November 5, 2013

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

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

Re: Biocept, Inc.
Registration Statement (Form S-1)
Filed September 23, 2013; Amendment No. 1 filed October 16, 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 30, 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. 2 to Form S-1 registration statement (the "Amendment"), which we are filing simultaneously.

General

1. STAFF'S COMMENT: We note your revised disclosure and response to comment 2 in our letter dated October 11, 2013, and the statement in response to comment 30 in our September 13, 2013 letter that you "will also update and improve the statements made on [your] website." The "Billing FAQs" portion of your website states that "Biocept diagnostic services are covered under Medicare Part B, and Biocept will submit your Medicare claim on your behalf." Please revise your registration statement disclosure to clarify the extent to which your services are covered by Medicare or advise regarding the apparent inconsistency.

   REGISTRANT'S RESPONSE: We have now removed the erroneous information from the website, and the inconsistency between the registration statement and the website was thereby removed. The statements in the registration statement are correct.

Summary, page l

2. STAFF'S COMMENT: We note your response to comments 1, 3 and 5 in our letter dated October 11, 2013 and the statement that the historical Clarient revenues are immaterial compared to what you need "to be a self-sustaining company." We also note

the statement on page 5 that you are “in the process of commercializing [your] first proprietary test.” Please revise the first paragraph on page 1 to clarify in quantitative and qualitative terms the extent to which your only commercialized test has generated meaningful revenues.

REGISTRANT’S RESPONSE: We have revised as requested, in the first paragraph on page 1.

Our Proprietary Tests and Services, page 5

3. STAFF’S COMMENT: We note your response to comment 2 in our letter dated October 11, 2013 and, in particular, the added disclosure that you have not yet billed Medicare for any testing and that you “do not have data for Clarient’s billing and collection experience with respect to [your] test.” Please provide the basis for your belief that “as many as approximately 50% of the patients for whom [you] would expect to perform cancer diagnostic tests in the future will have Medicare coverage.”

   REGISTRANT’S RESPONSE: We have revised as requested, on pages 6, 25 and 84.

4. STAFF’S COMMENT: We note statements on pages 6 and 83 that you believe your “tests will be covered and that [you] will receive payment from Medicare.” Please revise to clarify the expected timeframes for such actions and the assumptions underlying your estimates. Also, please disclose the date you submitted the “comprehensive dossier” and revise to update for any communications to or from the MACs or CMS regarding you.

   REGISTRANT’S RESPONSE: We have revised as requested, on pages 6 and 83. The sentence you quote referred only to the FISH analysis portion of our testing; as the sentence stated, FISH analysis is already a covered benefit for Medicare beneficiaries. Therefore our FISH analysis is already reimbursable now. We have also revised our disclosure to reflect that the dossier was submitted to only one MAC (Palmetto), in view of the fact that Noridian intends to follow Palmetto’s determinations. Because the dossier was just submitted today, neither the MAC nor CMS has had time to respond.

Risks That We Face, page 7

5. STAFF’S COMMENT: Please revise the fourth bullet point on page 7 to state, if true, that you believe your current cash resources are insufficient to satisfy your liquidity requirements at your current level of operations beyond November 2013.

   REGISTRANT’S RESPONSE: We have revised the fourth bullet point as requested on page 7 (and also have revised pages 13 and 56) to disclose that our current cash resources are insufficient to satisfy our liquidity requirements at our current level of operations beyond December 31, 2013.

Our Proprietary Tests and Services, page 68

6. STAFF’S COMMENT: We reissue comment 12 in our letter dated October 11, 2012. Please revise the narrative disclosure surrounding the table to further clarify the principal

milestones, assumptions and work that must be completed for the tests projected for 2014 and 2015. In that regard, please clarify your disclosure that "[a]n assay is ready for commercialization when [you] are ready to start selling the assay through [your] commercial sales channel and to provide patient results." We note that without further clarification it is unclear why some tests in the validation stage are not expected to reach commercialization until 2015 and other tests in the same stage are expected in 2014. We also note that one test still in the development stage is expected to reach commercialization in 2014.

REGISTRANT'S RESPONSE: We have revised pages 69 and 70 to clarify these matters.

7. STAFF'S COMMENT: Please also revise to clarify (1) whether "development" and "validation" status levels here are based on stages 1-4 described on page 73 and (2) the assumptions underlying "between 6 to 18 months" to market launch referenced on page 73 given that some tests already in the validation stage are not expected to reach commercialization for over a year. Also, in addition to the year, please revise the right-hand column to clarify the approximate time, for example the NSCLC test is described elsewhere as being ready for launch "in the first half" of 2014.

REGISTRANT'S RESPONSE: We have revised pages 69, 70 and 73 to clarify these matters.

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

8. STAFF'S COMMENT: Please advise the independent accountant to dual-date or re-date, as necessary, its audit report upon consummation of the reverse stock split and its retrospective presentation in the historical financial statements.

REGISTRANT'S RESPONSE: The reverse stock split was effected on November 1, 2013, and accordingly the independent accountant's audit report has been redated to reflect the retrospective presentation in the historical financial statements.

Notes to Financial Statements, page F-10
Note 5. Notes Payable, page F-18

9. STAFF'S COMMENT: We note your response to comment 21 in our letter dated October 11, 2013. We also note you have referenced the forms of the agreements in Exhibit 10.18.6.1 and Exhibit 10.19.2.1. Please file the executed versions of the note conversion agreements as exhibits to the Form S-1.

REGISTRANT'S RESPONSE: We have filed the executed versions of the note conversion agreements as exhibits to the Form S-1, as requested.

Financial Statement Updating

10. STAFF'S COMMENT: Please update your financial statements pursuant to Rule 8-08 of Regulation S-X, as necessary.

REGISTRANT'S RESPONSE: We have updated the financial statements, as requested.

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.