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

DIVISION OF
CORPORATION FINANCE

February 26, 2014

Via E-Mail
Dr. Oliver S. Fetzer
President and Chief Executive Officer
Cerulean Pharma Inc.
840 Memorial Drive
Cambridge, MA 02139

Re: Cerulean Pharma Inc.
Confidential Draft Registration Statement on Form S-1
Submitted January 30, 2014
CIK No. 0001401914

Dear Dr. Fetzer:

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.

General

1. Please submit all exhibits as soon as practicable. We may have further comments upon examination of these exhibits.

2. 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. Similarly, please supplementally provide us with any research reports about you that are published or distributed in reliance upon Section 2(a)(3) of the Securities Act of 1933 added by Section 105(a) of the Jumpstart Our Business Startups Act by any broker or dealer that is participating or will participate in your offering.

3. We note that you submitted a confidential treatment request on January 31, 2014. We will provide any comments on your confidential treatment request and the related disclosure in a separate comment letter.

Prospectus Summary—Our Pipeline, page 2

4. Please expand your disclosure to describe briefly the primary endpoint that was met in the first part of your two-part Phase 2 open-label IST of CRLX101 for relapsed ovarian cancer.

5. Please expand your disclosure to explain briefly what "neoajudivant" means the first time you use this term in the prospectus.

Risks Associated with Our Business, page 3

6. Please expand the second bullet point in this section to describe the limitations on your ability to secure additional debt financing posed by the restrictions in your loan and security agreement with Lighthouse Capital.

7. Please expand the second-to-last bullet point in this section to describe briefly the risk that your reliance on third party, investigator sponsored trials could, depending on the conduct of such third parties, jeopardize the validity of the clinical data generated and adversely affect your ability to obtain marketing approval from the FDA or similar regulating bodies in other jurisdictions.

8. Please expand the last bullet point in this section to describe the risks posed by the fact that several of your material patents are licensed from third parties rather than owned directly by you.

Risk Factors
Risks Related to our Financial Position and Need for Additional Capital, page 10

9. Please expand the third risk factor in this section to discuss the going concern uncertainty reflected in the audit opinion issued by Deloitte.

"Clinical drug development involves a lengthy and expensive process…" page 16

10. We note your disclosure on page 110 that you may seek to conduct clinical trials outside of the United States. Please revise your disclosure to expand this risk factor or include a separate risk factor that highlights this disclosure and discusses any risks the Company may face as a result of conducting clinical trials outside of the United States without an active IND approved by the FDA. For example, you should discuss the possibility that the FDA may not accept the results of such trials and how such lack of acceptance could affect the regulatory approval process.

"Our future success depends on our ability to retain key executives…" page 44

11. Please expand this risk factor to identify your key employees other than Dr. Fetzer.

Management's Discussion and Analysis of Financial Condition and Results of Operations
Contractual Obligations and Contingent Liabilities, page 69

12. You disclose that contracts with contract research organization are not included in the table of contractual obligations and commitments because they are cancellable contracts. The contracts with CROs appear to be required in your research and development and appear to meet the definition of purchase obligations. Please revise your disclosure to include any contracts with CROs or other vendors that meet the definition of purchase obligations. As noted in Item 303(a)(5) of Regulation S-K the tabular presentation may be accompanied by footnotes to describe provisions that create, increase or accelerate obligations, or other pertinent data to the extent necessary for an understanding of the timing and amount of the registrant's specified contractual obligations.

Critical Accounting Policies and Use of Estimates
Stock-based Compensation, page 71

13. Please provide us a discussion of each significant factor contributing to the difference, to the extent that it is significant, between the common stock fair value as of the most recent valuation date and the estimated IPO price.

Business, page 84

14. Please expand your disclosure to briefly explain what investigator sponsored trials are, how this arrangement differs from other clinical trial models, and give a general outline of the typical relationship between a company and its investigator sponsor. In addition, please describe the material terms of each of your arrangements with the investigator sponsors of your trials, including your arrangements with the University of Pennsylvania, Massachusetts General Hospital, and UNC Chapel Hill. In your revised disclosure, please describe:

    - the nature and scope of any intellectual property transferred or licensed;
    - each party's material rights and obligations;
    - the duration of agreement and any termination provisions; and
    - any material payment provisions.

    In addition, please file a copy of each of these agreements as an exhibit to your registration statement.

Product Pipeline
CRLX101 Clinical Development, page 98

15. Please expand your description of each of the completed clinical trials of CRLX101 to disclose, if you have not already done so, the specific clinical endpoints of such trials and the extent to which actual results compared to these endpoints. In addition, if any of the trials were designed to test for statistical significance, please disclose whether statistical significance was observed, provide the relevant p-values for your results and include an explanation in layman's terms of p-values generally. If statistical significance was not demonstrated, please explain why.

CRLX101 Phase 1/2a Clinical Trial, page 98

16. Please expand your discussion of your Phase 1/2a clinical trial to describe any excessive toxicity or treatment-related adverse events that resulted in the death of any patients in the Phase 2a cohort.

CRLX301 Preclinical and IND-Enabling Data, page 109

17. Please expand your description of your preclinical trials of CRLX301 in animal models to discuss the statistical significance of your results, including mention of p-values.

18. Please also expand your description of your preclinical trials of CRLX301 on page 109:

    - to state whether and to what extent the results of the mouse xenograft model described and illustrated in the graphs on page 109 are representative of the other studies and models discussed; and

    - to disclose the size of the PK rat circulation study and the toxicology studies in rats and dogs.

Consolidated Financial Statements
Consolidated Statements of Redeemable Convertible Preferred Stock and Stockholders' Deficit, page F-5

19. Please revise your financial statement to disclose the dollar amount per share of each issuance as required by ASC 915-215-45-1b.

3. Net Loss Per Share Attributable to Common Stockholders, page F-13

20. Refer to the reconciliation of the denominator for the pro forma loss per share in the table on page F-14. We cannot locate where you make an adjustment to give effect of the

conversion of convertible notes payable in arriving at the pro forma weighted-average number of shares outstanding. Please explain.

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 Don Abbott at (202) 551-3608 or Andrew Mew at (202) 551-3377 if you have questions regarding comments on the financial statements and related matters. Please contact Amy Reischauer at (202) 551-3793, Daniel Greenspan at (202) 551-3623, or me at (202) 551-3715 with any other questions.

Sincerely,

/s/ *Daniel Greenspan for*

Jeffrey P. Riedler
Assistant Director

cc: Via E-Mail
Steven D. Singer
Wilmer Cutler Pickering Hale and Dorr LLP
60 State Street
Boston, MA 02109