BELLICUM PHARMACEUTICALS, INC
Form 424B4
December 18, 2014
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Filed pursuant to Rule 424(b)(4)
Registration Nos. 333-200328 and 333-201031

PROSPECTUS

7,350,000 Shares

Common Stock

Bellicum Pharmaceuticals, Inc. is offering 7,350,000 shares of its common stock. This is our initial public offering and no public market currently exists for our shares. The initial public offering price of our common stock is $19.00 per share.

Our common stock has been approved for listing on The NASDAQ Global Market under the symbol BLCM.

We are an emerging growth company as that term is used in the Jumpstart Our Business Startups Act of 2012 and, as such, have elected to comply with certain reduced public company reporting requirements for this prospectus and future filings.

Investing in our common stock involves risks. See Risk Factors beginning on page 12.

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	TOTAL
Public Offering Price	$ 19.00	$ 139,650,000
Underwriting Discounts and Commissions (1)	$ 1.33	$ 9,775,500
Proceeds to Bellicum Pharmaceuticals, Inc. (before expenses)	$ 17.67	$ 129,874,500

(1) We have agreed to reimburse the underwriters for certain expenses. See Underwriting.

Certain of our existing stockholders and their affiliated entities have indicated an interest in purchasing up to approximately $50.0 million of shares of our common stock in this offering at the public offering price. However, because indications of interest are not binding agreements or commitments to purchase, these entities may determine to purchase more or fewer shares than they have indicated or not to purchase any shares in this offering.

We have granted the underwriters an option for a period of 30 days to purchase up to an additional 1,102,500 shares of common stock. If the underwriters exercise the option in full, the total underwriting discounts and commissions payable by us will be $11,241,825, and the total proceeds to us, before expenses will be $149,355,675.

The underwriters expect to deliver the shares of common stock to purchasers on or about December 23, 2014.

Joint Book-Running Managers

Jefferies **Citigroup** **Piper Jaffray**

Co-Manager

Trout Capital

Prospectus dated December 17, 2014

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Neither we nor any of the underwriters has authorized anyone to provide you with information different from, or in addition to, that contained in this prospectus or any free writing prospectus prepared by or on behalf of us or to which we may have referred you in connection with this offering. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. Neither we nor any of the underwriters is making an offer to sell or seeking offers to buy these securities in any jurisdiction where or to any person to whom the offer or sale is not permitted. The information in this prospectus is accurate only as of the date on the front cover of this prospectus, regardless of the time of delivery of this prospectus or of any sale of shares of our common stock and the information in any free writing prospectus that we may provide you in connection with this offering is accurate only as of the date of that free writing prospectus. Our business, financial condition, results of operations and future growth prospects may have changed since those dates.

Through and including January 11, 2015 (25 days after the date of this prospectus), all dealers that effect transactions in these securities, whether or not participating in this offering, may be required to deliver a prospectus. This delivery is in addition to a dealer s obligation to deliver a prospectus when acting as an underwriter and with respect to their unsold allotments or subscriptions.

This prospectus includes statistical and other industry and market data that we obtained from industry publications and research, surveys and studies conducted by third parties. Industry publications and third-party research, surveys and studies generally indicate that their information has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information.

We have obtained registered trademarks for Bellicum®, CaspaCIDe® and DeCIDE® based on an intent to use in the United States. We are currently prosecuting registrations for the GoCAR-T and GOCART marks. This prospectus contains references to our trademarks and to trademarks belonging to other entities. Solely for convenience, trademarks and trade names referred to in this prospectus, including logos, artwork and other visual displays, may appear without the ® or TM symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks and trade names. We do not intend our use or display of other companies trade names or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

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PROSPECTUS SUMMARY

This summary highlights information contained in other parts of this prospectus. Because it is only a summary, it does not contain all of the information that you should consider before investing in shares of our common stock and it is qualified in its entirety by, and should be read in conjunction with, the more detailed information appearing elsewhere in this prospectus. You should read the entire prospectus carefully, especially Risk Factors beginning on page 12 and our financial statements and the related notes, before deciding to buy shares of our common stock.

Unless the context requires otherwise, references in this prospectus to we, us and our refer to Bellicum Pharmaceuticals, Inc.

Overview

We are a clinical stage biopharmaceutical company focused on discovering and developing novel cellular immunotherapies for various forms of cancer, including both hematological cancers and solid tumors, as well as orphan inherited blood disorders. Cellular immunotherapy has the potential to transform medicine by harnessing immune cells, principally T cells, to attack and eliminate harmful diseased cells in the body. Unlike traditional small molecule and biologic therapies which are predictably metabolized and eliminated from the body, cellular immunotherapies are unpredictable and uncontrollable. We are using our proprietary Chemical Induction of Dimerization, or CID, technology platform to engineer and then control components of the immune system in real time. By incorporating our CID platform, our product candidates may offer better safety and efficacy outcomes than are seen with current cellular immunotherapies.

Our lead clinical product candidate, BPX-501, is an adjunct T-cell therapy administered after allogeneic hematopoietic stem cell transplantation, or HSCT, and is currently being evaluated in multiple Phase 1/2 clinical trials. Our next clinical product candidate, BPX-201, is a dendritic cell cancer vaccine in a Phase 1 clinical trial for the treatment of metastatic castrate-resistant prostate cancer, or mCRPC, targeting the prostate-specific membrane antigen, or PSMA. Dendritic cells are specialized cells that are key regulators of the immune system that process and present antigens on the cell surface to T cells in order to activate the T cells. We are also focused on developing next-generation chimeric antigen receptor, or CAR, T-cell therapies and T-cell receptor, or TCR, therapies and are planning to advance several product candidates into human clinical trials, including: (1) BPX-401, a CAR-T product candidate for hematological cancers that express the CD19 antigen, (2) BPX-601, a CAR-T product candidate for solid tumors overexpressing the prostate stem cell antigen, or PSCA, and (3) BPX-701, a TCR product candidate for solid tumors expressing the preferentially-expressed antigen in melanoma, or PRAME.

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Our product candidate pipeline is set forth below:

Our Proprietary CID Technology Platform

We are developing next-generation product candidates in some of the most important areas of cellular immunotherapy, including HSCT, CAR T cell therapy, and dendritic cell vaccines. HSCT, also known as bone marrow transplantation, has for decades been curative for many patients with hematological cancers or orphan inherited blood disorders. However, application of HSCT is limited by graft-versus-host-disease, or GvHD, a condition in which the transplanted immune cells recognize the host cells as foreign and attack them. Since the transplanted cells can persist indefinitely, GvHD does not resolve by itself and is a major cause of transplant-related morbidity and mortality. CAR T cell therapy is an innovative approach in which a patient s T cells are genetically modified to carry CARs, which redirect the T cells against cancer cells. While high objective response rates have been reported in some hematological malignancies, serious and sometimes fatal toxicities have arisen in patients treated with CAR T cell therapies. These toxicities include instances in which the CAR T cells have caused high levels of cytokines due to over-activation, referred to as cytokine release syndrome , frequent transient neurologic toxicities and cases in which they have attacked healthy organs instead of the targeted tumor, leading to death. In solid tumors, where the behavior of CAR T cells is particularly unpredictable and results have been inconsistent, researchers are developing enhanced CAR T cell approaches called armored CARs that raise even greater safety concerns. Lastly, despite the integral role that dendritic cells play in the immune system, they are difficult to activate appropriately and as a result their use has delivered only modest therapeutic benefit.

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Our proprietary CID technology is designed to address these challenges. Events inside a cell are controlled by cascades of specialized signaling proteins. CID consists of molecular switches, modified forms of these signaling proteins, which are triggered inside the patient by infusion of a small molecule, rimiducid (AP1903), instead of by natural upstream signals. We include these molecular switches in the appropriate immune cells and deliver the cells to the patient in the manner of conventional cellular immunotherapy. We have developed two such switches: a safety switch designed to initiate programmed cell death, or apoptosis, of the immunotherapy cells, and an activation switch designed to stimulate activation and in some cases proliferation of the immunotherapy cells. Each of our technologies incorporates one of these switches, for enhanced, real-time control of safety and efficacy:

- ***CaspaCIDe*** is our safety switch, incorporated into our HSCT and TCR product candidates, where it is inactive unless the patient experiences a serious side effect. In that event, rimiducid is administered to fully or partially eliminate the cells, with the goal of terminating or attenuating the therapy and resolving the serious side effect.

- ***CIDeCAR*** consists of CAR T cells modified to include our CaspaCIDe safety switch and in which the CAR incorporates the signaling domains of two proteins, MyD88 and CD40. Together, these form our proprietary dual co-stimulatory domain, MC, which is designed to activate T cells in the presence of cancer cells more potently than co-stimulatory molecules CD28 and 4-1BB, which are used in current CAR T cell therapy. Incorporation of CaspaCIDe in a CIDeCAR product candidate is intended to allow the enhanced potency of MC co-stimulation to be deployed safely in patients.

- ***GoCAR-T*** consists of CAR T cells that are modified to include the proprietary dual co-stimulatory domain, MC. In contrast to CIDeCAR, MC is structured in GoCAR-T as a molecular switch, separate from the chimeric antigen receptor, which itself contains no co-stimulatory domains. GoCAR-T is designed to allow control of the activation and proliferation of the CAR T cells through the scheduled administration of a course of rimiducid infusions that may continue until the desired patient outcome is achieved. In the event of emergence of side effects, the level of activation of the GoCAR-T cells is designed to be attenuated by reducing the rimiducid administration schedule.

- ***DeCIDe*** consists of dendritic cells that are modified to include the same MC switch used in GoCAR-T. Upon exposure to rimiducid, dendritic cells containing DeCIDe become highly activated in a process that is less susceptible to being turned off by the immune system s natural inhibitory processes. By administering rimiducid after the patient has been vaccinated and the dendritic cells have had time to migrate to the draining lymph nodes, our DeCIDe product candidates are designed to be activated in a potent and long-lasting manner.

By incorporating our novel switch technologies, we are developing product candidates with the potential to elicit positive clinical outcomes and ultimately change the treatment paradigm in various areas of cellular immunotherapy. Our clinical product candidates, each of which is a combination product of genetically modified immune cells and rimiducid, are described below.

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BPX-501. We are developing a CaspaCIDe product candidate, BPX-501, as an adjunct T-cell therapy administered after allogeneic HSCT, using donor stem cells. In a typical allogeneic HSCT procedure, a patient receives a full complement of immune cells including both donor stem cells and donor T cells. T cells in the transplant often cause serious and potentially fatal side effects, such as GvHD. BPX-501 is designed to decrease the risk of including T cells with the transplant by enabling the elimination of donor T cells through the triggering of the CaspaCIDe safety switch upon emergence of GvHD. In a 10-patient Phase 1 clinical trial with CaspaCIDe modified T cells, conducted by an academic collaborator, four patients developed GvHD after donor T-cell infusion. A single dose of rimiducid rapidly eliminated over 90% of the modified T cells and resolved GvHD in all four patients without recurrence of GvHD. These findings have been replicated in preliminary data from three patients in a second clinical trial of CaspaCIDe-modified T cells. BPX-501 is currently being evaluated in multiple Phase 1/2 clinical trials in the United States and Europe, with the first top-line data expected in the second half of 2015.

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- ***BPX-201.*** We are developing a DeCIDe product candidate, BPX-201, as a dendritic cell cancer vaccine made from the patient s own white blood cells, designed to treat mCRPC. It targets the prostate specific membrane antigen, or PSMA, and uses our DeCIDe activation switch technology. BPX-201 is currently being evaluated in an 18-patient Phase 1 clinical trial for mCRPC. We are evaluating opportunities for BPX-201 in combination with other cancer immunotherapies, such as checkpoint inhibitors, which are antibodies designed to block certain inhibitory receptors on the surface of T cells, and thus potentiate the T cells ability to promote an immune response against cancer. We believe that the increased numbers of PSMA-specific T cells migrating to deposits of prostate cancer in the body that BPX-201 is designed to generate may serve as a substrate for checkpoint inhibitors, resulting in a synergistic, more potent anti-cancer immune response.

In addition, our preclinical product candidates are designed to overcome the current limitations of CAR-T and TCR therapies and include the following:

- ***BPX-401.*** We are developing a CIDeCAR product candidate, BPX-401, as a next-generation CAR T cell therapy for hematological cancers that express the CD19 antigen. CD19 is an antigen expressed in many hematological cancers, including acute lymphocytic leukemia, or ALL, chronic lymphocytic leukemia, or CLL, and certain non-Hodgkin s lymphomas. We believe that, while the activity of CAR T cell therapy has been demonstrated in early-stage clinical trials by third party researchers in these indications, safety issues, such as cytokine release syndrome, a systemic inflammatory response that is produced by elevated levels of cytokines that are associated with T-cell activation and proliferation, remain a major concern, which may be addressed by BPX-401.

- ***BPX-601.*** We are developing a GoCAR-T product candidate, BPX-601, for solid tumors overexpressing PSCA, such as some prostate, pancreatic, bladder, esophageal and gastric cancers. We have obtained positive proof-of-principle data in an animal pancreatic tumor model, which we believe validate BPX-601 s activity and rimiducid s ability to modulate therapeutic effect.

- ***BPX-701.*** We are developing a CaspaCIDe TCR product candidate, BPX-701, in collaboration with Leiden University Medical Center, initially for the treatment of PRAME-expressing melanoma, sarcomas and neuroblastoma. Based on *in vitro* studies, BPX-701 has demonstrated strong affinity to panels of cancer cells presenting PRAME peptides and low affinity to non-tumor cells. In other *in vitro* studies, rimiducid administration has shown the ability to eliminate BPX-701 cells.

We expect to file investigational new drug applications, or INDs, for BPX-701 in the second half of 2015 and for BPX-401 and BPX-601 in 2016. Our IND-enabling activities for each of these preclinical product candidates include manufacturing key components and developing a robust process to produce cell products that comply with regulations of the U.S. Food and Drug Administration, or FDA, and other regulatory agencies. We have developed an efficient and scalable process to manufacture genetically modified T cells of high quality and purity. This process is being implemented by our third-party contract manufacturers to produce BPX-501 for our clinical trials. We expect to leverage our resources, capabilities and expertise for the manufacture of our CAR-T and TCR product candidates.

Strategy

Our goal is to become a leading innovator in the field of cellular immunotherapy by maximizing the inherent potential of this therapeutic modality and developing medicines with a differentiated combination of safety and efficacy. The key elements of our strategy to achieve this goal are as follows:

- ***Pursue a broad development strategy that will maximize the market potential of BPX-501.*** We believe that BPX-501 will enable physicians to maximize the benefits of adjunct T-cell therapy for allogeneic HSCT, such as immune system recovery, prevention or treatment of relapse of underlying disease and improvement in stem cell engraftment, while mitigating safety issues associated with the therapy. Based on these attributes, BPX-501 may serve an integral role in the treatment paradigm for allogeneic HSCT in various diseases and increase the overall patient eligibility for the procedure. In

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order to make BPX-501 accessible to a broad group of patients and maximize the market potential of this product candidate, we are conducting multiple Phase 1/2 clinical trials that include U.S. and European protocols, adult and pediatric patients and different indications and usage of BPX-501. We expect to report data from these clinical trials and discuss registration trial design at an end-of-Phase 2 meeting with the FDA and European regulatory authorities in the first half of 2016.

- ***Focus on developing proprietary CAR-T and TCR product candidates with an improved safety and efficacy profile.*** We intend to build a robust clinical pipeline of our own novel CAR-T and TCR product candidates, which incorporate our proprietary switch technologies, CIDeCAR, GoCAR-T and CaspaCIDe, and focus on indications in which current CAR-T and TCR therapies have significant shortcomings. To this end, we are developing BPX-401 for hematological cancers expressing the CD19 antigen, BPX-601 for solid tumors overexpressing PSCA and BPX-701 for solid tumors expressing PRAME. We believe that these product candidates may address serious safety concerns associated with conventional CAR-T and TCR therapies and achieve higher overall potency and efficacy, thereby widening the therapeutic window compared to other CAR-T and TCR product candidates. We intend to dedicate significant resources in the near term to advance BPX-401, BPX-601 and BPX-701 as well as our other product candidates toward human proof-of-concept data.

- ***Selectively pursue partnerships and collaborations.*** Although our priority is to develop internal product candidates, we may pursue opportunistic partnerships and collaborations for our technologies, including CaspaCIDe and DeCIDe. In indications outside of our interest or expertise, we may structure transactions in which our molecular switches are incorporated into our partners CAR-T or TCR product candidates. We intend to build on our existing strong relationships with premier cancer research centers around the world to identify new opportunities and position our company at the forefront of innovations in the field of cellular immunotherapy.

- ***Continue to innovate around our proprietary CID platform.*** We believe that our CID platform can be further leveraged to discover other novel technologies and therapeutic applications to capitalize on additional market opportunities. We intend to evaluate BPX-201 and other product candidates based on our DeCIDe technology in combination with other cancer immunotherapy such as checkpoint inhibitors. We are also developing new switches and two-switch systems to provide greater control over cellular immunotherapy.

- ***Continue to strengthen our intellectual property profile.*** We believe that having a comprehensive patent estate that provides strong barriers to entry is critical to the success of our business. As such, our management team has made a concerted effort to develop and secure our intellectual property since inception. We currently own or have exclusive licenses to 74 issued patents and 45 pending patent applications. These patents and patent applications include composition and/or method of use claims in the United States, Europe and other jurisdictions. We intend to continue to strengthen our patent estate by developing and filing for patents on various aspects of our technologies and product candidates as well as through in-licensing activities with research institutions and other biopharmaceutical companies.

- ***Become a fully integrated cellular immunotherapy company.*** Developing product candidates for cellular immunotherapy is complex and requires significant in-house capabilities in various areas of drug

development. Over the years we have built a solid foundation from which to fulfill the highly demanding clinical and regulatory requirements of genetically modified cellular immunotherapy, with expertise in research and discovery, clinical trial management, data analysis, manufacturing, quality assurance and regulatory affairs. We intend to use a portion of the net proceeds from this offering to continue hiring staff with necessary expertise and investing in infrastructure to support the growth of our clinical development activities and to enable us to become the leading cellular immunotherapy company.

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Recent Developments

To enable further development of our proprietary technology and product candidates, we completed a private placement of $55 million of Series C convertible preferred stock in August 2014. Investors in the transaction included, among others, Baker Brothers, RA Capital Management, LLC, Perceptive Advisors, LLC, Jennison Associates LLC (on behalf of certain clients), Sabby Capital, LLC, Ridgeback Capital Management, venBio Select, Redmile Group, LLC and AJU IB Investment, as well as our then current investors, including AVG Ventures and Remeditex Ventures.

Certain aspects of our platform technology are licensed from ARIAD Pharmaceuticals, Inc., or ARIAD. In October 2014, we amended our license agreement with ARIAD, pursuant to which we agreed to pay ARIAD $50 million in three tranched payments, including an initial payment of $15 million in connection with the execution of the amendment. In exchange, ARIAD gave us a fully paid-up license to its cell-signaling technology and agreed to return of all of the 677,463 shares of our common stock currently held by ARIAD at the time of the second tranche payment. The scope of the license and the field of use were also expanded as part of the amendment. The amended agreement gives us a worldwide exclusive license to ARIAD s cell-signaling technology for broad use in human cell therapies for all diseases on a royalty- and milestone-free basis. See Business Our License Agreements.

Risks Associated With Our Business

Our business is subject to numerous risks, as more fully described in the section entitled Risk Factors immediately following this prospectus summary. You should read these risks before you invest in our common stock. We may be unable, for many reasons, including those that are beyond our control, to implement our business strategy. In particular, risks associated with our business include:

- We have incurred net losses in every year since our inception and anticipate that we will continue to incur net losses in the future.
- Biopharmaceutical product development is a highly speculative undertaking and involves a substantial degree of uncertainty. We have never generated any revenue from product sales and may never be profitable.
- We have concentrated our therapeutic product research and development efforts on our CID platform, a novel therapeutic approach, and our future success depends on the successful development of this therapeutic approach.
- Our clinical trials may fail to demonstrate adequately the safety and efficacy of any of our product candidates, which would prevent or delay regulatory approval and commercialization.
- We may not be successful in our efforts to use and expand our CID platform to build a pipeline of product candidates and develop marketable products.
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The FDA regulatory approval process is lengthy and time-consuming, and we may experience significant delays in the clinical development and regulatory approval of our product candidates. Further, the FDA may disagree with our regulatory plans and we may fail to obtain regulatory approval of our product candidates.

- Due to the novel nature of our technology and the potential for our product candidates to offer therapeutic benefit in a single administration, we face uncertainty related to pricing and reimbursement for these product candidates. Coverage and reimbursement may be limited or unavailable in certain market segments for our product candidates, which could make it difficult for us to sell our product candidates profitably.

- We depend on intellectual property licensed from third parties and termination of any of these licenses could result in the loss of significant rights, which would harm our business.

- We have identified a material weakness in our internal control over financial reporting. If our internal control over financial reporting is not effective, we may not be able to accurately report our financial results or file our periodic reports in a timely manner, which may cause investors to lose confidence in our reported financial information and may lead to a decline in our stock price.

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Corporate Information

We were incorporated in Delaware in July 2004. Our principal executive offices are located at 2130 W. Holcombe Blvd., Ste. 800, Houston, Texas and our telephone number is (832) 384-1100. Our corporate website address is www.bellicum.com. Information contained on or accessible through our website is not a part of this prospectus, and the inclusion of our website address in this prospectus is an inactive textual reference only.

Implications of Being an Emerging Growth Company

As a company with less than $1.0 billion in revenue during our last fiscal year, we qualify as an emerging growth company as defined in the Jumpstart Our Business Startups Act, or the JOBS Act, enacted in April 2012. An emerging growth company may take advantage of reduced reporting requirements that are otherwise applicable to public companies. These provisions include, but are not limited to:

- being permitted to present only two years of audited financial statements and only two years of related Management s Discussion and Analysis of Financial Condition and Results of Operations in this prospectus;
- not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, as amended;
- reduced disclosure obligations regarding executive compensation in our periodic reports, proxy statements and registration statements; 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.

We may use these provisions until the last day of our fiscal year following the fifth anniversary of the closing of this offering. However, if certain events occur prior to the end of such five-year period, including if we become a large accelerated filer, our annual gross revenue exceed $1.0 billion or we issue more than $1.0 billion of non-convertible debt in any three-year period, we will cease to be an emerging growth company prior to the end of such five-year period.

We have elected to take advantage of certain of the reduced disclosure obligations in the registration statement of which this prospectus is a part and may elect to take advantage of other reduced reporting requirements in future filings. As a result, the information that we provide to our stockholders may be different than you might receive from other public reporting companies in which you hold equity interests.

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. 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.

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THE OFFERING

Common stock offered by us	7,350,000 shares
Common stock to be outstanding after this offering	25,849,571 shares
Option to purchase additional shares	We have granted to the underwriters the option, exercisable for 30 days from the date of this prospectus, to purchase up to 1,102,500 additional shares of common stock.
Use of proceeds	We estimate that we will receive net proceeds of approximately $127.1 million (or approximately $146.5 million if the underwriters option to purchase additional shares is exercised in full) from the sale of the shares of common stock offered by us in this offering, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us. We intend to use the net proceeds from this offering for the following purposes: (1) $21.0 million to fund our ongoing and planned Phase 1/2 clinical trials of BPX-501, (2) $30.0 million to fund pre-clinical and Phase 1/2 clinical trial of BPX-401, BPX-601 and BPX-701 as well as preclinical development of our other CART and TCR programs, (3) $4.0 million to fund our ongoing Phase 1/2 clinical trial and our planned Phase 1/2 clinical trial of BPX-201 in combination with checkpoint inhibitors, (4) $11.0 million to fund the construction of tenant improvements and the purchase of capital equipment at our Houston facility, and (5) the remainder to fund other working capital purposes, including general operating expenses. See Use of Proceeds.
Risk factors	You should read the Risk Factors section of this prospectus for a discussion of certain of the factors to consider carefully before deciding to purchase any shares of our common stock.
NASDAQ Global Market symbol	BLCM

The number of shares of our common stock to be outstanding after this offering is based on 2,124,386 shares of common stock outstanding as of September 30, 2014, and assumes:

- the issuance by us of 7,350,000 shares of our common stock in this offering;

- the conversion of all of our convertible preferred stock outstanding into an aggregate of 12,224,819 shares of common stock upon the closing of this offering;

- the net exercise of outstanding warrants to purchase common stock for an aggregate of 114,468 shares of common stock;

- that all of the holders of Series B convertible preferred stock will elect to have their accrued dividends converted into common stock at the time of conversion of their shares of Series B convertible preferred stock into shares of common stock in connection with this offering, which will result in the issuance by us of 177,349 shares of common stock;

- the issuance by us of 6,559,598 shares of Series C convertible preferred stock issuable upon the exercise of warrants issued by us in August 2014, pursuant to that certain Series C Preferred Stock and Warrant Purchase Agreement, or the Series C Purchase Agreement and the conversion of these shares of Series C convertible preferred stock into an aggregate of 3,858,549 shares of common stock;

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and excludes:

- 1,602,339 shares of common stock issuable upon the exercise of outstanding stock options as of September 30, 2014, at a weighted-average exercise price of $2.33 per share;

- 2,956,909 shares of our common stock reserved for future issuance under our 2014 equity incentive plan, or the 2014 Plan, which will become effective as of the date of the effectiveness of the registration statement of which this prospectus forms a part, which number includes the 258,823 shares subject to stock options and a stock award that will be granted upon the effective date of the 2014 Plan and includes the 1,382,481 shares of common stock reserved for issuance under our 2011 stock option plan, as amended, or the 2011 Plan as of September 30, 2014, reduced by the 1,031,454 shares of common stock issuable upon the exercise of the stock options granted under the 2011 Plan subsequent to September 30, 2014, which aggregate of 351,027 shares will be added to the shares reserved under the 2014 Plan when the 2014 Plan becomes effective;

- 550,000 shares of common stock reserved for future issuance under our 2014 Employee Stock Purchase Plan, or the ESPP, which will become effective upon the execution and delivery of the underwriting agreement for this offering; and

- 355,392 shares of common stock issuable upon the exercise of outstanding warrants as of September 30, 2014, at an exercise price of $0.0017 per share.

Unless otherwise indicated, all information contained in this prospectus assumes or gives effect to:

- a 1-for-1.7 reverse stock split of our common stock effected on December 5, 2014;

- the filing of our amended and restated certificate of incorporation and the adoption of our amended and restated bylaws immediately prior to the closing of this offering; and

- no exercise by the underwriters of their option to purchase up to an additional 1,102,500 shares of our common stock.

Certain of our existing stockholders and their affiliated entities have indicated an interest in purchasing up to approximately $50.0 million of shares of our common stock in this offering at the public offering price. However, because indications of interest are not binding agreements or commitments to purchase, these entities may determine to purchase more or fewer shares than they have indicated or not to purchase any shares in this offering.

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SUMMARY FINANCIAL DATA

The following summary financial data should be read together with our financial statements and related notes, Selected Financial Data and Management s Discussion and Analysis of Financial Condition and Results of Operations appearing elsewhere in this prospectus. The summary financial data in this section are not intended to replace our financial statements and the related notes. We derived the summary statement of operations data for the years ended December 31, 2012 and 2013 from our audited financial statements and related notes appearing elsewhere in this prospectus. We derived the summary statement of operations data for the nine months ended September 30, 2013 and 2014 and the summary balance sheet data as of September 30, 2014, from our unaudited financial statements and related notes appearing elsewhere in this prospectus. The unaudited financial data, in management s opinion, have been prepared on the same basis as the audited financial statements and related notes included elsewhere in this prospectus, and include all adjustments, consisting only of normal recurring adjustments, that management considers necessary for a fair presentation of the information for the periods presented. Our historical results are not necessarily indicative of the results that may be expected in the future, and results from our interim period may not necessarily be indicative of the results of the entire year.

(in thousands, except share and per share data)	YEAR ENDED DECEMBER 31,		NINE MONTHS ENDED SEPTEMBER 30,	
	2012	2013	2013 (unaudited)	2014 (unaudited)
Statement of Operations Data:				
Grant revenue	$ 1,470	$ 1,941	$ 1,122	$ 1,766
Operating expenses:				
Research and development	5,796	7,050	4,564	7,078
General and administrative	1,943	2,813	1,997	3,135
Total operating expenses	7,739	9,863	6,561	10,213
Loss from operations	(6,269)	(7,922)	(5,439)	(8,447)
Other income (expense):				
Interest income	7	4	2	15
Interest expense	(1)	(51)	(38)	(38)
Change in value of warrant liability				(1,197)
Total other income (expense)	6	(47)	(36)	(1,220)
Net loss	$ (6,263)	$ (7,969)	$ (5,475)	$ (9,667)
Preferred stock dividends	(757)	(1,094)	(695)	(1,432)

Net loss available to common stockholders	$ (7,020)	$ (9,063)	$ (6,170)	$ (11,099)
Net loss per share, basic and diluted[1]	$ (4.26)	$ (5.25)	$ (3.58)	$ (5.45)
Weighted-average shares outstanding, basic and diluted	1,648,198	1,725,992	1,725,992	2,036,025
Pro forma net loss (unaudited)		$ (7,969)		$ (9,667)
Pro forma net loss per share, basic and diluted (unaudited)[2]		$ (1.32)		$ (0.98)
Pro forma weighted-average shares outstanding, basic and diluted (unaudited)[2]		6,051,619		9,827,767

(1) See Note 2 to our financial statements appearing elsewhere in this prospectus for an explanation of the method used to calculate the basic and diluted net loss per common share and the number of shares used in the computation of the per share amounts.

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(2) The calculations for the unaudited pro forma net loss per common share, basic and diluted, assume (1) the conversion of all our outstanding shares of convertible preferred stock as of September 30, 2014, into an aggregate of 12,224,819 shares of our common stock, (2) the net exercise of outstanding warrants to purchase common stock (which will expire upon the closing of this offering if not exercised) into 114,468 shares of our common stock, (3) the issuance of 6,559,598 shares of Series C convertible preferred stock upon the exercise of warrants, and the conversion of such shares into 3,858,549 shares of common stock in connection with the closing of this offering. The calculations exclude the impact of the issuance by us of an aggregate of 177,349 shares of our common stock as payment of the accrued dividend payable to the holders of Series B convertible preferred stock in connection with this offering.

	AS OF SEPTEMBER 30, 2014		
(in thousands)	**ACTUAL (unaudited)**	**PRO FORMA (1)(2)**	**PRO FORMA AS ADJUSTED (3)**
Balance Sheet Data:			
Cash and cash equivalents	$ 61,932	$ 86,287	$ 213,469
Working capital	49,849	65,269	192,369
Total assets	66,331	90,686	217,786
Convertible preferred stock	90,753		
Accumulated deficit	(38,646)	(83,559)	(83,559)