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October 28, 2013

United States Securities and Exchange Commission  
Division of Corporate 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:

Enclosed for electronic filing via EDGAR pursuant to the Securities Act of 1933, as amended, on behalf of our client, Celladon Corporation (the **“Company”**), is Amendment No. 1 (the **“Amendment”**) to the Company’s Registration Statement on Form S-1 (the **“Registration Statement”**) originally filed with the Securities and Exchange Commission (the **“Commission”**) on October 11, 2013. The copy of the Amendment that is enclosed with the paper copy of this letter is marked to show changes from the Registration Statement as originally filed on October 11, 2013.

The Amendment is being submitted in response to comments received from the staff of the Commission (the **“Staff”**) by letter dated October 25, 2013 with respect to the Registration Statement (the **“Comment Letter”**). The numbering of the paragraphs below corresponds to the numbering in the Comment Letter, the text 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 Amendment.

**Staff Comments and Company Responses**

Management’s Discussion and Analysis of Financial Condition and Results of Operations Determination of the Fair Value of Common Stock, page 71

1. *We acknowledge your response to comment 12. It does not appear that your disclosure revisions on page 71 regarding the responsibility for third-party valuation reports include the report you utilized as of June 30, 2013. The disclosure provided in the first paragraph of the Retrospective Reassessment of Fair Value section on page 73 continues to imply full reliance on that report. If true, please revise your disclosure on page 71 to include the June 30, 2013 valuation or your disclosure on page 73 to indicate that you relied “in part” on the June 30, 2013 valuation report.*

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**Response:** In response to the Staff's comment, the Company has revised the disclosure on pages 71 and 73 of the Registration Statement as requested.

Principal Stockholders, page 158

2. *Please clarify the relationship between Novartis AG and Novartis Bioventures Ltd., and whether Novartis Bioventures Ltd. is controlled by Novartis AG.*

**Response:** In response to the Staff's comment, the Company has revised the disclosure on page 162 of the Registration Statement as requested.

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**Other Disclosure in the Amendment**

In addition to the revisions made to the Registration Statement to address the Staff's comments set forth above, the Company informs the Staff that it has revised the Registration Statement to (1) include the Company's financial statements for the three months ended September 30, 2013 (along with related updates to the disclosures in the Registration Statement) and (2) reflect the impact of a 1-for-12.49 reverse stock split of the Company's common stock that was effected on October 25, 2013.

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As requested by the Staff, the Company acknowledges that:

- should the Commission or the Staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the Staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the Company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the Company may not assert Staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

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The Company respectfully requests the Staff's assistance in completing the review of the Amendment 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 the Amendment or this response letter to me at (858) 550-6044.

Sincerely,

Cooley LLP

/s/ Jason L. Kent

Jason L. Kent, Esq.

cc:       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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