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April 8, 2015

FOIA Confidential Treatment Request

The entity requesting confidential treatment is:
Blueprint Medicines Corporation
215 First Street
Cambridge, MA 02142

CERTAIN PORTIONS OF THIS LETTER HAVE BEEN OMITTED FROM THE VERSION FILED VIA EDGAR. CONFIDENTIAL TREATMENT HAS BEEN REQUESTED WITH RESPECT TO THE OMITTED PORTIONS. INFORMATION THAT WAS OMITTED IN THE EDGAR VERSION HAS BEEN NOTED IN THIS LETTER WITH A PLACEHOLDER IDENTIFIED BY THE MARK “[*].” THE OMITTED PORTIONS ARE BRACKETED IN THIS LETTER FOR EASE OF IDENTIFICATION.**

VIA EDGAR AND FEDERAL EXPRESS

United States Securities and Exchange Commission
Division of Corporation Finance
Mail Stop 4561
100 F Street, N.E.
Washington, D.C. 20549
Attention: Jeffrey P. Riedler
Dan Greenspan
Rolf Sundwall
James Rosenberg
Alla Berenshteyn

**RE: Blueprint Medicines Corporation
 Registration Statement on Form S-1 (the “Registration Statement”)
 File No. 333-202938
 CIK No. 0001597264**

Dear Mr. Riedler:

This letter is being submitted on behalf of Blueprint Medicines Corporation (the “Company”) to supplementally provide the Staff (the “Staff”) of the U.S. Securities and Exchange Commission (the “Commission”) with additional information with respect to the above-referenced Registration Statement that was filed with the Commission on March 23, 2015.

To assist the Staff of the Commission in the review of the Registration Statement, the Company advises the Staff that the managing underwriters in the initial public offering have communicated to the Company that they currently expect the proposed price range for the common stock to be between \$[***] to \$[***] per share, after giving effect to a reverse stock split to be implemented prior to the initial public offering. The anticipated price range for this offering is based on a number of factors, including the prevailing market conditions and estimates of the Company’s business potential, the general condition of the securities market, the recent market prices of, and the demand for, publicly traded common stock of generally comparable companies and preliminary discussions with the underwriters for this offering regarding potential valuations of the Company. The actual *bona fide* price range to be included in a subsequent amendment to the Registration Statement has not yet been determined and remains subject to adjustment based on factors outside of the Company’s control. However, the Company believes that the actual *bona fide* price range will be within this estimated price range. In addition, the actual price range to be included in such amendment will comply with the Staff’s interpretation regarding the parameters of a *bona fide* price range.

We confirm on behalf of the Company that, prior to circulating copies of the preliminary prospectus in connection with the offering, the Company will file a pre-effective amendment to the Registration Statement that will include all information other than information that may be excluded in reliance upon Rule 430A of Regulation C, and the actual price range to be included in such amendment which will comply with the Staff’s interpretation regarding the parameters of a *bona fide* price range.

Estimated Initial Public Offering Price

The estimated price range for this offering was determined with reference to several quantitative and qualitative factors. In April 2015, the Company and the underwriters determined the estimated price range, which is \$[****] to \$[****] per share. In comparison, the Company's estimate of the fair value of its common stock was \$9.46 per share as of March 12, 2015, based upon a third-party valuation of the Company's common stock using a hybrid method which probability weighted the initial public

**Confidential Treatment Requested
by Blueprint Medicines Corporation
BPMC-0003**

offering, or IPO, and option pricing method, or OPM, scenarios. The Company notes that, as is typical in initial public offerings, the price range for this offering was not derived using a formal determination of fair value, but was determined based upon discussions between the Company and the underwriters. Among the factors considered in setting the price range for this offering were the following:

- a fundamental analysis of the business including a discounted cash flow valuation;
- an analysis of the typical valuation ranges seen in recent IPOs for companies in our industry;
- the general condition of the securities market and the recent market prices of, and the demand for, publicly traded common stock of generally comparable companies;
- an assumption that there would be a receptive public trading market for biopharmaceutical companies such as the Company; and
- an assumption that there would be sufficient demand for the Company's common stock to support an offering of the size contemplated by this prospectus.

In addition, the Company believes that the difference in value reflected between the midpoint of the estimated price range for this offering and the board of directors' determination of the fair value of the Company's common stock on March 12, 2015 was primarily the result of the following subsequent events and circumstances:

- The Company continued to advance and, in so doing, de-risk its lead programs. For example, the Company completed the final analyses of its Good Laboratory Practices, or GLP, toxicology studies at the end of March, which are the final animal studies required before conducting human clinical trials; is preparing its three Investigational New Drug, or IND, applications for submission to the U.S. Food and Drug Administration, or FDA, for BLU-285 in systemic mastocytosis and gastrointestinal stromal tumor and BLU-554 in hepatocellular carcinoma; and engaged a clinical research organization to prepare for the Company's clinical trials for BLU-285 and BLU-554, which are forecasted to begin mid-2015.
- The initial public offering price is based only upon a scenario in which the Company completes this offering and is not probability weighted, in contrast to the Company's prior valuations of the Company's common stock, which considered multiple potential outcomes, some of which would have resulted in a lower value of the Company's common stock than an initial public offering. In the March 12, 2015 valuation, the

**Confidential Treatment Requested
by Blueprint Medicines Corporation
BPMC-0004**

probability weighting for the IPO and OPM model scenarios was 80% and 20%, respectively.

- The IPO price necessarily assumes that the IPO has occurred and that a public market for the Company's common stock has been created, and, therefore, it excludes any discount for lack of marketability of the Company's common stock, which was taken into account in the Company's board of directors' determination of the fair value of the Company's common stock on March 12, 2015. In the March 12, 2015 valuation, the discount for lack of marketability that was applied to the IPO and OPM scenarios was 6% and 32%, respectively.
- The Company's convertible preferred stock has substantial economic rights and preferences superior to the Company's common stock. The initial public offering price assumes the conversion of the Company's convertible preferred stock to common stock upon the completion of this offering and the corresponding elimination of such superior economic rights and preferences.

The Company respectfully requests that the Staff return to us this letter pursuant to Rule 418 of the Securities Act of 1933, as amended, once the Staff has completed its review. We have provided a self-addressed stamped envelope for this purpose. In addition, the Company requests confidential treatment under 17 C.F.R. § 200.83 (1992) for this letter and has submitted a separate request for confidential treatment in accordance therewith to the Commission's Office of Freedom of Information and Privacy Act Operations.

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If you have any questions or comments regarding the foregoing, or if there is any additional information that we might provide to assist the Staff's review, please contact the undersigned at (617) 570-1879.

Sincerely,

/s/ Laurie A. Burlingame

Laurie A. Burlingame, Esq.

cc: Jeffrey W. Albers, *Blueprint Medicines Corporation*
Christine Bellon, *Blueprint Medicines Corporation*
Kingsley L. Taft, *Goodwin Procter LLP*
Michael J. Minahan, *Goodwin Procter LLP*