

MACROGENICS INC
Form 424B5
July 13, 2015
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Filed Pursuant to Rule 424(b)(5)
Registration No. 333-200092

The information in this preliminary prospectus supplement is not complete and may be changed. A registration statement relating to these securities has been declared effective by the Securities and Exchange Commission. This preliminary prospectus supplement and the accompanying prospectus are not an offer to sell these securities, and we are not soliciting offers to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to completion, dated July 13, 2015

PRELIMINARY PROSPECTUS SUPPLEMENT

(To Prospectus dated November 21, 2014)

3,250,000 Shares

Common Stock

\$ Per Share

We are offering 3,250,000 shares of our common stock.

Our common stock trades on the Nasdaq Global Select Market under the symbol MGNX. On July 10, 2015, the last reported sale price of our common stock was \$38.85 per share.

Investing in our common stock involves risks. See Risk Factors beginning on page S-8 of this prospectus supplement, the accompanying prospectus and the other documents that are incorporated by reference herein.

We are an emerging growth company under applicable Securities and Exchange Commission rules and are eligible for reduced public company disclosure requirements. See Prospectus Supplement Summary Implications of Being an

Emerging Growth Company.

	Per Share	Total
Public offering price	\$	\$
Underwriting discounts and commissions ⁽¹⁾	\$	\$
Proceeds, before expenses, to us	\$	\$

(1) We have agreed to reimburse the underwriters for certain expenses incurred in connection with this offering. See Underwriting.

The underwriters also have the right to purchase up to an additional 487,500 shares of common stock from us at the public offering price, less the underwriting discounts and commissions, at their option, within 30 days of the date of this prospectus supplement. If the underwriters exercise their option to purchase additional shares in full, the total underwriting discounts and commissions payable by us will be \$ and the total proceeds, before expenses, to us will be \$.

You should carefully read this prospectus supplement and the accompanying prospectus, together with the documents we incorporated by reference, before you invest in our stock.

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

The shares of common stock will be ready for delivery on or about July , 2015.

MORGAN STANLEY

CITIGROUP

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The date of this prospectus supplement is July , 2015.

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About this Prospectus Supplement

On November 12, 2014, we filed with the Securities and Exchange Commission, or the SEC, a registration statement on Form S-3 (File No. 333-200092) utilizing a shelf registration process relating to the securities described in this prospectus supplement, which registration statement was declared effective by the SEC on November 21, 2014. Under this shelf registration process, we may, from time to time, sell up to an aggregate of \$150,000,000 of certain types of securities, including our common stock, none of which we have sold to date.

This document is in two parts. The first part is this prospectus supplement, which describes the specific terms of this offering of our common stock and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference into the accompanying prospectus. The second part, the accompanying prospectus, provides more general information about our shelf registration. If the information in this prospectus supplement or the documents incorporated by reference herein are inconsistent with the accompanying prospectus, you should rely on this prospectus supplement.

The representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference in this prospectus supplement or the accompanying prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

You should rely only on the information contained or incorporated by reference in this prospectus supplement and the accompanying prospectus and any relevant free writing prospectus. Neither we nor the underwriters have authorized anyone to provide you with information different from that contained in this prospectus supplement and the accompanying prospectus and any relevant free writing prospectus. If you receive any information not authorized by us or the underwriters, you should not rely on it. You should not assume that the information contained or incorporated by reference in this prospectus supplement or the accompanying prospectus or any relevant free writing prospectus is accurate as of any date other than its respective date.

We and the underwriters are offering to sell, and seeking offers to buy, shares of our common stock only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement, the accompanying prospectus or any free writing prospectus and the offering of the common stock in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement, the accompanying prospectus or any free writing prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this prospectus supplement, the accompanying prospectus and any free writing prospectus outside the United States. This prospectus supplement, the accompanying prospectus and any free writing prospectus do not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement, the accompanying prospectus or any free writing prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

It is important for you to read and consider all of the information contained in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference in these documents in making your investment decision. We include cross-references in this prospectus supplement and the accompanying prospectus to captions in these materials where you can find additional related discussions. The table of contents in this prospectus supplement provides the pages on which these captions are located.

In this prospectus, MacroGenics, we, our, ours, and us refer to MacroGenics, Inc., except where the context otherwise requires or as otherwise indicated.

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Forward-Looking Statements

This prospectus supplement, the accompanying prospectus and the documents incorporated by reference in these documents include forward-looking statements as defined in the Private Securities Litigation Reform Act of 1995. All statements that are not descriptions of historical fact are forward-looking statements based on estimates, assumptions and projections that are subject to risks and uncertainties. These statements can generally be identified by use of forward looking terminology such as believes , expects , intends , may , will , plans , should , anticipates, similar terminology.

The forward-looking statements in this prospectus supplement include, among other things, statements about:

our plans to develop and commercialize our clinical product candidates and the progress of our product development efforts;

our intended use of our platforms and our technology expertise;

our ongoing and planned clinical trials, including the timing of initiation of and enrollment in the trials, the timing of availability of data from the trials and the anticipated results of the trials;

our ability to receive research funding, achieve anticipated milestones under our collaborations, and enter into new collaborative agreements;

the timing of and our ability to obtain and maintain regulatory approvals for our product candidates;

our commercialization, marketing and manufacturing capabilities and strategy;

our intellectual property portfolio;

our expectations related to the use of proceeds for this offering; and

our estimates regarding expenses, future revenue, capital requirements and needs for additional financing. We may not actually achieve the plans, intentions or expectations disclosed in our forward-looking statements, and you should not place undue reliance on our forward-looking statements. Actual results or events could differ materially from the plans, intentions and expectations disclosed in the forward-looking statements we make. We have included important factors in the cautionary statements included in this prospectus supplement, particularly in the Risk Factors section, that we believe could cause actual results or events to differ materially from the forward-looking statements that we make. Our forward-looking statements do not reflect the potential impact of any future acquisitions, mergers, dispositions, joint ventures or investments we may make.

You should read this prospectus supplement, the accompanying prospectus and the information incorporated by reference herein and therein completely and with the understanding that our actual future results may be materially different from what we expect. We disclaim any intent or obligation to update any forward-looking statement to reflect events or circumstances after the date of this prospectus supplement except to the extent required by law.

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Prospectus Supplement Summary

This summary highlights information contained elsewhere in this prospectus supplement and the accompanying prospectus or incorporated by reference herein or therein. Because it is a summary, it does not contain all the information you should consider before investing in our common stock. You should carefully read this entire prospectus supplement and the accompanying prospectus, including the Risk Factors section beginning on page S-8 of this prospectus supplement, along with our consolidated financial statements and notes to those consolidated financial statements and the other information incorporated by reference in this prospectus supplement and the accompanying prospectus, before making an investment decision.

Overview

We are a clinical-stage biopharmaceutical company focused on discovering and developing innovative monoclonal antibody-based therapeutics for the treatment of cancer, as well as various autoimmune disorders and infectious diseases. Our continuing mission is to build a fully integrated biopharmaceutical company with a robust and sustainable pipeline of product candidates, proprietary expertise ranging from early-stage product discovery through commercialization in the United States and our own manufacturing capabilities. We currently have research, clinical development and clinical-stage manufacturing capabilities, and we are seeking to expand our manufacturing capabilities to allow us to produce commercial-scale product. We also plan to build additional functional capabilities as our clinical pipeline continues to mature.

We currently have a pipeline of product candidates in clinical and pre-clinical development primarily for the treatment of different types of cancers. These include two product candidates produced using our proprietary Fc Optimization platform, a platform we use to create therapeutic candidates designed to enhance the body's immune system to mediate the destruction of cancer cells through a mechanism called antibody-dependent cellular cytotoxicity, or ADCC. Margetuximab is a Phase 3-ready antibody that we are developing for treatment of certain types of metastatic breast cancers and gastroesophageal cancers and MGA271 is an antibody in Phase 1 development that we believe has the potential for broad impact across a variety of different tumor types through multiple potential mechanisms of action.

We created a number of our other product candidates using our proprietary Dual-Affinity Re-Targeting, or DART, platform. Our DART platform enables the targeting of two antigens by using a single molecule with an antibody-like structure. For example, a DART molecule targeting a specific cancer antigen and CD3, an antigen found on T cells, can be used to recruit T cells in a patient's body to destroy targeted cancer cells. We initiated clinical trials with DART product candidate MGD006 in patients with acute myeloid leukemia that is refractory to other known treatments and MGD007 in patients with colorectal cancer. In late 2014, we entered into a collaboration with Janssen Biotech, Inc., or Janssen, with respect to our third oncology DART product candidate, MGD011. We expect a Phase 1 clinical trial of MGD011 for treatment of various hematological malignancies will initiate in 2015. We specifically designed these three aforementioned DART product candidates with the goal of harnessing the power of the immune system to destroy cancerous cells. In contrast, the flexibility of the DART platform has also allowed us to create MGD010, a DART molecule designed to moderate the hyperactivity of the immune system seen in various autoimmune disorders, and which is being evaluated in an ongoing Phase 1a clinical trial.

Our pipeline is primarily comprised of product candidates that have been generated through our internal research capabilities using our proprietary technology platforms as well as our expertise in antibody engineering, protein characterization and target validation. To realize our vision of a robust and sustainable pipeline, we plan to harness these resources to file an investigational new drug application, or IND, for at least one new molecular entity per year. In 2014 these efforts resulted in IND filings for MGD006, MGD007 and MGD010 with the U.S. Food and Drug Administration, or FDA. In 2015, we have already filed an IND for

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MGD011 with the FDA and intend to file another IND for MGD009, another DART molecule focused on solid tumors, with the FDA before the end of the year.

Our objective for future product candidate development is use of our Fc Optimization and DART platforms as well as other multi-specific and antibody-drug conjugate technologies for development of monotherapy and combinatorial therapeutic programs. These approaches will be primarily immuno-oncology focused, addressing both direct oncology targets as well as immune system checkpoints, although we also do have additional efforts underway with respect to certain autoimmune disorders and infectious diseases.

We currently manufacture clinical trial material for our product candidates using a combination of our own manufacturing facility and a third-party contract manufacturing organization. However, with the current size of our pipeline as well as the expected addition of new clinical product candidates in the future, we believe there are both strategic and operational advantages to expanding our internal manufacturing capacity. These advantages include the ability to manufacture clinical trial material at commercial scale and production quality, the flexibility to make changes in production schedules based on results of our clinical trials, less dependence on the skill and availability of manufacturing slots from third-party contract manufacturing organizations, an increased ability to obtain cost of goods reductions, and the ability to develop proprietary know-how around the manufacture of our proprietary molecules. Accordingly, we intend to use a portion of the proceeds from this offering to expand our manufacturing capabilities in an attempt to secure these benefits.

Upcoming Milestones

Under our current plan, our foremost near-term goals and milestones are the following:

Initiate a Phase 3 trial of margetuximab in HER2+ breast cancer patients (3Q 2015);

Initiate a trial combining MGA271 with pembrolizumab in various tumors (3Q 2015);

Initiate a Phase 1/2 trial of margetuximab in combination with a checkpoint inhibitor in gastroesophageal cancer patients (4Q 2015);

Present data from the Phase 1 dose escalation and initial dose expansion cohorts of MGA271 (4Q 2015);

Expected initiation by Janssen of a Phase 1 trial of MGD011 in hematologic malignancies in 2015;

Submit an IND for MDG009 and initiate a Phase 1 trial in solid tumors in 2015; and

Commence design, build-out and scale-up of our manufacturing facilities.

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Clinical Product Candidate Pipeline

The table below depicts the current status of product candidates for which we retain all or some commercial rights:

Oncology Product Candidates

Margetuximab

Margetuximab is an Fc optimized antibody that targets HER2-expressing tumors, including certain types of breast and gastroesophageal cancers.

Updated results of the Phase 1 trial of margetuximab were reported at the 2015 Annual Meeting of the American Society of Clinical Oncology in June. This multi-center, open-label, multi-dose, single-arm, dose-escalation trial was conducted in 60 patients with HER2-positive (2+ or 3+ by immunohistochemistry, or IHC) neoplasms, including 23 with breast cancer, and was aimed at defining the toxicity profile, maximum tolerated dose, pharmacokinetics, immunogenicity and potential anti-tumor activity. Trial results showed that margetuximab was well-tolerated at all explored doses, including the highest dose tested. Infusion reactions were generally mild overall and were well-controlled with pre-medication. Monotherapy anti-tumor activity was observed across several tumor types, including patients with gastric, colorectal and head and neck cancer as well as patients with breast cancer who had received extensive prior therapy and progressed on prior HER2-directed therapy. Tumor reductions were observed in 13 of 19 evaluable patients with breast cancer, including 4 of 19 patients with confirmed partial responses.

In the third quarter of 2015, we intend to commence SOPHIA, a pivotal Phase 3 trial in approximately 530 patients. This trial is planned to evaluate margetuximab plus chemotherapy against trastuzumab plus chemotherapy in third-line metastatic breast cancer patients with HER2 expression at the 3+ level by IHC or 2+ level by IHC with gene amplification. We also plan to commence an exploratory Phase 1/2 trial combining margetuximab with another therapeutic agent targeting an immune system checkpoint in patients with gastroesophageal cancer, which we expect to initiate in the fourth quarter of 2015.

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MGA271

MGA271 is an Fc optimized antibody that targets B7-H3, a member of the B7 family of molecules involved in immune regulation and that is over-expressed on a wide variety of solid tumor types.

After enrolling the dose escalation and initial dose expansion cohorts of MGA271 in a Phase 1 clinical trial, we began enrolling additional dose expansion cohorts using MGA271 as monotherapy in other tumor types, including in patients with melanoma (who have failed prior therapy with checkpoint inhibitors), renal cell carcinoma, triple-negative breast carcinoma, squamous cell carcinoma of the head and neck and a cohort of patients with lung or bladder carcinoma that have higher levels of B7-H3. In addition, we recently initiated a clinical trial combining MGA271 with ipilimumab and plan to initiate a second trial in the third quarter of 2015 combining MGA271 with pembrolizumab in patients with melanoma, non-small cell lung carcinoma and squamous cell carcinoma of the head and neck. We expect to present data from the Phase 1 dose escalation and initial dose expansion cohorts in the fourth quarter of 2015.

Our collaborator, Les Laboratoires Servier and Institut de Recherches Servier, or collectively, Servier, has an option to obtain exclusive rights to develop and commercialize MGA271 in certain geographic territories. We retain the exclusive rights to develop and commercialize MGA271 in the United States, Canada, Mexico, Japan, South Korea and India even if Servier exercises its option. We anticipate that Servier will make a decision regarding the exercise of its option during the fourth quarter of 2015.

MGD006

MGD006 is a DART molecule that recognizes both CD123 and CD3. In pre-clinical studies, we have demonstrated the ability of MGD006 to recruit, activate, and expand T cell populations to eliminate leukemia cells. We are currently enrolling and dosing patients in the dose escalation portion of a Phase 1 clinical trial of MGD006. A nonclinical research paper on MGD006 was published in *Science Translational Medicine* in May 2015.

MGD007

MGD007 is a DART molecule that recognizes both the glycoprotein A33, or gpA33, and CD3, and has an Fc domain, which allows for extended pharmacokinetic properties and convenient intermittent dosing. We have demonstrated that this molecule is able to mediate T cell killing of gpA33-expressing cancer cells and Cancer Stem-like Cells, or CSLCs, in pre-clinical experiments. We are currently enrolling and dosing patients in the dose escalation portion of a Phase 1 clinical trial of MGD007.

MGD011

MGD011 is a DART molecule that targets both CD19 and CD3 and is being developed for the treatment of B-cell hematological malignancies. Under our collaboration and license agreement with Janssen, we submitted an IND application for MGD011 earlier in 2015. Pursuant to our agreement, Janssen will be leading clinical development of MGD011. We have options to co-promote the product in the United States and Canada and to invest in later-stage development in exchange for a United States and Canada profit-share.

MGD009

MGD009 is a DART molecule that recognizes an undisclosed solid tumor antigen and CD3, and has an Fc domain, which allows for extended pharmacokinetic properties. We have demonstrated that this molecule is able to mediate

T cell killing of cancer cells in pre-clinical experiments. We expect to submit an IND for MGD009 and initiate a Phase 1 clinical trial in 2015. We currently retain worldwide development and commercialization rights to this molecule.

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Autoimmune Product Candidates

MGD010

MGD010 is a DART molecule designed to address limitations of existing B cell-targeted therapies by binding to the CD32B and CD79B proteins to modulate the function of human B cells without B cell depletion. We initiated a Phase 1a clinical trial with MGD010 in normal healthy volunteers earlier this year, which triggered a \$3 million milestone payment to us from Takeda Pharmaceutical Company Limited, or Takeda. Takeda has the option to further develop the program after completion of Phase 1a clinical development, which is expected in 2016. If that option is exercised, we would retain the right to co-promote the product in the United States and to invest in Phase 3 development in exchange for a North America profit share.

Teplizumab

Teplizumab is an anti-CD3 monoclonal antibody in development for the treatment of type 1 diabetes. Teplizumab is currently being evaluated in a Phase 2 clinical trial, called At-Risk, sponsored by the National Institute of Diabetes and Digestive and Kidney Diseases for the prevention or delay of onset of type 1 diabetes in patients determined to be at very high risk for developing the disease. Type 1 diabetes is not currently a core area of strategic focus for us and we are actively seeking a collaborator for further development of teplizumab.

Our Platforms and Technology Expertise

We apply our understanding of disease biology, immune-mediated mechanisms and antibody technologies to design specifically targeted antibody-based product candidates based on our DART and Fc Optimization platforms. Through these platforms and utilization of our CSLC technology, we have designed antibody-based product candidates that have the potential to improve on standard treatments by having: (1) multiple specificities; (2) improved abilities to interact with the body's immune system to fight tumors; (3) capacity to bind more avidly to antigen targets; (4) increased potency; (5) reduced immunogenicity; and/or (6) the ability to target cancer cells that are resistant to standard treatments. Moreover, these technology platforms are complementary and can be combined. Our objective for future product candidate development is use of our Fc Optimization and DART platforms as well as other multi-specific and antibody-drug conjugate technologies for development of monotherapy and combinatorial therapeutic programs. These approaches will be primarily immuno-oncology focused, targeting both direct oncology targets as well as immune system checkpoints, although we also do have additional efforts underway with respect to certain autoimmune disorders and infectious diseases.

Our Collaborations

We pursue a balanced approach between product candidates that we develop ourselves and those that we develop with our collaborators. Under our current strategic collaborations, we have received significant non-dilutive funding to date and continue to have rights to additional funding upon completion of certain research, achievement of key product development milestones, or royalties and other payments upon the commercial sale of products. Each of our collaborations has a unique set of terms and conditions, but in general, they fall into two categories:

MacroGenics-Created Programs. We have a number of collaborations relating to product candidates that we have created from our internal research efforts. These include Janssen for MGD011; Servier for MGA271, MGD006 and MGD007; Takeda for MGD010; and Green Cross Corp., or Green Cross,

for margetuximab. In the case of these product candidates, we have entered into collaborations when we believed that our partner could further enable development of the program or provide additional capabilities and funding to supplement our investment, or both. In all of these cases, we obtained financial terms that we believed were beneficial to us and retained commercial rights for multiple major markets or options to other commercial rights. For example, under the Janssen and Takeda agreements, we have the option to co-promote products in the United States as well as an option to share in profits in the United States (and Canada, as well,

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under the Janssen agreement) if we invest in the late-stage development. Under the Servier agreements, we retain full commercialization and development rights in the United States, Canada, Mexico, Japan, South Korea and India. Under the Green Cross agreement, we retain full commercialization rights worldwide except for South Korea.

Joint Research Programs. We have several programs under which collaborators have sought to utilize some aspect of our protein engineering platforms with new product concepts that are jointly directed, and sometimes employ a collaborator's proprietary technology. We believe these collaborations give us the ability to expand the breadth of our potential products, develop greater scientific expertise, and obtain additional funding for research. We have entered into these types of programs with Pfizer, Inc., Boehringer Ingelheim GmbH and Gilead Sciences, Inc. With these collaborators we have more limited development or commercial rights related to the product candidates that may emerge from such joint research programs.

Company Information

We were incorporated under the laws of the state of Delaware in 2000 under the name MacroGenics, Inc. Our principal executive offices are located at 9640 Medical Center Drive, Rockville, Maryland 20850, and our telephone number is (301) 251-5172. Our website address is www.macrogenics.com. The information contained on, or that can be accessed through, our website is not a part of this prospectus supplement or the accompanying prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

As of June 30, 2015, we had 231 full-time employees, 47 of whom have M.D. or Ph.D. degrees.

Implications of Being an Emerging Growth Company

As a company with less than \$1 billion in revenue during our last fiscal year, we qualify as an emerging growth company as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. For so long as we remain an emerging growth company, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies. These exemptions include:

not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;

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

reduced disclosure obligations regarding executive compensation; and

exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This allows an emerging growth company to delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this exemption from new or revised accounting standards and, therefore, are subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

The market value of our common stock that is held by non-affiliates exceeded \$700 million as of June 30, 2015, which means we will cease to be an emerging growth company as of December 31, 2015.

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The Offering

Common stock offered by us	3,250,000 shares
Option to purchase additional shares	We have granted the underwriters an option to purchase up to 487,500 additional shares of our common stock. This option is exercisable, in whole or in part, for a period of 30 days from the date of this prospectus supplement.
Common stock to be outstanding after this offering	33,373,407 shares (or 33,860,907 shares if the underwriters exercise their option in full)
Use of proceeds	We intend to use the net proceeds of this offering to fund: further expansion of our manufacturing capacity; initial development of the first few of our previously undisclosed immune checkpoint-based product candidates; further investment in the development of our current product pipeline; other research and development programs; in-licensing or acquiring other products or technologies; or for general corporate purposes, including working capital. See Use of Proceeds.
Risk Factors	You should read the Risk Factors section beginning on page S-8 of this prospectus supplement as well as those risk factors that are incorporated by reference in this prospectus supplement and the accompanying prospectus for a discussion of factors to carefully consider before deciding to purchase shares of our common stock.
NASDAQ Global Select Market Symbol	MGNX
The number of shares of our common stock to be outstanding after this offering is based on 30,123,407 shares of common stock outstanding as of June 30, 2015 and excludes:	

3,484,462 shares issuable upon exercise of options outstanding as of June 30, 2015 at a weighted average exercise price of \$12.72 per share, of which 1,804,814 were exercisable at June 30, 2015; and

2,405,435 shares of common stock available for future issuance under our employee and directors stock option plans.

Unless otherwise indicated, all information in this prospectus supplement assumes:

no exercise of the underwriters' option to purchase 487,500 additional shares of our common stock, and

no exercise of outstanding options to purchase shares of common stock.

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Risk Factors

Investing in our common stock involves a high degree of risk. In addition to the other information contained in this prospectus supplement, the accompanying prospectus and in the documents we incorporate by reference herein and therein, you should carefully consider the risks discussed below and under the heading "Risk Factors" in our Annual Report on Form 10-K for the fiscal year ended December 31, 2014, filed with the SEC on March 3, 2015 and amended on June 5, 2015, before making a decision about investing in our securities. The risks and uncertainties discussed below and in our Annual Report on Form 10-K for the fiscal year ended December 31, 2014 are not the only ones facing us. Additional risks and uncertainties not presently known to us, or that we currently see as immaterial, may also harm our business. If any of these risks actually occur, our business, prospects, operating results and financial condition could suffer materially. In such event, the trading price of our common stock could decline and you might lose all or part of your investment.

Risks Related to Our Common Stock and This Offering

Our stock price is likely to be volatile and the market price of our common stock after this offering may drop below the price you pay.

You should consider an investment in our common stock as risky and invest only if you can withstand a significant loss and wide fluctuations in the market value of your investment. You may be unable to sell your shares of common stock at or above the public offering price due to fluctuations in the market price of our common stock arising from changes in our operating performance or prospects. In addition, the stock market has recently experienced significant volatility, particularly with respect to pharmaceutical, biotechnology, and other life sciences company stocks. The volatility of pharmaceutical, biotechnology, and other life sciences company stocks often does not relate to the operating performance of the companies represented by the stock. Some of the factors that may cause the market price of our common stock to fluctuate or decrease below the price paid in this offering include:

results and timing of our clinical trials and clinical trials of our competitors' products;

failure or discontinuation of any of our development programs;

issues in manufacturing our product candidates or future approved products;

issues in designing or constructing our commercial manufacturing facilities;

regulatory developments or enforcement in the United States and foreign countries with respect to our product candidates or our competitors' products;

competition from existing products or new products that may emerge;

developments or disputes concerning patents or other proprietary rights;

introduction of technological innovations or new commercial products by us or our competitors;

announcements by us, our collaborators or our competitors of significant acquisitions, strategic partnerships, joint ventures, collaborations or capital commitments;

changes in estimates or recommendations by securities analysts, if any cover our common stock;

fluctuations in the valuation of companies perceived by investors to be comparable to us;

public concern over our product candidates or any future approved products;

threatened or actual litigation;

future sales of our common stock;

share price and volume fluctuations attributable to inconsistent trading volume levels of our shares;

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additions or departures of key personnel;

changes in the structure of health care payment systems in the United States or overseas;

failure of any of our product candidates, if approved, to achieve commercial success;

economic and other external factors or other disasters or crises;

period-to-period fluctuations in our financial condition and results of operations, including the timing of receipt of any milestone or other payments under commercialization or licensing agreements;

general market conditions and market conditions for biopharmaceutical stocks; and

overall fluctuations in U.S. equity markets.

In addition, in the past, when the market price of a stock has been volatile, holders of that stock have instituted securities class action litigation against the company that issued the stock. If any of our stockholders brought a lawsuit against us, we could incur substantial costs defending the lawsuit and divert the time and attention of our management, which could seriously harm our business.

We intend to use a portion of the offering proceeds to design and build a manufacturing facility that could support future commercial production of our product candidates. We have no experience in large-scale or commercial manufacturing, and there can be no assurance that we will be able to build our manufacturing facility or, if built, we will be able to manufacture commercial products.

We intend to use a portion of the proceeds from this offering to expand our manufacturing capacity to support future commercial production and have identified a potential site near our headquarters for this purpose. Although our employees have experience in the manufacturing of pharmaceutical products from prior employment at other companies, we as a company have no prior experience in large-scale or commercial manufacturing. In addition, government approvals would be required for us to operate a manufacturing facility and can be time-consuming to obtain. As a manufacturer of pharmaceutical products, we also would be required to demonstrate and maintain compliance with current Good Manufacturing Practices, or cGMPs, which include requirements related to production processes, quality control and assurance and recordkeeping. Furthermore, establishing commercial manufacturing operations may require a reallocation of other resources, particularly the time and attention of our senior management. Any failure or delay in the development of our commercial manufacturing capabilities could adversely impact the commercialization of our product candidates.

We are an emerging growth company, and the reduced disclosure requirements applicable to emerging growth companies may make our common stock less attractive to investors.

We are an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act. For so long as we remain an emerging growth company, we are permitted and intend to rely on exemptions from certain disclosure requirements that are applicable to other public companies that are not emerging growth companies.

These exemptions include:

not being required to comply with the auditor attestation requirements in the assessment of our internal control over financial reporting;

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

reduced disclosure obligations regarding executive compensation; and

exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

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We cannot predict whether investors will find our common stock less attractive if we rely on these exemptions. If some investors find our common stock less attractive, as a result, there may be a less active trading market for our common stock and our stock price may be more volatile. In addition, the JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards. This provision allows an emerging growth company to delay the adoption of these accounting standards until they would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this exemption and, therefore, we will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies.

We are obligated to develop and maintain proper and effective internal control over financial reporting. If these internal controls are determined not to be effective, investor confidence in our company may be adversely affected and, as a result, the value of our common stock.

We regularly review and update our internal controls, disclosure controls and procedures, and corporate governance policies. We are required under the Sarbanes-Oxley Act of 2002 to report annually on our internal control over financial reporting, but as an emerging growth company we have been exempt from the requirement to have our independent accountants attest to our internal control over financial reporting. As of December 31, 2015, we will no longer qualify as an emerging growth company. As a result, our independent registered public accounting firm will be required to issue an attestation report on the effectiveness of our internal control over financial reporting. We are in the process of determining whether our existing internal controls over financial reporting systems are compliant with Section 404. This process requires the investment of substantial time and resources, including by members of our senior management, and may divert internal resources and take a significant amount of time and effort to complete. In addition, even if our management concludes that our internal control over financial reporting is effective, our independent registered public accounting firm may conclude that there are material weaknesses or significant deficiencies with respect to our internal controls or the level at which our internal controls are documented, designed, implemented or reviewed.

If it were to be determined that our internal control over financial reporting is not effective, such a shortcoming could result in an adverse reaction in the financial marketplace due to a loss of investor confidence in the reliability of our financial statements, which ultimately could negatively affect the market price of our shares, increase the volatility of our stock price and adversely affect our ability to raise additional funding.

If you purchase our common stock in this offering, you will incur immediate and substantial dilution in the book value of your shares.

Investors purchasing shares of common stock in this offering will pay a price per share that substantially exceeds the book value per share of our tangible assets as of March 31, 2015 after subtracting our liabilities and after adjusting for this offering. As a result, investors purchasing shares of common stock in this offering will incur immediate dilution of approximately \$28.35 per share, based on the difference between the assumed public offering price of \$38.85 per share (the last reported sale price of our common stock on The NASDAQ Global Select Market on July 10, 2015) and the as adjusted net tangible book value per share of our outstanding common stock as of March 31, 2015.

Provisions of our charter, bylaws, and Delaware law may make an acquisition of us or a change in our management more difficult.

Certain provisions of our restated certificate of incorporation and restated bylaws could discourage, delay, or prevent a merger, acquisition, or other change in control that stockholders may consider favorable, including transactions in which you might otherwise receive a premium for your shares. These provisions also could limit the price that

investors might be willing to pay in the future for shares of our common stock, thereby depressing the market price of our common stock. Stockholders who wish to participate in these transactions may not have the opportunity to do so. Furthermore, since our board of directors is responsible for appointing the members of our management team, these provisions could prevent or frustrate attempts by our stockholders to

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replace or remove our management by making it more difficult for stockholders to replace members of our board of directors. These provisions:

allow the authorized number of directors to be changed only by resolution of our board of directors;

establish a classified board of directors, providing that not all members of the board of directors be elected at one time;

authorize our board of directors to issue without stockholder approval blank check preferred stock that, if issued, could operate as a poison pill to dilute the stock ownership of a potential hostile acquirer to prevent an acquisition that is not approved by our board of directors;

require that stockholder actions must be effected at a duly called stockholder meeting and prohibit stockholder action by written consent;

establish advance notice requirements for stockholder nominations to our board of directors or for stockholder proposals that can be acted on at stockholder meetings;

limit who may call stockholder meetings; and

require the approval of the holders of 75% of the outstanding shares of our capital stock entitled to vote in order to amend certain provisions of our restated certificate of incorporation and restated bylaws.

We do not anticipate paying cash dividends, and accordingly, stockholders must rely on stock appreciation for any return on their investment.

We currently intend to retain our future earnings, if any, to fund the development and growth of our businesses. As a result, capital appreciation, if any, of our common stock will be your sole source of gain on your investment for the foreseeable future. Investors seeking cash dividends should not invest in our common stock.

Future issuances of our common stock or rights to purchase common stock pursuant to our equity incentive plans could result in additional dilution of the percentage ownership of our stockholders and could cause our share price to fall.

As of June 30, 2015, we have options to purchase 3,484,462 shares outstanding under our equity compensation plans. We are also authorized to grant equity awards, including stock options, to our employees, directors and consultants, covering up to 2,405,435 shares of our common stock, pursuant to our equity compensation plans. We have filed separate registration statements to register the number of shares available for issuance or subject to outstanding awards under our equity compensation plans.

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Use of Proceeds

We estimate that the net proceeds to us from this offering will be approximately \$118.5 million (or approximately \$136.3 million if the underwriters exercise their option to purchase additional shares in full), after deducting underwriting discounts and commissions and estimated offering expenses payable by us and based on an assumed public offering price of \$38.85 per share (the last reported sale price of our common stock on The NASDAQ Global Select Market on July 10, 2015).

We are undertaking this offering in order to increase our liquidity and raise capital to further develop our pipeline of product candidates. We intend to use the net proceeds of this offering, together with our existing cash and cash equivalents, for general corporate purposes and working capital needs consistent with our business plan which would include, but would not be limited to:

further expansion of our manufacturing capacity, which should enable us to increase our production to achieve commercial scale;

initial development of the first few of our previously undisclosed immune checkpoint-based product candidates;

further investment in the development of our current pipeline as the programs within it continue to mature; and

other research and development programs, in-licensing or acquiring other products or technologies.

We may also use a portion of the net proceeds to acquire or invest in complementary businesses, technologies, drugs, drug candidates or other intellectual property, although we have no present commitments or agreements to do so.

The amount and timing of our actual expenditures will depend upon numerous factors, including the results of our research and development efforts, the timing and success of pre-clinical studies, our ongoing clinical trials or clinical trials we may commence in the future and the timing of regulatory submissions. As a result, our management will have broad discretion over the use of the net proceeds from this offering.

Pending our use of the net proceeds from this offering, we intend to invest the net proceeds in a variety of capital preservation investments, including short-term, interest-bearing, investment-grade securities, certificates of deposit or government securities.

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Material U.S. Federal Tax Consequences

for Non-U.S. Holders

The following is a general discussion of the material U.S. federal income and estate tax consequences of the ownership and disposition of our common stock by a beneficial owner that is a non-U.S. holder. For purposes of this discussion, a non-U.S. holder means a beneficial owner of shares of our common stock that is not, for U.S. federal income tax purposes:

an individual who is a resident of the United States;

a corporation, or other entity treated as a corporation for U.S. federal income tax purposes, created or organized under the laws of the United States or any state or political subdivision thereof;

an estate, the income of which is subject to United States federal income taxation regardless of its source; or

a trust, if a U.S. court is able to exercise primary supervision over the administration of the trust and one or more U.S. persons have the authority to control all substantial decisions of the trust or if the trust has a valid election to be treated as a U.S. person under applicable regulations issued by the U.S. Department of the Treasury, or Treasury Regulations.

This discussion is based on the Internal Revenue Code of 1986, as amended, or the Code, and administrative pronouncements, judicial decisions and final, temporary and proposed Treasury Regulations, changes to any of which subsequent to the date of this prospectus may affect the tax consequences described herein, possibly with a retroactive effect. In addition, the Internal Revenue Service, or the IRS, could challenge one or more of the tax consequences described in this prospectus.

The discussion below is limited to non-U.S. holders that hold our shares of common stock as capital assets (generally, property held for investment) within the meaning of the Code and that acquire those shares in this offering. This discussion does not address all aspects of U.S. federal income and estate taxation, including the Medicare contribution tax, that may be relevant to a particular non-U.S. holder in light of that non-U.S. holder's individual circumstances nor does it address any aspects of U.S. state, local or non-U.S. taxes. This discussion also does not consider any specific facts or circumstances that may apply to a non-U.S. holder and does not address the special tax rules under the Code applicable to particular non-U.S. holders, such as:

financial institutions;

brokers or dealers in securities;

tax-exempt organizations;

pension plans;

owners that hold our common stock as part of a straddle, hedge, conversion transaction, synthetic security or other integrated investment;

insurance companies;

controlled foreign corporations;

passive foreign investment companies; and

certain U.S. expatriates.

If a partnership, or any entity treated as a partnership for U.S. federal income tax purposes, is a holder of our common stock, the tax treatment of a partner in the partnership will generally depend upon the status of the partner and the activities of the partnership. A holder that is a partnership, and the partners in such partnership, should consult their own tax advisers regarding the tax consequences of the acquisition, holding and disposition of our common stock, as applicable.

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Prospective holders are urged to consult their tax advisers with respect to the particular tax consequences to them of acquiring, holding and disposing of our common stock, including the consequences under the laws of any state, local or foreign jurisdiction.

We do not anticipate paying any dividends on our common stock in the foreseeable future. In the event that we do make distributions of cash or other property on our common stock (other than certain pro rata distributions of our common stock or rights to acquire our common stock), those distributions generally will be treated as dividends to the extent paid from our accumulated earnings and profits, as determined under U.S. federal income tax principles. If a distribution exceeds our current and accumulated earnings and profits, the excess will be treated as a tax-free return of the non-U.S. holder's investment, up to such holder's tax basis in the common stock. Any remaining excess will be treated as capital gain, subject to the tax treatment described below under the heading "Gain on Dispositions of Common Stock." Any such distribution would also be subject to the discussion below under the section titled

"Withholding and Information Reporting Requirements - FATCA." Dividends paid to a non-U.S. holder of our common stock generally will be subject to withholding tax at a 30% rate, or a reduced rate specified by an applicable income tax treaty. In order to obtain a reduced rate of withholding under an applicable income tax treaty, a non-U.S. holder must provide an IRS Form W-8BEN, Form W-8BEN-E or, as applicable, Form W-8IMY (or successor forms) certifying its entitlement to benefits under the treaty. Non-U.S. holders are urged to consult their own tax advisors regarding their entitlement to benefits under a relevant income tax treaty.

The withholding tax does not apply to dividends paid to a non-U.S. holder that provides an IRS Form W-8ECI (or successor form), certifying that the dividends are effectively connected with the non-U.S. holder's conduct of a trade or business within the United States, referred to as "effectively connected dividends." Instead, effectively connected dividends will be subject to regular U.S. income tax as if the non-U.S. holder were a U.S. resident, subject to any applicable income tax treaty providing otherwise. A non-U.S. corporation receiving effectively connected dividends may also be subject to an additional "branch profits tax," currently at the rate of 30% (or a lower rate prescribed under an applicable income tax treaty).

A non-U.S. holder that is eligible for a reduced rate of U.S. withholding tax under an income tax treaty may obtain a refund or credit against any excess amounts withheld by timely filing an appropriate claim with the IRS.

Gain on Disposition of Common Stock

A non-U.S. holder generally will not be subject to U.S. federal income tax on gain realized on a sale or other disposition of common stock unless:

the gain is effectively connected with a trade or business of the non-U.S. holder in the United States, and if an applicable tax treaty so provides, the gain is attributable to a permanent establishment or fixed base maintained by the non-U.S. holder in the United States; in these cases, the non-U.S. holder will be taxed on a net income basis at the regular graduated rates and in the manner applicable to U.S. persons, subject to an applicable income tax treaty providing otherwise and if the non-U.S. holder is a corporation, an additional branch profits tax at a rate of 30%, or a lower rate as may be specified by an applicable income tax treaty, may also apply;

the non-U.S. holder is a nonresident alien present in the United States for 183 days or more in the taxable year of the disposition and certain other requirements are met, in which case the non-U.S.

holder will be subject to a 30% tax (or such lower rate as may be specified by an applicable income tax treaty) on the net gain derived from the disposition, which may be offset by U.S.-source capital losses of the non-U.S. holder, if any; or

we are or have been a U.S. real property holding corporation, as defined below, at any time within the five-year period preceding the disposition or during the non-U.S. holder's holding period, whichever period is shorter.

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