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November 6, 2013

United States Securities and Exchange Commission Division of Corporation Finance Mail Stop 6010 100 F Street, N.E. Washington, D.C. 20549

Attn: Jeffrey Riedler Daniel Greenspan

Re: Celladon Corporation

Registration Statement on Form S-1

Filed October 11, 2013 File No. 333-191688

Dear Mr. Riedler:

On behalf of our client, Celladon Corporation (the "Company"), this letter ("Response Letter") is being submitted in response to oral comments received from the staff (the "Staff") of the Securities and Exchange Commission (the "Commission") on November 5, 2013 with respect to the Company's Registration Statement on Form S-1 (the "Registration Statement") originally filed with the Commission on October 11, 2013, as amended. The numbering of the paragraphs below corresponds to the oral comments received from the Staff on November 5, 2013, the content of which we have incorporated into this Response Letter for convenience. Except where otherwise indicated, page references in the text of the responses below correspond to the page numbers of the Registration Statement.

Staff Comments and Company Responses

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 74

1. Please revise your disclosure consistent with the fourth bullet from our letter dated October 3, 2013 and your representation in your letter dated October 18, 2013 to explain the increase in common stock value from your latest valuation to the IPO price.

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November 6, 2013 Page 2 of 4

Response: The Company acknowledges the Staff's comment and will revise the disclosure of page 74 in an amendment to the Registration Statement by adding the following:

"Initial public offering price

In consultation with the underwriters for this offering, we determined the estimated price range for this offering, as set forth on the cover page of this prospectus. The midpoint of the price range is \$15.00 per share. In comparison, our estimate of the fair value of our common stock was \$9.37 per share as of September 30, 2013, after considering a valuation report from an independent third-party valuation specialist as well as other objective and subjective factors. We note that, as is typical in initial public offerings, the estimated price range for this offering was not derived using a formal determination of fair value, but was determined primarily by negotiation between us and the underwriters. Among the factors that were considered in setting the estimated price range for this offering were the following:

- an analysis of the typical valuation ranges seen in recent initial public offerings for companies in our industry;
- the general condition of the securities markets 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 pre-commercial biotechnology companies such as us; and
- an assumption that there would be sufficient demand for our common stock to support an offering of the size contemplated by this prospectus.

The midpoint of the estimated price range for this offering of \$15.00 per share, or our Filing Price, exceeds by \$5.63 per share the fair value of our common stock of \$9.37 per share as of September 30, 2013, or our Contemporaneous Price. We believe the difference between our Contemporaneous Price and our Filing Price is primarily attributable to the fact that the methodology for determining our Contemporaneous Price incorporated multiple liquidity scenarios, not all of which allocate value to our stockholders on a fully-diluted, as-converted to common stock basis, while the Filing Price assumes, with 100% probability, that we complete our initial public offering (in connection with which all of our preferred stock will be converted to common stock) during the fourth quarter of 2013, as well as certain other factors.

The incorporation of multiple liquidity scenarios, and the application of a present value discount factor based on a 25% cost of capital and a DLOM of 10% in the initial public offering scenario using a guideline public company market approach, in the determination of our Contemporaneous Price accounted for \$5.37 per share of the \$5.63 per share difference between our Contemporaneous Price and our Filing Price, as follows:

• \$3.12 of the \$5.37 per share difference: The contemporaneous valuation prepared as of September 30, 2013 by management and an independent third-party valuation specialist considered multiple liquidity scenarios. Under the initial public offering scenario using a guideline public company market approach, to which we assigned a probability weighting of 70%, the fair value of our common stock was determined to be \$12.49 per share, as adjusted for a DLOM and a discount for the cost of capital as further described below. The consideration of liquidity scenarios other than the initial public offering scenario included various potential liquidity outcomes in which our preferred stockholders would retain their

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November 6, 2013 Page 3 of 4

rights and preferences in liquidation, and for which a probability weighting of 30% was assigned, resulting in a fair value determination of \$2.12 per share, a decrease of approximately \$10.37 per share. The initial public offering scenario resulted in a higher fair value per share determination than the other liquidity event scenario because under the initial public offering scenario, our preferred stock would convert into common stock in connection with the offering and, therefore, the liquidation preferences of the preferred stock would be eliminated upon the completion of the offering. Since the holders of our preferred stock hold approximately \$120 million in liquidation preference over the common stock, the majority of all value in the other liquidity event transaction would be allocated to the preferred stockholders. Accordingly, after applying the indicated probability weighting, the consideration of an other liquidity event scenario accounted for approximately \$3.12 per share of the \$5.63 per share difference between the Contemporaneous Price and our Filing Price; and

• \$2.25 of the \$5.37 per share difference: In determining the fair value of our common stock of \$12.49 per share under the IPO scenario using a guideline public company market approach in the September 30, 2013 contemporaneous valuation, we applied (1) a DLOM equal to 10% and (2) a present value discount factor based on a 25% cost of capital over a period of approximately three months based on an anticipated completion date for our initial public offering of December 31, 2013. The application of these factors accounted for approximately \$2.25 per share of the \$5.37 per share difference between our Contemporaneous Price and our Filing Price.

We believe the remaining \$0.26 per share difference between our Contemporaneous Price and our Filing Price is justified by (1) the fact that the contemporaneous valuation report as of September 30, 2013 utilized a quantitative methodology to determine the fair value of our common stock, which may differ from the more qualitative and subjective methodology used by some public market investors to determine the price that they are willing to pay in the offering, and (2) other factors, such as the inherent uncertainty of completing a successful initial public offering and the possibility that the actual offering price could be substantially lower than the estimated offering price range provided by the underwriters."

Exhibit 5.1

2. In the second paragraph of the opinion of Cooley LLP, please state that the assumption regarding the due execution and delivery of all documents is solely with regard to parties other than the Company.

Response: The Company acknowledges the Staff's comment and will revise the second paragraph of Exhibit 5.1 to read as follows:

"In connection with this opinion, we have examined and relied upon (a) the Registration Statement and related Prospectus, (b) the Company's Amended and Restated Certificate of

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November 6, 2013 Page 4 of 4

Incorporation, and Bylaws, as amended, as currently in effect, (c) the Company's Amended and Restated Certificate of Incorporation, filed as Exhibit 3.2 to the Registration Statement and the Company's Amended and Restated Bylaws, filed as Exhibit 3.4 to the Registration Statement, each of which is to be in effect upon the closing of the offering contemplated by the Registration Statement, and (d) the originals or copies certified to our satisfaction of such records, documents, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. We have assumed the genuineness and authenticity of all documents submitted to us as originals, and the conformity to originals of all documents submitted to us as copies and the due execution and delivery by all parties other than the Company of all documents where due execution and delivery are a prerequisite to the effectiveness thereof. As to certain factual matters, we have relied upon a certificate of officers of the Company and have not sought independently to verify such matters. Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware. We express no opinion as to whether the laws of any particular jurisdiction are applicable to the subject matter hereof. We are not rendering any opinion as to compliance with any federal or state antifraud law, rule or regulation relating to securities, or to the sale or issuance thereof."

The Company respectfully requests the Staff's assistance in completing the review of this Response Letter and the Registration Statement as soon as possible. Please advise us if we can provide any further information or assistance to facilitate your review. Please direct any further comments or questions regarding this Response Letter to me at (858) 550-6044.

Sincerely,

Cooley LLP

/s/ Jason L. Kent, Esq. Jason L. Kent, Esq.

c: Krisztina M. Zsebo, Ph.D., Celladon Corporation Fredrik Wiklund, Celladon Corporation Kristin VanderPas, Esq., Cooley LLP Cheston J. Larson, Esq., Latham & Watkins LLP Michael Sullivan, Esq., Latham & Watkins LLP

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