UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

DIVISION OF
CORPORATION FINANCE

November 14, 2014

Via E-mail
Thomas J. Farrell
President and Chief Executive Officer
Bellicum Pharmaceuticals, Inc.
2130 W. Holcombe Blvd., Suite 850
Houston, TX 77030

Re: Bellicum Pharmaceuticals, Inc.
Draft Registration Statement on Form S-1
Submitted October 17, 2014
CIK No. 0001358403

Dear Mr. Farrell:

We have reviewed your draft registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Prospectus Summary
Overview, page 1

1. Please describe the meaning and significance of the term "dendritic cell" at its first use in this section.

Our Proprietary CID Technology Platform, page 2

2. Please expand your disclosure to identify the serious and sometimes fatal toxicities that have arisen in patients treated with CAR T cell therapies.

Our Proprietary CID Technology Platform
BPX-201, page 3

3. Please provide the meaning of the term "checkpoint inhibitors" and briefly describe how these inhibitors work in the fourth bullet of this section.

Risk Factors
Risks Related to Our Business and Industry
If we fail to obtain additional financing, we may be unable to complete the…, page 19

4. Please expand your disclosure in this risk factor to quantify the amount of your cash and cash equivalents.

If product liability lawsuits are brought against us, we may incur substantial…, page 25

5. We note your disclosure in this risk factor that you carry "limited" clinical and product liability insurance for CID-based product candidates. Please expand your disclosure in this risk factor to quantify the amount of clinical and product liability insurance you carry.

Our ability to utilize our net operating loss carryforwards and certain other tax…, page 25

6. Please expand your disclosure in this risk factor to disclose when your net operating loss carryforwards begin to expire.

Risks Related to Our Intellectual Property
We have limited foreign intellectual property rights and may not be able to…, page 37

7. We note your disclosure that many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions and that legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets and other intellectual property protection, particularly those relating to biopharmaceutical products. Please expand your disclosure to identify the foreign countries where you may have difficulties enforcing your patent rights.

Use of Proceeds, page 46

8. We note that you have allocated proceeds to fund your ongoing and planned Phase 1/2 clinical trials of BPX-501, BPX-401, BPX-601, BPX-701 and BPX-201. Please expand your disclosure to clarify whether the allocated proceeds are sufficient to fund the indicated Phase 1/2 clinical trials for the referenced product candidates to completion.

9. In your fourth bullet point in this section, you have allocated proceeds to fund the "build-out of your development and manufacturing capabilities." Please expand your disclosure

to describe what the build-out will entail, including the number of manufacturing locations you anticipate building, and whether the amount of proceeds allocated will be sufficient to accomplish your plans.

Capitalization, page 48

10. Please tell us how you intend to reflect:

    - the payment in cash for accrued dividends that are payable upon conversion of the Series B convertible preferred stock; and
    - the exercise of Series C convertible preferred stock warrants.

Managements' Discussion and Analysis
Results of Operations
Research and Development Expenses, page 58 and 59

11. For each of your research and development projects, please disclose research and development expense incurred during each period presented and to date from the beginning of the project.

12. Please quantify the increase in manufacturing and clinical expenses, separately, and by clinical trial (BPX-501 and BPX-201).

Critical Accounting Policies and Significant Estimates
Stock-Based Compensation, page 63

13. We may have additional comments on your accounting for equity issuances including stock compensation and beneficial conversion features. Once you have an estimated offering price, please provide us an analysis explaining the reasons for the differences between recent valuations of your common stock leading up to the IPO and the estimated offering price.

Changes in and Disagreements with Accountants on Accounting and Financial Disclosure, page 64

14. Please provide exhibit 16 regarding the dismissal of PMB Helin Donovan, LLP as required by Items 304 and 601 of Regulation S-K.

Business

15. Please disclose, where applicable in your business section, when investigational new drug applications ("INDs") were filed for the commencement of clinical trials for BPX-501 and BPX-201, the name of the trial sponsor and the subject of the INDs.

Limitations of Current Cellular Immunotherapy Approaches, page 71

16. For the CAR-T cellular immunotherapy approach, please describe the "other safety approaches" that have slow onset of action or have their own safety issues.

Our Proprietary Switch Technologies
CIDeCAR, page 76

17. We note that armored CARs may exacerbate safety issues found in standard CARs. Please expand your disclosure to describe the safety issues associated with standard CARs.

Our Product Candidates
BPX-501: CaspaCIDe Product Candidate for Hematological Diseases, page 82

18. We note your disclosure on page 82 which states that you are currently conducting two Phase 1/2 clinical trials of BPX-501 and your description of one of the trials starting on page 85. Please include an appropriately titled subsection which provides a description of the second ongoing Phase 1/2 clinical trial of BPX-501, including the number of patients enrolled in the trial and the duration of the trial.

University of Texas, MD Anderson 2012-0501: Ongoing BPX-501 Phase…, page 85

19. Please expand your disclosure regarding the description of the ongoing investigator-led open-label BPX-501 Phase 1/2 clinical trial and the BPX-201 Phase 1 clinical trial to provide the duration of the trials.

Intellectual Property, page 94

20. We note your disclosure regarding your material patents and patent applications in the bullet points provided in this section. Please expand your disclosure to provide the foreign jurisdictions where your material patents are issued and your patent applications are pending, the expiration dates of your material foreign patents and the expected expiration dates of your pending material foreign patent applications.

Notes to Consolidated Financial Statements
Note 13. Income Taxes, page F-22

21. As the research and development credit expired at the end of the 2013 tax year, please tell us why you include it in your reconciliation of the statutory benefit to the company's income tax expense for the six months ended June 30, 2014.

General

22. Please confirm that the graphics included in your registration statement are the only graphics you will use in your prospectus. If those are not the only graphics, please provide any additional graphics prior to their use for our review.

23. Please supplementally provide us with copies of all written communications, as defined in Rule 405 under the Securities Act, that you, or anyone authorized to do so on your behalf, present to potential investors in reliance on Section 5(d) of the Securities Act, whether or not they retain copies of the communications.

If you intend to respond to these comments with an amended draft registration statement, please submit it and any associated correspondence in accordance with the guidance we provide in the Division's October 11, 2012 announcement on the SEC website at http://www.sec.gov/divisions/corpfin/cfannouncements/drsfilingprocedures101512.htm.

Please keep in mind that we may publicly post filing review correspondence in accordance with our December 1, 2011 policy (http://www.sec.gov/divisions/corpfin/cfannouncements/edgarcorrespondence.htm). If you intend to use Rule 83 (17 CFR 200.83) to request confidential treatment of information in the correspondence you submit on EDGAR, please properly mark that information in each of your confidential submissions to us so we do not repeat or refer to that information in our comment letters to you.

You may contact Sasha Parikh at (202) 551-3627 or James Rosenberg at (202) 551-3679 if you have questions regarding comments on the financial statements and related matters. Please contact Johnny Gharib at (202) 551-3170, John Krug at (202) 551-3862 or me at (202) 551-3715 with any other questions.

Sincerely,

/s/ Jim B. Rosenberg for

Jeffrey P. Riedler
Assistant Director

cc: Via E-mail
Divakar Gupta, Esq.
Cooley LLP