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August 15, 2013

Via EDGAR Submission

Securities and Exchange Commission
Division of Corporation Finance
100 F Street, NE
Washington, DC 20549
Attention: Jeffrey P. Riedler

Re: Ophthotech Corporation
Confidential Draft Registration Statement on Form S-1
Submitted July 15, 2013
File No. 377-00247

Ladies and Gentlemen:

On behalf of Ophthotech Corporation (the "Company"), submitted herewith for filing is a Registration Statement on Form S-1 (the "Registration Statement") relating to the registration under the Securities Act of 1933, as amended, of common stock of the Company.

The Registration Statement is being filed in part to respond to the comments of the staff (the "Staff") of the Securities and Exchange Commission contained in its letter dated August 12, 2013 (the "Comment Letter"), relating to the above referenced Confidential Draft Registration Statement on Form S-1.

Set forth below are the Company's responses to the Staff's comments. The responses set forth below are based upon information provided to Wilmer Cutler Pickering Hale and Dorr LLP by the Company. For convenience, the responses are keyed to the numbering of the comments and the headings used in the Comment Letter.

On behalf of the Company, we advise you as follows:

FORM S-1

General

1. *We note that you have submitted an application for confidential treatment relating to certain of your exhibits. Please be advised that comments to this application, if any, will be sent under separate cover and that any such comments must be resolved prior to your requesting effectiveness of your registration statement.*

Response: The Company acknowledges the Staff's comment.

2. *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.*

Response: Other than as included in the prospectus forming part of the Registration Statement (the "Prospectus"), the Company does not currently intend to include any additional graphics. If the Company determines to include any additional graphic or other visual information in the prospectus, the Company will promptly provide such material to the Staff on a supplemental basis. The Company acknowledges that the Staff may have additional comments regarding this material.

3. *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 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.*

Response: The Company acknowledges the Staff's request and undertakes to comply with it as applicable. Written materials presented to potential investors in reliance on Section 5(d) of the Securities Act will be provided, under separate cover, on a supplemental basis to the Staff. To the Company's knowledge, to date, no broker or dealer that is participating or will participate in the Company's initial public offering has published or distributed a research report in reliance upon Section 2(a)(3) of the Securities Act.

Prospectus summary, Our Company Overview, page 1

4. *In this summary, please describe in greater detail the background of your product candidates, particularly Fovista. In particular, you should note that you did not develop Fovista or ARC1905 internally but acquired rights to these products through your agreements with OSI (Eyetech), Inc. and Archemix Corp. Please also clarify here and wherever else appropriate the extent to which your executive officers were involved in the development of Fovista during their employment at OSI (Eyetech), Inc.*

Response: In response to the Staff's comment, the Company has revised the disclosure on pages 3, 77 and 78 of the Prospectus.

Risks Associated with Our Business, page 4

5. *Please include in this list the material risk stemming from your reliance on your royalty purchase agreement with Novo A/S, the obligations placed on you by this agreement and the possibility that a default by you might result in Novo A/S foreclosing on your intellectual property relating to Fovista.*

Response: In response to the Staff's comment, the Company has revised the disclosure on page 5 of the Prospectus.

6. *In your first bullet point, please include a reference to your milestone payment obligations to OSI (Eyetech), Inc., Archemix Corp, and Nektar Therapeutics relating to Fovista.*

Response: In response to the Staff's comment, the Company has revised the disclosure on page 5 of the Prospectus.

Industry and Other Data, page 5

7. *Please remove your statement that you have not independently verified industry and market data from third-party sources. It is not appropriate to directly or indirectly disclaim liability for information in the registration statement.*

Response: In response to the Staff's comment, the Company has revised the disclosure on page 6 of the Prospectus to remove such statement.

Risk Factors

"We will need substantial additional funding . . .," page 11

8. *Please include in this risk* factor *an estimate of the amount of funds you believe you will need to complete your Phase 3 clinical trials as well as the amount you believe you will require for working capital and other general corporate purposes during this period.*

Response: In response to the Staff's comment, the Company has revised the disclosure on page 13 of the Prospectus.

"If clinical trials of Fovista or any other product candidate that we develop fail to demonstrate safety and efficacy to the satisfaction of the FDA . . .," page 14

9. *Please state in this risk factor that the combination of 0.3 mg and Lucentis did not achieve statistically significant superiority compared to Lucentis monotherapy.*

Response: In response to the Staff's comment, the Company has revised the disclosure on page 16 of the Prospectus.

"If serious adverse or unacceptable side effects are identified during the development of Fovista or any other product candidate that we develop . . . ," page 17

10. *Please include in this risk factor a summary of the safety data gathered from the Fovista clinical trials performed to date, including the adverse events experienced among the clinical population.*

Response: In response to the Staff's comment, the Company has revised the disclosure on page 20 of the Prospectus.

"Third parties may initiate legal proceedings alleging that we are infringing or otherwise violating their intellectual property rights . . .," page 32

11. *Please include in this risk factor examples of any such litigation that has been filed against you or any of your founders, executive officers, and/or directors.*

Response: The Company advises the Staff that, to its knowledge, no legal proceedings alleging the infringement of another party's intellectual property rights have been filed against the Company or any of its founders, executive officers and/or directors.

"We may be subject to claims by third parties that we or our employees have misappropriated their intellectual property . . .," page 32

12. *Please include in this risk factor examples of any such claims made against your employees.*

Response: The Company advises the Staff that, to its knowledge, no claims have been made alleging that its employees have misappropriated another party's intellectual property.

"We will incur increased costs as a result of operating as a public company . . .," page 43

13. *Please include in this risk factor, to the extent practicable, an estimate of the annual costs associated with being a public company.*

Response: In response to the Staff's comment, the Company has revised the disclosure on page 47 of the Prospectus.

Use of Proceeds, page 46

14. *Please expand the discussion to indicate the stage of development you anticipate the allocation of proceeds will enable you to attain for ARC1905.*

Response: In response to the Staff's comment, the Company has revised the disclosure on page 49 of the Prospectus.

Management's Discussion and Analysis of Financial Condition and Results of Operations

Share-Based Compensation, Fair Market Value Estimates, page 60

15. *Please revise your table of stock options to aggregate the stock option grants by month or quarter.*

Response: In response to the Staff's comment, the Company has revised the disclosure on page 65 of the Prospectus.

16. *Please confirm that no other stock options have been granted that have not already been disclosed and update that confirmation through the date the filing goes effective.*

Response: The Company confirms that no other stock options have been granted after the date of those disclosed in the Registration Statement. The Company advises the Staff that the Board of Directors of the Company is finalizing its determination of the fair market value of the Company's common stock as of August 15, 2013, the date on which the Company granted additional stock options. Upon determination of the fair market value of the Company's common stock as of such date, the Company intends to update the valuation disclosure in the Registration Statement relating to the stock options granted on August 15, 2013. Further, the Company acknowledges the Staff's request and undertakes to disclose any additional options that may be granted before the Registration Statement is declared effective.

17. *Please revise your disclosure to present the intrinsic value of outstanding vested and unvested options as of the most recent balance sheet date based on the estimated IPO price.*

Response: In response to the Staff's comment, the Company has revised the disclosure on page 65 of the Prospectus. Once the Company discloses an estimated offering price range, it will further supplement this disclosure.

Valuations, page 61

18. *We may have additional comments on your accounting for stock compensation and related disclosure once you have disclosed an estimated offering price. Please provide quantitative and qualitative disclosures explaining the difference between the estimated offering price and the fair value of each equity issuance.*

Response: The Company acknowledges that the Staff may have additional comments on its accounting for stock compensation and related disclosure once it has disclosed an estimated offering price. Once the Company discloses an estimated offering price range, it will quantitatively and qualitatively disclose each significant factor contributing to the difference between its most recent valuation and the estimated offering price. The Company has already disclosed the significant factors contributing to differences between each of the previous valuations.

Business, Potential for Fovista, page 72

19. *Please explain for the* benefit *of the lay reader what "(p=0.019)" represents or, alternatively, remove this from your disclosure.*

Response: In response to the Staff's comment, the Company has removed this parenthetical from page 78 of the Prospectus.

Principal Stockholders, page 132

20. *Please indicate the individual(s) who has voting and/or investment power over the shares held by Clarus Lifesciences II, L.P.*

Response: In response to the Staff's comment, the Company has revised the disclosure on pages 134, 136 and 140 of the Prospectus.

Shares eligible for future sale, Lock-up agreements, page 135

21. *Please file a copy of the form lock-agreement as an exhibit to your registration statement. If it is to be filed as an exhibit to your underwriting agreement, please confirm this for us.*

Response: The Company confirms that the form of lock-up agreement signed by the Company's directors, officers and stockholders, as referenced on page 148 of the Prospectus, will be filed as an exhibit to the underwriting agreement.

Notes to Financial Statements

5. Financing Activities, page F-10

22. *You disclose that you concluded that rights for shares in redeemable instruments represent free-standing financial instruments and should be accounted for as liabilities. It appears as though all investor rights have been exercised. Please add disclosure to the paragraph discussing the application of ASC 480 to clarify, if true, that there are currently no rights outstanding.*

Response: In response to the Staff's comment, the Company has revised the disclosure on page F-11 of the Prospectus.

23. *Please disclose how the closing of the public offering will impact the accounting for and classification of the preferred stock warrants.*

Response: In response to the Staff's comment, the Company has revised the disclosure on page F-11 of the Prospectus.

24. *Please revise your disclosure to clarify the events that would trigger adjustments to the number of shares to be received upon exercise of the warrants.*

Response: In response to the Staff's comment, the Company has revised the disclosure on pages F-11, F-13 and F-28 of the Prospectus.

6. Product and Technology Agreements, License Agreements, page F-13

25. *Please expand your disclosures to include the term and termination provisions for your agreements with OSI (Eyetech), Archemix and Nektar Therapeutics.*

Response: In response to the Staff's comment, the Company has revised the disclosure on pages F-13, F-14 and F-15 of the Prospectus.

26. *Please revise your disclosure to include the amount of upfront licensing fees paid in connection with the amended agreement with Archemix similar to your disclosure on page 103.*

Response: In response to the Staff's comment, the Company has revised the disclosure on page 107 of the Prospectus.

14. Fair Value Measurements, Level 3 Valuation, page F-26

27. *You disclose that the fair value of the warrant liability was estimated using a hybrid method between a PWERM model and an option pricing model. You disclose the significant assumptions used in preparing the option pricing model. Please expand your disclosures to include the additional assumptions that were used in the hybrid method to estimate the fair value of the warrant liability. For example, if applicable, disclose the probability weight that was assigned to each expected outcome.*

Response: In response to the Staff's comment, the Company has revised the disclosure on page F-27 of the Prospectus.

28. *Please expand your disclosures to explain why the ranges are so large for the assumptions used in preparing the option pricing model. For example, the volatility assumption for the Series A preferred shares as of December 31, 2012 was 47.2% - 85.3%.*

Response: In response to the Staff's comment, the Company has revised the disclosure on page F-27 of the Prospectus.

16. Subsequent Events, page F-27

29. *Please tell us how you have accounted for the cash proceeds received of $41,666,667 in connection with the sale of the royalty entitlement including whether this will be recorded as revenue or deferred revenue. Reference for us the authoritative literature you relied upon to support your accounting.*

Response: In response to the Staff's comment, the Company has revised the disclosure on pages 62 and F-40 of the Prospectus.

Notes to Unaudited Financial Statements

4. Fair Value Measurements, Level 3 Valuations, page F-36

30. *Please revise your disclosure to quantify the assumptions used to determine the fair value of the warrant liability as of March 31, 2013.*

Response: In response to the Staff's comment, the Company has revised the disclosure on pages F-37 and F-38 of the Prospectus.

If you have any further questions or comments, or if you require any additional information, please contact the undersigned by telephone at (212) 937-7206 or facsimile at (212) 230-8888. Thank you for your assistance.

Very truly yours,

/s/ Brian A. Johnson
Brian A. Johnson

cc: David R. Guyer, MD