October 16, 2013

Securities and Exchange Commission
Division of Corporation Finance
Washington, DC 20549

Attn: John Reynolds
Tiffany Piland
John Lopez
Myra Moosariparambil
Tia Jenkins

**Re: Biocept, Inc.**
**Registration Statement (Form S-1)**
**Filed September 23, 2013**
**Registration No. 333-191323**

Ladies and Gentlemen:

We have received and reviewed, and we thank you for, the Staff's comment letter dated October 11, 2013. Our responses are set forth below. In each case, we precede our response by repeating the Staff's letter's comment. Our responses are numbered to correspond with the numbering of the comments in the Staff's letter.

Please consider our responses in conjunction with your review of our Amendment No. 1 to Form S-1 registration statement (the "Amendment"), which we are filing simultaneously.

Summary, page l

1. STAFF'S COMMENT: We note your revised disclosure and response to comments 5 and 6 in our letter dated September 13, 2013, and we reissue the comments in part. Please revise:

   - The first paragraph under Our Company to disclose that your OncoCEE-BR™ breast cancer CTC test is the only test you sell, as the construction "develops and commercializes" does not clarify the extent to which your tests currently generate revenues;
   - To avoid the present tense when you discuss planned tests. As a non-exclusive example, you refer to CEE-Selector mutation tests on page 5 and state that "[t]hese tests can be performed"; and
   - Where you discuss your advantages on pages 4-6, to separately address future tests and future advantages you hope to realize instead of discussing together what your "current and planned" tests can do.

   Please revise accordingly.

   REGISTRANT'S RESPONSE: We have revised as requested.

2. STAFF'S COMMENT: Please revise here, page 25 and page 85 to quantify approximately what percentage of revenues, if any, you currently derive through Medicare.

   REGISTRANT'S RESPONSE: We have added on pages 6, 25 and 84 of the Amendment a disclosure that historically we have not yet billed any amounts to or collected any amounts from Medicare. Please note that under our arrangement with Clarient as in effect until May 2013, Clarient conducted all billing and we do not have visibility into whom Clarient might have billed.

3. STAFF'S COMMENT: We note your response to comment 7 in our letter dated September 13, 2013, and we reissue the comment. Please revise the introductory paragraphs and where appropriate to clarify the extent to which your historical revenues have been generated other than by your breast cancer test. In this regard, we note your statement on page 6 that "[a]lthough historically the bulk of our commercial revenues have come from performing our breast cancer test, we also offer clinical trial testing services," which appears to suggest that some portion of historical revenues was generated through clinical trial testing services. Please revise to clarify that the percentage of historical revenues generated through clinical trial testing services was immaterial, if true, or specify the percentage of historical revenues generated through clinical trial testing services.

   REGISTRANT'S RESPONSE: We have clarified as requested. Through 2012 our clinical trial testing services revenue was zero. However, most of our 2013 revenue has been from clinical trial testing services for the Dana-Farber Cancer Institute.

4. STAFF'S COMMENT: We note your response to comment 13 in our letter dated September 13, 2013. To place the risk in context, please revise the last risk factor on page 30 to address your reliance on the Aegea agreement, as it appears that you are materially dependent on intellectual property partially owned by Aegea. Please also clarify the extent to which your two issued U.S. patents and 33 pending U.S. and foreign patent applications are owned solely by you or through third party agreements with Aegea or others.

   REGISTRANT'S RESPONSE: We have revised as requested, and consistent with additional information that has come to our attention. We believe the new disclosure describes all material risks in connection with the contract governing the Aegea technologies in view of the fact that we, indeed, perceive any risk to our contractual rights to use the Aegea technologies for our fields of use and to exclude others from those fields of use to be fairly remote.

5. STAFF'S COMMENT: We reissue comment 14 in our letter dated September 13, 2013. Please provide qualitative and quantitative disclosure of your dependence on Clarient. You indicate in your response that you depend on the success of the anticipated expansion of sales due to the efforts of the direct sales force you would hire with the proceeds of the offering. It appears your risk factors should address your historical and continued dependence on Clarient given the possibility that your offering, anticipated new products or anticipated revenues from a planned sales force do not allow you to replace the anticipated decline in revenues.

REGISTRANT'S RESPONSE: We have revised our disclosures in several places, including pages 19 and 60 of the Amendment (and please note also a removal of language on page 1), to make clear that although Clarient was highly important to us in 2012, we do not expect it to be nearly as important in the future due to the change in our relationship with Clarient and the prospects for adding additional tests. The historical revenue attributable to Clarient is, in comparison to the revenue figures which we would need to achieve to be a self-sustaining company, immaterial. Therefore, the concept of "replacing" historical Clarient-related revenue would not bear heavily in an investor's evaluation of our prospects. Nonetheless, we have made various revisions in accordance with the spirit of the Staff's Comment.

Because of certain Medicare billing policies, we may not receive complete reimbursement …, page 25

6. STAFF'S COMMENT: We note your response to comment 15 in our letter dated September 13, 2013. Please explain the significance of submitting a new dossier to Palmetto GBA regarding the CTC capture/enumeration component of your current and planned tests. We note your disclosure on page 88 that the analysis components, for which there are positive coverage determinations, have significantly greater billing value than the capture/enumeration components, which are subject to a negative coverage determination. Please discuss in greater detail the "significantly greater billing value" of the analysis components and disclose whether reimbursement for the capture/enumeration components is necessary to produce sufficient revenues to become profitable.

   REGISTRANT'S RESPONSE: We have revised the disclosure regarding the dossier, to clarify that it is essentially a brief in support of reconsideration. We have added, on pages 6 and 84 of the Amendment, disclosure regarding the "greater billing value" of the currently reimbursable components. (But not on page 25 of the Amendment, because we believe that would violate the precept against making positive statements in the Risk Factors.) Because our future "unit volumes" and the future reimbursement levels for various portions of our current test and any future tests are all uncertain, we cannot say whether or not reimbursement for the capture/enumeration portion of CTC tests is necessary to produce sufficient revenues for us to become profitable; however, we have added disclosure to address this point on pages 25 and 84 of the Amendment.

7. STAFF'S COMMENT: Please revise the risk factor on page 30 to identify the "certain third parties" and "certain collaborators."

   REGISTRANT'S RESPONSE: We have revised as requested. The suppliers are numerous and essentially fungible, so the risk can be fully appreciated without naming some or all of them. We have identified the significant collaborators with which we do not have protective agreements.

Capitalization, page 43

8. STAFF'S COMMENT: Please tell us why exclusion of additional paid-in capital in your capitalization calculation for the period ended June 30, 2013 is appropriate, or revise accordingly in your next amendment.

   REGISTRANT'S RESPONSE: We have revised to add this disclosure to the Amendment.

Description of the Business, page 61

9. STAFF'S COMMENT: We partially reissue comment 25 in our letter dated September 13, 2013. Please discuss the degree to which the amount you receive depends on the payor or other factors, including the factors addressed in the "Coverage and Reimbursement for our Current Breast Cancer Test and our Planned Future Tests" section on page 88. In this regard, we note your disclosure on page 25 that you "expect that as much as approximately 50% of the patients for whom [you] perform cancer diagnostic tests will have Medicare coverage" and that "private payors sometimes look to Medicare determinations when making their own payment determinations."

   REGISTRANT'S RESPONSE: We have revised as requested.

10. STAFF'S COMMENT: We note your statement on page 63 that the "future average price could well differ from our historical figure, based on increased demand generated by our future sales and marketing efforts and increasing recognition of the medical value of our products, possible improvement of the product, introduction of additional tests, and similar commercial factors." Please revise to provide balanced disclosure in this regard by discussing factors that may cause the future average price to be less than the historical average price per test.

    REGISTRANT'S RESPONSE: We have revised as requested.

Our Competitive Advantages, page 71

11. STAFF'S COMMENT: We note your revised disclosure and response to comment 27 in our letter dated September 13, 2013. Please revise to discuss advantages of your current test separately from any advantages you anticipate from future tests, instead of combining them with the phrase "current and planned."

    REGISTRANT'S RESPONSE: We have added the requested clarifications. As noted in the Amendment, it is generally the case that, because OncoCEE-BR and our planned tests share our proprietary CEE platform, their competitive advantages would be the same.

Our Proprietary Tests and Services, page 72

12. STAFF'S COMMENT: We note your revised disclosure and response to comment 26 in our letter dated September 13, 2013. Please revise the narrative disclosure surrounding the table to clarify the principal milestones, assumptions and work that must be completed for the tests projected for 2014 and 2015.

    REGISTRANT'S RESPONSE: We have provided additional disclosure in this regard, both in and preceding the table.

Third-Party Payor Reimbursement, page 86

13. STAFF'S COMMENT: We partially reissue comment 30 in our letter dated September 13, 2013. We note statements in this section regarding Medicare reimbursement. However, it is unclear if these statements are made generically about the industry or are meant to indicate that Medicare beneficiaries, you or other parties are reimbursed specifically for your tests. Please revise to clarify the extent of your Medicare coverage. For example, please clarify whether you have been reimbursed for tests performed on patients with Medicare coverage or if this is a future expectation.

    REGISTRANT'S RESPONSE: We have revised as requested.

14. STAFF'S COMMENT: We also note the statement on page 25 that you "have received positive Medicare coverage determinations and/or have the benefit of specific CPT codes." Please revise to separately address coverage and CPT code reimbursement instead of using the construction "and/or."

    REGISTRANT'S RESPONSE: We have revised as requested.

Properties, page 93

15. STAFF'S COMMENT: We partially reissue comment 33 in our letter dated September 13, 2013. Please revise your disclosure to discuss any amounts owed for rent in arrears. In that regard, we note your disclosure in Note 15 to the financial statements that "[a]s of December 31, 2012 and June 30, 2013, the Company owed rent in arrears of approximately $185,000 and $229,000, respectively.

    REGISTRANT'S RESPONSE: We have revised to include the requested disclosure. There are no longer any amounts in arrears under the lease.

Equity Compensation Plan Information, page 107

16. STAFF'S COMMENT: We note the tabular disclosure included in this section in response to comment 38 in our letter dated September 13, 2013. Please revise the tabular disclosure to include the restricted stock units referenced in footnote two or advise us why you believe such information is not required to be included in the table.

    REGISTRANT'S RESPONSE: We have now included the restricted stock units in the table, as suggested by the Staff's Comment.

Description of Capital Stock, page 123

17. STAFF'S COMMENT: We note that the amended certificate of incorporation to be in effect upon closing of this offering, filed as Exhibit 3.1.3 to this registration statement, includes an exclusive forum provision. Please revise this section to disclose the existence of an exclusive forum provision in the certificate of incorporation to be in

effect upon closing of this offering. In addition, please discuss the effect of such provision on investors. Given the lawsuits challenging the validity of choice of forum provisions in certificates of incorporation, please also disclose that it is possible that a court could rule that your provision is inapplicable or unenforceable. Also include separate risk factor disclosure discussing the risks attendant to the exclusive forum provision included in the amended certificate of incorporation to be in effect upon closing of this offering.

REGISTRANT'S RESPONSE: We have removed the exclusive forum provision in the form of amended certificate of incorporation to be in effect upon closing of our offering. Therefore, the additional disclosures are no longer necessary.

18. STAFF'S COMMENT: Please disclose whether investors who purchase shares in the initial public offering are subject to the exclusive forum provision. It appears that your amended certificate of incorporation will not be filed with the State of Delaware, and therefore will not become effective, until the closing date.

REGISTRANT'S RESPONSE: We have removed the exclusive forum provision in the form of amended certificate of incorporation to be in effect upon closing of our offering. Therefore, the additional disclosure is no longer necessary.

Report of Independent Registered Public Accounting Firm, page F-2

19. STAFF'S COMMENT: We note your response to comment 45 in our letter dated September 13, 2013 that you will give retrospective effect to the reverse stock split in the historical financial statements. Please obtain a preamble report from your auditor comprised of the standard report preceded by a preamble indicating that the split has not occurred, but when it does, the auditor expects to be in a position to furnish the report presented.

REGISTRANT'S RESPONSE: At this time the financial statements do not reflect the planned reverse stock split. We have reconsidered our approach. We anticipate that we will be filing, in October 2013, a certificate of amendment of certificate of incorporation to effectuate (only) the 1-for-10 reverse stock split; we so disclose, throughout the Amendment. We further anticipate in that instance that we will subsequently file an Amendment No. 2, which we expect to file later in October, in which we will give retrospective effect to the reverse stock split in the financial statements at which time the reverse stock split will be included as a historical fact, and a draft audit report will not be considered necessary. We confirm our understanding that, in accordance with the guidance reflected in the staff's Financial Reporting Manual, in section 4710, in the event our plans change and in a future filing we give retrospective effect to the reverse stock split in the financial statements prior to the reverse stock split being effective we will obtain from our auditor a draft audit report that is accompanied by a signed preface of the auditor indicating that it expects to be in a position to issue the report in the form presented at effectiveness.

Notes to Financial Statements, page F-12

Note 3. Summary of Significant Accounting Policies, page F-12
Unaudited Pro Forma Information, page F-13

20. STAFF'S COMMENT: You stated in the response to comment 45 in our letter dated September 13, 2013 that the reverse stock split will occur before the completion of the

offering, i.e., after effectiveness, and that it will be reflected retroactively in the historical financial statements. We are unable to agree with this approach. Accordingly, please revise to present the reverse stock split as a pro forma transaction throughout the document. Stock splits that will occur after the effective date must be presented as pro forma transactions. Please note that you can only give retroactive effect in the historical financial statements to stock splits that will occur at or immediately prior to the effective date of the registration statement. If the stock split will occur at or immediately prior to the effective date, please advise your auditor to revise its report to provide a draft audit report that is accompanied by a signed preface of the auditor indicating that it expects to be in a position to issue the report in the form presented at effectiveness. No registration statement can be declared effective until the preface is removed and the accountant's report finalized.

REGISTRANT'S RESPONSE: We anticipate that the reverse stock split will occur prior to the effective date. As noted above we confirm our understanding that if in a future filing we give retrospective effect to the reverse stock split in the financial statements prior to the reverse stock split being effective we will obtain from our auditor a draft audit report that is accompanied by a signed preface of the auditor indicating that it expects to be in a position to issue the report in the form presented at effectiveness. We presently anticipate that we will file an Amendment No. 2, which we expect to file later in October, in which we will give retrospective effect to the reverse stock split in the financial statements at which time the reverse stock split will be included as a historical fact, and therefore our auditor will issue their audit report and a draft audit report will not be required.

Note 5. Notes Payable, page F-19

21. STAFF'S COMMENT: We note your response to comment 47 in our letter dated September 13, 2013 that the number of shares into which the debt was converted was determined and fixed on June 28, 2013. Upon review of the debt conversion agreement filed as Exhibit 10.18.6.2, we are able to identify 35,923,845 of the 42,245,834 Series A preferred shares provided in your note conversion. Please identify the exhibit, or provide as an additional exhibit, the agreement for the note conversion of the remaining 6,321,989 Series A preferred shares.

REGISTRANT'S RESPONSE: The other agreements, under which the number of conversion shares was determined and fixed on June 28, 2013, are included as Exhibits 10.17.2 (3,777,324 shares), 10.18.6.1 (2,234,922 shares) and 10.19.2.1 (309,743 shares). We have added conversion-shares totals to the descriptions of exhibits 10.17.2, 10.18.6.1, 10.18.6.2 and 10.19.2.1 in Part II, Item 16(a), in order to memorialize and confirm these counts. The total is 42,245,834 Series A preferred shares.

Item 17. Undertakings, page II-7

22. STAFF'S COMMENT: We note your response to comment 49 in our letter dated September 13, 2013. Please provide the 512(a)(5)(ii) undertaking. For reference, see Securities Act Rules Compliance and Disclosure Interpretations, Question 229.01, which is available on our website.

REGISTRANT'S RESPONSE: We do not expect to be subject to Rule 430C, because we do not expect there to be any extent to which our prospectus/prospectus supplement would not be covered by Rule 430A. (See Release No. 33-8591 at 196 n.440.) Nonetheless, as requested, we are providing the 512(a)(5)(ii) undertaking in Part II, Item 17.

Exhibits

23. STAFF'S COMMENT: Please file exhibits in their entirety, including all exhibits and attachments thereto. For example only, we note that Exhibit 10.1.1 appears to be missing Attachment II, Exhibit 10.1.2 appears to be missing an attachment referenced therein, Exhibit 10.2.1 appears to be missing all the attachments referenced therein, and Exhibit 10.11 appears to be missing all the exhibits referenced therein.

REGISTRANT'S RESPONSE: We understand that exhibits-to-exhibits can be omitted if they in fact are clearly identical to a document which is itself filed as an exhibit to the same registration statement. This is the case as to many of the missing exhibits-to-exhibits here. For example only, Attachment II to Exhibit 10.1.1 would be the 2007 Equity Incentive Plan, which is filed as Exhibit 10.1; the missing attachment to Exhibit 10.1.2 would be the 2007 Equity Incentive Plan, which is filed as Exhibit 10.1; and the missing attachments to Exhibit 10.2.1 are the Stock Option Agreement and related exercise notice (which are filed as Exhibit 10.2.2) and the 2013 Equity Incentive Plan (which is filed as Exhibit 10.2). On the other hand, we recognize that some exhibits-to-exhibits do not fall into this category, and must be added. We will do so. To the extent that we did not include all such to-be-added exhibits-to-exhibits in the Amendment, we will complete the task in Amendment No. 2.

If you have any questions or if we can be assistance in your review, please contact me, or Hayden Trubitt (htrubitt@sycr.com; (858) 926-3006) or Michael Brown (mbrown@sycr.com; (858) 926-3007), who are both with our counsel Stradling Yocca Carlson & Rauth.

Sincerely,

/s/ William G. Kachioff

William G. Kachioff
Chief Financial Officer

cc: Michael W. Nall, Chief Executive Officer, Biocept, Inc.
Hayden Trubitt, Esq.
Michael J. Brown, Esq.