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

DIVISION OF
CORPORATION FINANCE

September 13, 2010

Mr. P. Ron Ellis
President and Chief Executive Officer
Endocyte, Inc.
3000 Kent Avenue, Suite A1-100
West Lafayette, IN 47906

Re: Endocyte, Inc.
Registration Statement on Form S-1
Filed August 17, 2010
File No. 333-168904

Dear Mr. Ellis:

We have reviewed your 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 amending your registration statement and providing the requested information. 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 any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

Registration Statement on Form S-1

General

1. Please note that where we provide examples to illustrate what we mean by our comments, they are examples and not complete lists. If our comments are applicable to portions of the filing that we have not cited as examples, please make the appropriate changes in accordance with our comments.

2. Please note that when you file a pre-effective amendment containing pricing-related information, we may have additional comments. As you are likely aware, you must file this amendment prior to circulating the prospectus.

3. Please note that when you file a pre-effective amendment that includes your price range, it must be bone fide. We interpret this to mean that your range may not exceed $2 if you price below $20 and 10% if you price above $20.

4. Wherever appropriate, please describe the credit facility that you entered into with MidCap Financial and Silicon Valley Bank on August 30, 2010, as described on your website. In addition, please file the credit facility agreement as an exhibit to your registration statement pursuant to Item 601(b)(10) of Regulation S-K.

5. Please expand your filing to provide the information required by Item 201(d) of Regulation S-K regarding securities authorized for issuance under equity compensation plans.

6. Please refer to the graphics that follow the Prospectus Cover Page. Please clarify on this page that the information on this page describes drug candidates in clinical trials, that the company has no approved drugs or diagnostics, and that the company has not generated any revenue from commercial sales to date. In addition, please refrain from using acronyms at this point in the prospectus. Specifically, you should use the term "small molecule drug conjugates" or drug candidates rather than SMDCs.

Summary

7. Please expand your Prospectus Summary to provide a separately-captioned subsection discussing the terms of your material in-licensing agreements, including the agreement with Purdue University. We note that you have filed two license agreements with Purdue University as exhibits to your registration statement. If you have other material in-licensing agreements, please file these agreements as exhibits pursuant to Item 601(b)(10) of Regulation S-K.

8. Please expand your disclosure in the "Overview" subsection to clarify that you have no approved drug or diagnostics, and that you have not generated any revenue from commercial sales to date.

9. You state on page 1 that EC145 increased progression free survival with a 105 percent improvement over standard therapy (p=0.014). Please revise your discussion to briefly describe what the term "p" signifies. Please provide similar information for the term "n" on page 70.

10. Please expand your disclosure in the "Lead SMDC Candidate (EC145) and Advanced Clinical Trials" subsection to disclose that you will have to conduct additional studies in order to be able to file NDAs, that the results of these studies may not duplicate earlier tests regarding safety and efficacy, and that the FDA may not determine that your product candidates are safe enough and effective enough to be approved for commercial sale.

Risk Factors

"Our development activities could be delayed or stopped for a number of reasons, . . .," page 15

11. We note your bulleted list of conditions or factors that may delay or prevent your current and planned clinical trials. If any of the bulleted factors or circumstances have been a problem for you, or threatened the progress of your product development efforts, please consider a separately captioned risk factor disclosing the nature of these problems or potential problems.

"We will require substantial additional funding which may not be available to us . . ." page 17

12. Please expand your disclosure to state your current working capital.

"We are subject to risks associated with the availability of key raw materials . . ." page 22

13. We note your disclosure in this risk factor that your EC20 companion imaging diagnostic requires the use of Tc-99m, and there is a limited supply of Tc-99m worldwide. Please expand your disclosure to discuss your inventory of Tc-99m, and how long you expect this inventory to satisfy your needs for this raw material. If you are dependent upon one supplier for this raw material, please disclose the identity of this supplier in the Manufacturing subsection of your Business section, the material terms of any written agreement, and file the agreement as an exhibit to your registration statement pursuant to Item 601(b)(10) of Regulation S-K.

Use of Proceeds

14. Please expand your disclosure to clarify whether you expect that the proceeds from this offering will be sufficient for conducting all additional Phase II and Phase III trials needed through the filing of NDAs for the use of EC145 and EC20 for both PROC and NSCLC. In this regard, it appears that second Phase III trials may be necessary in order to demonstrate sufficient Overall Survival prior to granting approval for both PROC and NSCLC. When you refer to Phase III trials being funded by the proceeds of this offering, please clarify whether you are referring to one Phase III trial for each indication, or Phase III in its entirety.

Management's Discussion and Analysis of Financial Condition and Results of Operations
Critical Accounting Policies and Significant Judgments and Estimates
Stock-based Compensation, page 46

15. You determined the fair value of your common stock in the initial public offering and sale of the company scenarios based on the values of biotech companies comparable in terms of disease focus, stage of clinical trials and size. Please address the following:

- Disclose how the biotech companies used to determine the fair value of your common stock are comparable to you in terms of disease focus, stage of clinical trials and size;
- Tell us the names of the biotech companies that you consider comparable to you;
- Tell us how you factored your high financial leverage based on actual and pro forma results as of June 30, 2010 in selecting comparable public entities;
- Tell us how you factored in that you will not have product sales and presumably earnings or cash flows until at least 2013 in selecting comparable public companies;
- Disclose the risk adjusted rate of return used to discount the values of your cash flows and common stock; and
- Disclose the value of your equity, including both common stock options and preferred stock warrants, at June 30, 2010.

16. You utilize the NASDAQ Biotechnology 100 Index as a proxy for the volatility of your common stock price. According to the response to question 6 of ASC 718-10-S99 you should not substitute the volatility of an index for the expected volatility of your common share price. You should instead consider public entities that are comparable in terms of industry, stage of life cycle, size and financial leverage. Please address the following:

    - Tell us how the 100 biotech companies that comprise the NASDAQ Biotechnology 100 Index are comparable to you in terms of disease focus, stage of clinical trials and size;
    - Tell us why you determined the fair value of your common stock in the initial public offering and sale of the company scenarios based on the values of biotech companies comparable in terms of disease focus, stage of clinical trials and size but assumed the expected volatility of your common stock based on an industry index;
    - Tell us how the 100 biotech companies that comprise the NASDAQ Biotechnology 100 Index are comparable to you in terms of financial leverage given your high debt level based on actual and pro forma results as of June 30, 2010; and
    - Tell us how the 100 biotech companies that comprise the NASDAQ Biotechnology 100 Index are comparable to you in terms of revenues, profitability and cash flows given that you will not have product sales and presumably earnings or cash flows until at least 2013.

Comparison of Year Ended December 31, 2008 and 2009
Revenue, page 51

17. You state on page 51 that you "believe BMS elected to terminate the license as a result of a change in its strategic focus." If you had any problems meeting your obligations under the agreement, please discuss such difficulties wherever you mention the termination of the agreement in your registration statement.

Liquidity and Capital Resources
Financing Activities, page 55
Contractual Obligations and Commitments, page 56

18. Please clearly disclose that the contractual obligations table presented here is in $1,000s.

19. Please disclose the aggregate amount of milestones that may become payable and the types of events that would trigger these payments under the contracts outstanding. Otherwise disclose that you do not expect to achieve these milestones.

Quantitative and Qualitative Disclosures About Market Risks, page 58

20. We note your statement on page 59 that you may be subject to fluctuations in foreign currency rates in connection with agreements with global contract research organizations and investigational sites. Please expand your disclosure to provide the quantitative information regarding foreign currency exchange rate risk required by Item 305(a)(1) of Regulation S-K.

Business

21. Please expand your disclosure to provide a source for the following statements:

    - On page 66, "[t]he three largest cancer drugs in the world, Avastin, Herceptin and Rituxan, are monoclonal antiobidies, with collective U.S. sales of $7.3 billion in 2009."
    - On page 76, "[i]n 2009, approximately 177,000 patients in the United States were diagnosed with NSCLC and approximately 141,000 died of the disease."
    - On page 76, "the disease of more than 75 percent of patients progresses in less than eight weeks following second line or third line therapy."
    - On page 80, "[i]n 2009, these products generated $9.0 billion in annual sales."

Manufacturing, page 82

22. We note your disclosure on page 82 that the linker system for EC145 is currently obtained from a single source supplier. Please expand your disclosure to identify this supplier. In addition, please identify the manufacturer who has the capacity to manufacture EC145 in quantities that your development and future commercialization efforts, if any, may require.

Patents and Proprietary Rights, page 90

23. We note your disclosure on page 91 that you have royalty obligations to Purdue Research Foundation based on sales of products, as well as annual minimum royalty obligations. Please expand your disclosure to provide the range of royalty rates (for example, "low-single-digits," "high-single-digits," etc.) that are payable to Purdue based on sales of products. Please also disclose the annual minimum royalty obligations payable to Purdue in this section, as well as the amounts paid to date.

24. You disclose on page 92 that you regularly enter into confidentiality and proprietary information agreements with third parties, including employees, independent contractors,

suppliers and collaborators. Please provide the Staff with a supplemental copy of the standard confidentiality agreement you enter into with your employees. We may have further comment.

Management
Executive Officers and Directors, page 95

25. Please expand your discussion of the business experience of Mr. Brauer and Mr. Shannon on page 97 to briefly describe their business experience during the past five years. Please refer to Item 401(e)(1) of Regulation S-K.

Compensation Discussion and Analysis
Performance-driven Compensation, page 105

26. Please file the Officer/VP Bonus Plan described on page 107 as an exhibit to your registration statement, or provide a legal analysis as to why you are not required to file this agreement as an exhibit pursuant to Item 601(b)(10)(iii)(A) of Regulation S-K.

27. You state on page 108 that the Board of Directors approved a bonus pool of $153,000 to be allocated among your NEOs, other than Mr. Ellis. Please expand your disclosure to describe how the Board of Directors determined the amount of the bonus pool.

28. We note that each NEO received a bonus award in 2009. On page 107, you state that bonuses may be determined based on achievement of performance goals, among other things. Please expand your disclosure to describe the material factors that the compensation committee considered in awarding each NEO a bonus.

29. We note that each NEO received an option award in 2009 and in 2010. On page 108, you state that equity award grants are driven by company performance during the applicable year, as well as individual performance and contributions, among other things. Please expand your disclosure to describe the material factors that the compensation committee considered in awarding each NEO option grants in 2009 for 2008 performance, and in 2010 for 2009 performance.

Executive Compensation
2009 Summary Compensation Table, page 112

30. We note that the 2009 salaries disclosed in the Summary Compensation Table differ from the 2009 salaries disclosed in the table on page 107. Please reconcile this inconsistency, or advise us as to why no revision is necessary.

Limitation on Liability and Indemnification Matters, page 126

31. Please add a risk factor that discusses the risks to the investor from the limitations on personal liability of your directors contained in your amended and restated certificate of incorporation and bylaws. Please also add a risk factor discussing the risks to the investor from the indemnification provisions contained in your amended and restated certificate of incorporation and bylaws.

Certain Relationships and Related Party Transactions
Transactions with Our Founders and Entities Affiliated with Our Founders, page 130

32. We note your disclosure on page 130 that Dr. Low is entitled to $50,000 upon the achievement of certain milestones pursuant to a patent assignment agreement dated November 1, 2007 with Optical Therapeutic Technologies. In an appropriate place in your filing, please expand your disclosure to discuss the material terms of this agreement, including each parties' obligations, any payment provisions, any payments made to date, the term, and any termination provisions. In addition, please file this agreement as an exhibit to your registration statement, or provide us with a legal analysis as to why this agreement need not be filed pursuant to Item 601(b)(10)(ii)(A) of Regulation S-K.

Note 6 – Notes Payable, page F-14

33. Please disclose the number of warrants issued, the terms of the warrants and the assumptions used to determine the fair value of the warrants issued in connection with the $15 million loan commitment from a nonbank lender.

Note 7 – Preferred Stock Warrants, page F-15

34. You utilize the NASDAQ Biotechnology 100 Index to determine the volatility of your preferred stock warrants. According to the response to question 6 of ASC 718-10-S99 you should not substitute the volatility of an index for the expected volatility of your common share price. You should instead consider public entities that are comparable in terms of industry, stage of life cycle, size and financial leverage. Please address the following:

    - Tell us how the 100 biotech companies that comprise the NASDAQ Biotechnology 100 Index are comparable to you in terms of disease focus, stage of clinical trials and size;
    - Tell us why you determined the fair value of your common stock in the initial public offering and sale of the company scenarios based on the values of biotech companies comparable in terms of disease focus, stage of clinical trials and size but assumed the expected volatility of your common stock based on an industry index;
    - Tell us how the 100 biotech companies that comprise the NASDAQ Biotechnology 100 Index are comparable to you in terms of financial leverage given your high debt level based on actual and pro forma results as of June 30, 2010; and

- Tell us how the 100 biotech companies that comprise the NASDAQ Biotechnology 100 Index are comparable to you in terms of revenues, profitability and cash flows given that you will not have product sales and presumably earnings or cash flows until at least 2013.

Note 9 – Convertible Preferred Stock, page F-16

35. Please revise your disclosure to include the following information:

    - The description of the inputs used in the weighted-average formula to calculate the adjusted conversion price in the event of common stock issuance below the conversion price;
    - The description of how the above inputs are used in calculating the adjusted conversion price;
    - The terms of the redemption feature (i.e. redemption value, redemption date or redeemable period, who may initiate the redemption, etc.); and,
    - The description of the voting rights. The description should clarify whether preferred shareholders have the same voting rights and if not, what the restrictions are, and how the number of votes are determine (e.g. as converted basis).

    In addition, please provide us an analysis that supports the classification of the convertible preferred stock as temporary equity.

Signatures

36. We note that your chief executive officer and chief financial officer have signed this Form S-1 in those capacities pursuant to Instruction 1 to Signatures on Form S-1, but that the registration statement has not been signed by your controller or principal accounting officer. Please amend your Form S-1 to have your controller or principal accounting officer sign this Form S-1.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Act of 1933 and all applicable Securities Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement please provide a written statement from the company acknowledging 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.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

You may contact Keira Nakada at (202) 551-3659 or Gus Rodriguez at (202) 551-3752 if you have questions regarding comments on the financial statements and related matters. Please contact Rose Zukin at (202) 551-3239 or me at (202) 551-3710 with any other questions.

Sincerely,

Jeffrey P. Riedler
Assistant Director

cc: David J. Segre, Esq.
Wilson Sonsini Goodrich & Rosati P.C
650 Page Mill Road
Palo Alto, CA 94304