stock are not required to be paid to the holders of Series D preferred stock and to conform the beneficial ownership limitations applicable to the conversion of the Series D preferred stock to the beneficial ownership limitations applicable to the conversion of the Series E preferred stock.

Also under the terms of the Series E Purchase Agreement, each Series E purchaser agreed:

- for so long as the Series E purchaser and its affiliates beneficially own more than 19.99% (prior to the date our stockholders approve the Nasdaq Proposal) or 25% (effective upon the date that our stockholders approve the Nasdaq Proposal) of our outstanding common stock, that the Series E purchaser and its affiliates will vote any shares held by them in excess of the number of shares equal to 19.99% or 25%, as applicable, of the outstanding common stock (including the shares of common stock issuable upon conversion or exercise of securities that are convertible into or exercisable for shares of common stock held by such Series E purchaser and its affiliates) with respect to any matter put to a vote of the holders of common stock in the same manner and percentage as the holders of the common stock (other than the Series E purchasers) vote on such matter;

- to certain restrictions on the transfer of any securities issued to such Series E purchaser pursuant to the Series E Purchase Agreement, including to not sell or transfer any such securities in one or a series of transactions if such transfer would, in the aggregate, result in the transfer more than 5% of the then outstanding combined voting power of our outstanding securities (excluding from this restriction certain transfers to permitted transferees or in connection with an underwritten public offering by us that has been approved by the board of directors); and

- to be subject to a standstill provision that continues for so long as such Series E purchaser and its affiliates beneficially own more than 15% of our outstanding common stock.

After the later of November 9, 2014 and the date that no shares of Series D preferred stock remain outstanding, we may redeem all or a portion of the Series E preferred stock for a cash payment equal to

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the $14.00 original Series E preferred stock issue price per share plus any accrued or declared but unpaid dividends thereon following notice to the holders of the Series E preferred stock if the closing price of the Common Stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to 400% of the Series E preferred stock conversion price. We may not redeem any shares of Series E preferred stock from a holder that cannot convert such shares of Series E preferred stock into common stock as a result of the beneficial ownership limitations described above. In such event, we may redeem such nonredeemable shares pursuant to alternative redemption provisions set forth in the Series E Certificate of Designations, following notice to the holders of the nonredeemable shares, for a cash payment equal to the greater of the 20 consecutive trading day average closing price per share of the common stock ending on the trading day immediately prior to redemption date plus any dividends accrued or declared but unpaid thereon and the Series E conversion price plus any dividends accrued or declared but unpaid thereon. After November 9, 2014, we may redeem the Series E warrants for $0.01 per share of common stock issuable on exercise of the Series D warrants following notice to the Series E purchasers if the closing price of the common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to $2.80, subject to adjustment.

In connection with the Series E Purchase Agreement, we filed a registration statement that became effective on January 17, 2013, registering the resale of the shares of common stock issuable upon conversion of the Series E preferred stock and the shares of common stock issuable upon exercise of the Series E warrants.

Cowen Sales Agreement

In April 2012, we entered into a sales agreement with Cowen pursuant to which we may issue and sell shares of our common stock, having an aggregate offering price of up to $10.0 million from time to time through Cowen as our sales agent. Cowen may sell our common stock by methods deemed to be an at-the-market offering, as defined under the Securities Act, including sales made directly on the Nasdaq Capital Market, on any other existing trading market for our common stock or to or through a market maker other than on an exchange. With our prior written approval, Cowen may also sell our common stock by any other method permitted by law, including in privately negotiated transactions.

Cowen has agreed to offer the common stock subject to the terms and conditions of the sales agreement on a daily basis or as otherwise agreed upon by us and Cowen. Under the arrangement, we will designate the maximum amount of our common stock to be sold through Cowen on a daily basis or otherwise determine such maximum amount together with Cowen. Subject to the terms and conditions of the sales agreement, Cowen has agreed to use its commercially reasonable efforts to sell on our behalf all of the shares of common stock requested to be sold by us. We may instruct Cowen not to sell common stock if the sales cannot be effected at or above the price designated by us in any such instruction. We or Cowen may suspend the offering of the common stock being made through Cowen under the sales agreement upon proper notice to the other party. We and Cowen each have the right, by giving written notice as specified in the sales agreement, to terminate the sales agreement in each party s sole discretion at any time.

The sales agreement provides that Cowen will be entitled to aggregate compensation for its services equal to 3.0% of the gross sales price per share of all shares sold through Cowen under the sales agreement. We have no obligation to sell any shares under the sales agreement. We have agreed in the sales agreement to provide indemnification and contribution to Cowen against certain liabilities, including liabilities under the Securities Act. In addition, we have agreed, under certain circumstances, to reimburse a portion of the expenses of Cowen in connection with the offering of common stock up to a maximum of $50,000. The shares will be issued pursuant to our shelf registration statement on Form S 3 (File No. 333-169060).

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We had not sold any shares under the sales agreement as of January 31, 2013.

Series D Preferred Stock and Warrant Financing

In November 2011, we entered into a Convertible Preferred Stock and Warrant Purchase Agreement, or Series D Purchase Agreement, with Pillar I. The Series D Purchase Agreement was amended in November 2012 in connection with the Series E financing. Pursuant to the Series D Purchase Agreement, we issued and sold to Pillar I, for an aggregate purchase price of $9.5 million, 1,124,260 shares of our Series D preferred stock and Series D warrants to purchase up to 2,810,650 shares of our common stock. The shares of Series D preferred stock were initially convertible, subject to limitations, into 5,621,300 shares of our common stock at an initial conversion price of $1.63. The initial exercise price of the warrants was $1.63 per share.

The net proceeds to us from the offering, excluding the proceeds of any future exercise of the Series D warrants, were approximately $9.1 million. No holder of the Series D preferred stock may convert its shares to the extent such conversion would result in the holder and its affiliates beneficially owning more than 19.99% of the common stock outstanding. As a result of the dilutive effect of our November 2012 Series E financing, the 1,124,260 shares of our Series D preferred stock became convertible, subject to limitations, into 6,266,175 shares of our common stock and the exercise price of the Series D warrants became fixed at $1.46 per share.

The Series D Purchase Agreement was amended in connection with the Series E financing to provide:

- for so long as Pillar I and its affiliates beneficially own more than 19.99% (prior to the date the stockholders of the Company approve the Nasdaq Proposal) or 25% (effective upon the date that the stockholders of the Company approve the Nasdaq Proposal) of the outstanding common stock, that Pillar I and its affiliates will vote any shares held by them in excess of the number of shares equal to 19.99% or 25%, as applicable, of the outstanding common stock (including the shares of common stock issuable upon conversion of securities convertible into or exercisable for shares of common stock held by Pillar I and its affiliates) with respect to any matter put to a vote of the holders of common stock in the same manner and percentage as the holders of the common stock (other than the Series E purchasers and their affiliates) vote on such matter; and

- for certain restrictions on the transfer of any securities issued to Pillar I (including securities convertible into or exercisable for common stock) pursuant to the Series D Purchase Agreement, including to not sell or transfer any such securities in one or a series of transactions if such transfer would, in the aggregate, result in the transfer of more than 5% of the then outstanding combined voting power of the outstanding securities of the Company (excluding from this restriction certain transfers to permitted transferees or in connection with an underwritten public offering by the Company that has been approved by our board of directors).

Series D preferred stockholders are entitled to receive dividends payable quarterly in arrears at the rate of 7% per annum. Such dividends shall be paid in cash through December 31, 2014 and thereafter in cash or with shares of common stock, as determined by us in our sole discretion, except that we may not pay any dividends to a holder of Series D preferred stock in shares of common stock to the extent the issuance of such shares would result in the holder of Series D preferred stock and its affiliates beneficially owning more than 19.99% (prior to the date the stockholders of the Company approve the Nasdaq Proposal) or 35% (effective upon the date that the stockholders of the Company approve the Nasdaq Proposal) of the common stock outstanding or the combined voting power of our securities outstanding immediately after giving effect to the issuance of such shares of common stock. We have agreed to pay to the Series E preferred stockholders quarterly dividends payable in cash in arrears at the rate of 4.6% per annum with the first dividend payment being due on March 31, 2013. Under the terms of the Series D preferred stock, any dividends that we pay to the Series E preferred stockholders will also be paid to the

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Series D preferred stockholders on an as-converted to common stock basis. We have agreed that, at our 2013 annual meeting of stockholders, we will propose an amendment to the Series D Certificate of Designations to, among other things, modify the terms of the Series D preferred stock requiring payment of dividends to Series D preferred stockholders upon payment of dividends to Series E stockholders. If such amendment is approved by our stockholders, the Series E preferred stockholders would become entitled to receive dividends payable in cash quarterly in arrears at the rate of 8% per annum and the Series D preferred stockholders would cease to be entitled to corresponding dividends. If such amendment is submitted to our stockholders and it is not approved, the holders of the Series E preferred stock will no longer be entitled to receive dividends.

After November 4, 2013 and following written notice by us, we may redeem, for a cash payment equal to the $8.1375 original Series D preferred stock issue price per share plus any accrued or declared but unpaid dividends thereon, all or a portion of the Series D preferred stock if the closing price of our common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to 200% of the Series D preferred stock conversion price. In addition, the holders of shares of Series D preferred stock then outstanding are entitled to require us to purchase the shares of Series D preferred stock at a price equal to the original Series D preferred stock purchase price per share plus all accrued or declared but unpaid dividends thereon upon the occurrence of specified fundamental changes such as mergers, consolidations, business combinations, stock purchases or similar transactions resulting in a person or group unaffiliated with any holder of Series D preferred stock owning 66.67% or more of the outstanding voting securities of the Company or successor entity.

Under the terms of the Series D Purchase Agreement, Pillar I agreed to be subject to a standstill provision that continues for so long as Pillar I and its affiliates beneficially own more than 15% of our outstanding common stock.

The sale of shares of Series E preferred stock and Series E warrants in our November 2012 Series E financing triggered an anti-dilution adjustment under the terms of the Series D warrants, resulting in the exercise price of the Series D warrants being reduced and fixed at the minimum $1.46 per share and the Series D warrants no longer being subject to any anti-dilution adjustments. The Series D warrants may be exercised at Pillar I s option at any time on or before November 4, 2016. The Series D warrants, as amended in connection with the November 2012 Series E financing, provide that the Series D warrants may not be exercised with respect to any portion of the warrants, to the extent that such exercise would result in Pillar I and its affiliates beneficially owning more than 19.99% of the number of shares of common stock outstanding or the combined voting power of our securities outstanding immediately after giving effect to the issuance of shares of common stock issuable upon exercise of the Series D warrants, unless our stockholders approve the Nasdaq Proposal, in which case, the 19.99% limitation will be increased, with respect to Pillar I, to 35%. After November 4, 2013, we may redeem the Series D warrants for $0.01 per share of common stock issuable on exercise of the Series D warrants following notice to Pillar I if the closing price of the common stock for 20 or more trading days in a period of 30 consecutive trading days is greater than or equal to $6.51, subject to adjustment.

In connection with the Series D Purchase Agreement, we also filed a registration statement that became effective on December 21, 2011, registering the resale of the shares of common stock issuable upon conversion of the Series D preferred stock and the shares of common stock issuable upon exercise of the Series D warrants. In February 2013, we filed a registration statement that became effective on February 8, 2013 covering the resale of additional shares of common stock issuable upon conversion of the Series D preferred stock.

Registered Direct Financing

In August 2010, we raised $15.1 million in gross proceeds from a registered direct offering of our common stock and warrants to institutional investors. In the offering, we sold 4,071,005 shares of

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common stock and warrants to purchase 1,628,402 shares of common stock. The common stock and the warrants were sold in units at a price of $3.71 per unit, with each unit consisting of one share of common stock and warrants to purchase 0.40 shares of common stock. The warrants to purchase common stock have an exercise price of $3.71 per share, are exercisable immediately, and will expire if not exercised on or prior to August 5, 2015. The net proceeds to us from the offering, excluding the proceeds of any future exercise of the warrants, were approximately $14.1 million.

Collaboration Agreements

Under the terms of our collaboration with Merck KGaA, which was terminated in November 2011, we received in February 2008 a $40.0 million upfront license fee in Euros of which we received $39.7 million due to foreign currency exchange rates and approximately $12.1 million in milestone payments. In addition, Merck KGaA reimbursed us $4.5 million for expenses related to the development of IMO-2055. In connection with the termination of the collaboration, we agreed to reimburse Merck KGaA for up to 1.8 million ($2.4 million using a December 31, 2012 exchange rate) of Merck KGaA s costs for the third-party contract research organization that was coordinating Merck KGaA s Phase 2 trial of IMO-2055 in combination with cetuximab, payable in eleven installments commencing on March 1, 2012 including a final payment payable upon Merck KGaA s completion of certain specified activities. As of December 31, 2012, we have paid 0.8 of the 1.8 million ($1.1 million (using exchange rates in effect at the time that the payments were made) of the $2.4 million).). We also agreed to pay to Merck KGaA one-time 1.0 million ($1.3 million using a December 31, 2012 exchange rate) milestone payments upon the occurrence of each of the following milestones: partnering of IMO-2055 with any third party, initiation of any Phase 2 or Phase 3 clinical trial for IMO-2055 and regulatory submission of IMO-2055 in any country.

Under the terms of our collaboration with Merck & Co., Merck & Co. paid us a $20.0 million license fee in December 2006 and purchased 1,818,182 shares of our common stock for a price of $5.50 per share for an aggregate purchase price of $10.0 million. Since entering this agreement, we have also received $1.0 million in milestone payments and $3.4 million in research and development payments.

Cash Flows

As of December 31, 2012, we had approximately $10.1 million in cash and cash equivalents, a net decrease of approximately $14.5 million from December 31, 2011. Net cash used in operating activities totaled $19.9 million during 2012, reflecting our $19.2 million net loss for 2012, as adjusted for non-cash income and expenses, including stock-based compensation, depreciation and the $0.7 million decrease in the warrant liability that was credited to operations through November 9, 2012. It also reflects changes in our prepaid expenses and accounts payable, accrued expenses and other liabilities.

The $5.4 million net cash provided by financing activities during 2012 primarily reflects the $6.0 million in net proceeds from the sale of Series E preferred stock and Series E warrants in November 2012 and the proceeds received from employee stock purchases, offset, in part, by dividends paid on our Series D preferred stock and payments on our capital lease.

As of December 31, 2011, we had approximately $24.6 million in cash, cash equivalents and investments, a net decrease of approximately $10.0 million from December 31, 2010. Net cash used in operating activities totaled $19.2 million during 2011, reflecting our $23.8 million net loss for 2011, as adjusted for non-cash income and expenses, including the decrease in the warrant liability, stock-based compensation, the cost of regaining rights to our cancer program, depreciation expense and amortization. It also reflects changes in our prepaid expenses and accounts payable, accrued expenses and other liabilities.

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The net cash provided by investing activities during 2011 of $17.6 million reflects the maturity of $18.6 million in available-for-sale securities and a $0.1 million decrease in restricted cash offset by the purchase of approximately $1.0 million of securities during 2011.

The $9.1 million net cash provided by financing activities during 2011 primarily reflects the $9.1 million in net proceeds from the sale of Series D preferred stock and Series D warrants in November 2011 and the proceeds received from employee stock purchases, offset, in part, by payments on our capital leases.

As of December 31, 2010, we had approximately $34.6 million in cash and cash equivalents and investments, a net decrease of approximately $5.6 million from December 31, 2009. Net cash used in operating activities totaled $19.6 million during 2010. The $19.6 million reflects our $18.0 million net loss for 2010, as adjusted for non-cash revenue and expenses, including the reduction in deferred revenue associated with the recognition of deferred revenue under our collaboration agreements, stock-based compensation, depreciation and amortization. It also reflects changes in our accounts receivable, prepaid expenses and accounts payable, accrued expenses and other liabilities.

The net cash used in investing activities during 2010 of $3.1 million reflects our purchase of approximately $10.3 million in securities offset by the proceeds of approximately $7.2 million from securities that matured in 2010. The net cash provided by investing activities also reflects a $0.1 million investment in laboratory, office and computer equipment and an increase in available cash of $0.1 million as a result of a reduction in our restricted cash requirements for a security deposit under the terms of the lease for our facility.

The net cash provided by financing activities during 2010 of $14.2 million primarily reflects the $14.1 million in net proceeds from the sale of common stock and warrants in August 2010 and $0.1 million in proceeds received from the exercise of common stock options and employee stock purchases during 2010 offset, in part, by payments under a capital lease.

Funding Requirements

We have incurred operating losses in all fiscal years except 2002, 2008 and 2009, and we had an accumulated deficit of $394.7 million at December 31, 2012.

We have received no revenues from the sale of drugs. As of January 31, 2013, almost all of our revenues have been from collaboration and license agreements. We have devoted substantially all of our efforts to research and development, including clinical trials, and we have not completed development of any drugs. Because of the numerous risks and uncertainties associated with developing drugs, we are unable to predict the extent of any future losses, whether or when any of our products will become commercially available or when we will become profitable, if at all.

We do not expect to generate significant additional funds internally until we successfully complete development and obtain marketing approval for products, either alone or in collaboration with third parties, which we expect will take a number of years. In addition, we have no committed external sources of funds.

We had cash and cash equivalents of approximately $10.1 million at December 31, 2012. We believe that without the proceeds of this offering our existing cash and cash equivalents would only be sufficient to fund our operations at least into the third quarter of 2013 based on our current operating plan, including the completion of our ongoing Phase 1 clinical trial of IMO-8400 in healthy subjects that we initiated in the fourth quarter of 2012, and preparations for the further advancement of our autoimmune and inflammatory disease program. We believe, however, that the net proceeds of this offering, together with our existing cash and cash equivalents, will enable us to fund our operations at least into based on our current operating plan. Specifically, we believe that our available funds

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following this offering will be sufficient to enable us to . We expect that these funds will not be sufficient to enable us to conduct any other clinical development of IMO-3100 or IMO-8400 or any other development of our other product candidates or technologies. It is also possible that we will not achieve the progress that we expect with respect to IMO-8400 because the actual costs and timing of clinical development activities are difficult to predict and are subject to substantial risks and delays.

We expect that we will require substantial additional funds beyond the proceeds of this offering to conduct research and development, including preclinical testing and clinical trials of our drug candidates and to fund our operations. We expect to continue to seek additional funding through collaborations, the sale or license of assets or financings of equity or debt securities. We believe that the key factors that will affect our ability to obtain funding are:

- the results of our clinical and preclinical development programs, including the top-line results of the Phase 2 trial of IMO-3100 and the anticipated results of the Phase 1 clinical trial of IMO-8400, which we initiated in the fourth quarter of 2012;
- developments relating to our existing strategic collaboration with Merck & Co.;
- our ability to maintain the listing of our common stock on the Nasdaq Capital Market or an alternative national securities exchange;
- the cost, timing and outcome of regulatory reviews;
- competitive and potentially competitive products and technologies and investors receptivity to our drug candidates and the technology underlying them in light of competitive products and technologies;
- the receptivity of the capital markets to financings by biotechnology companies generally and companies with drug candidates and technologies such as ours specifically; and
- our ability to enter into new strategic collaborations with biotechnology and pharmaceutical companies and the success of such collaborations.

In addition, increases in expenses or delays in clinical development may adversely impact our cash position and require additional funds or further cost reductions. Financing may not be available to us when we need it or may not be available to us on favorable or acceptable terms. We could be required to seek funds through collaborative alliances or others that may require us to relinquish rights to some of our technologies, drug candidates or drugs that we would otherwise pursue on our own. In addition, if we raise additional funds by issuing equity securities, our then existing stockholders will experience dilution. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends, and are likely to include rights that are senior to the holders of our common stock. Any additional debt financing or equity that we raise may contain terms, such as liquidation and other preferences, or liens or other restrictions on our assets, which are not favorable to us or our stockholders. An equity financing that involves existing stockholders may cause a concentration of ownership. The terms of any financing may adversely affect the holdings or the rights of existing stockholders. If we are unable to obtain adequate funding on a timely basis or at all, we will be required to terminate, modify or delay preclinical or clinical trials of one or more of our drug candidates, significantly curtail or terminate discovery or development programs for new drug candidates, relinquish rights to portions of our technology, drug candidates and/or products, or terminate our operations and pursue a liquidation of the Company through a sale or license of assets or a possible bankruptcy.

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Nasdaq Listing

Our common stock began trading on the Nasdaq Capital Market on February 7, 2013. In order to continue the listing of our common stock on the Nasdaq Capital Market, we are required to satisfy the $2.5 million stockholders equity requirement on or before May 22, 2013 and to otherwise meet the continued listing requirements of the Nasdaq Capital Market.

Prior to February 7, 2013, our common stock was traded on the Nasdaq Global Market where we were required to meet specified financial requirements, including requirements that we maintain a minimum closing bid price of at least $1.00 per share for our common stock and that we maintain a minimum stockholders equity of $10.0 million or a minimum market value of listed securities of $50.0 million. On June 7, 2012, we received a notification letter from the Nasdaq Listing Qualifications staff of the Nasdaq Stock Market advising us that we were not in compliance with the $50.0 million minimum market value of listed securities requirement for continued listing on the Nasdaq Global Market pursuant to Nasdaq Listing Rule 5450(b)(2)(A). Nasdaq also noted in its letter that we did not satisfy the alternative requirement under Nasdaq Listing Rule 5450(b)(1)(A), which requires registrants to maintain a minimum of $10.0 million in stockholders equity. Nasdaq also stated in its letter that, in accordance with Nasdaq Listing Rule 5810(c)(3)(C), we had been provided a compliance period of 180 calendar days, or until December 4, 2012, to regain compliance with the minimum $50.0 million market value continued listing requirement.

On December 5, 2012, we received a letter from the Listing Qualifications Staff of the Nasdaq Stock Market advising us that we had not regained compliance with the minimum $50.0 million market value of listed securities requirement set forth in Nasdaq Listing Rule 5450(b)(2)(A) or the minimum $10.0 million stockholders equity alternative continued listing requirement set forth in Nasdaq Listing Rule 5450(b)(1)(A), and that, unless we requested a hearing before the Panel trading in our common stock would be suspended at the opening of business on December 14, 2012, and our common stock would be delisted from the Nasdaq Global Market. We requested a hearing before the Panel at which we requested continued listing pending our return to compliance. Our hearing request stayed the suspension of trading and delisting of our common stock pending the conclusion of the hearing process. On February 5, 2013, the Panel granted our request to transfer the listing of our common stock from the Nasdaq Global Market to the Nasdaq Capital Market and to continue the listing of our common stock on the Nasdaq Capital Market, provided that we have satisfied the $2.5 million stockholders equity requirement on or before March 31, 2013, and have otherwise met the continued listing requirements of the Nasdaq Capital Market. On March 5, 2013, we received a revised determination from the Panel indicating that the Panel had extended the date by which we are required to satisfy the $2.5 million stockholders equity requirement for continued listing on that market and otherwise meet the continued listing requirements of the Nasdaq Capital Market from March 31, 2013 to May 22, 2013. In addition, by May 22, 2013, we are required to provide the Panel with additional information regarding our projected burn-rate and stockholders equity through May 31, 2014.

In addition, on November 26, 2012, we received a letter from the Listing Qualifications Staff of the Nasdaq Stock Market indicating that, based on the closing bid price of our common stock for the 30 consecutive business days prior to November 26, 2012, we no longer satisfied the requirement that our common stock maintain a minimum bid price of $1.00 per share as required by Nasdaq Listing Rule 5450(a)(1). Nasdaq stated in its letter that in accordance with Nasdaq Listing Rule 5810(c)(3)(A), we had been provided 180 calendar days, or until May 28, 2013, to regain compliance with the minimum bid price requirement. The Nasdaq letter stated that if, at any time before May 28, 2013, the closing bid price of our common stock is at or above $1.00 per share for a minimum of 10 consecutive business days, we will be deemed to have regained compliance with the minimum bid price requirement and the matter will be closed. If we do not regain compliance with the minimum bid price requirement by May 28, 2013, Nasdaq will provide us with a written notification that our common stock is subject to delisting. We may be eligible to receive an

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additional 180 day grace period (for a total of 360 days from November 26, 2012) to regain compliance with the minimum bid price requirement provided that we satisfy the continued listing standard for market value of publicly held shares and all other applicable initial listing standards for the Nasdaq Capital Market, other than the minimum bid price requirement, as of May 28, 2013.

Contractual Obligations

As of December 31, 2012, our contractual commitments were as follows:

		Payments Due by Period			
Contractual Commitment	**Total**	**Less than 1 year**	**1-3 years**	**3-5 years**	**After 5 years**
			(In thousands)		
Operating lease	$ 2,116	$ 1,488			