As filed with the Securities and Exchange Commission on January 26, 2018

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM S-1 REGISTRATION STATEMENT UNDER

THE SECURITIES ACT OF 1933

Biocept, Inc.

(Exact Name of Registrant as Specified in Its Charter)

Delaware (State or Other Jurisdiction of Incorporation or Organization) 8071 (Primary Standard Industrial Classification Code Number) 80-0943522 (I.R.S. Employer Identification Number)

5810 Nancy Ridge Drive San Diego, CA 92121 (858) 320-8200

(Address, Including Zip Code, and Telephone Number, Including Area Code, of Registrant's Principal Executive Offices)

Michael W. Nall Chief Executive Officer and President Biocept, Inc. 5810 Nancy Ridge Drive San Diego, CA 92121 (858) 320-8200 (Name, Address, Including Zip Code, and Telephone Number, Including Area Code, of Agent for Service)

Copies to:

Frederick T. Muto Charles J. Bair Cooley LLP 4401 Eastgate Mall San Diego, CA 92121 (858) 550-6142 Timothy C. Kennedy Chief Financial Officer Biocept, Inc. 5810 Nancy Ridge Drive San Diego, CA 92121 (858) 320-8200 Ralph V. De Martino Cavas S. Pavri Schiff Hardin LLP 901 K Street NW, Suite 700 Washington, DC 20001 (202) 724-6400

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. (File No. 333-221648)

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer \Box

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Proposed maximum aggregate offering price(1)(2)	Amount of registration fee
Warrants to purchase shares of common stock ⁽³⁾		
Shares of common stock issuable upon exercise of Warrants	\$1,666,666.50	\$207.50
Total	\$1,666,666.50	\$207.50

(1) Estimated solely for the purpose of calculating the registration fee in accordance with Rule 457(o) under the Securities Act.

(2) Pursuant to Rule 416, the securities being registered hereunder include such indeterminate number of additional securities as may be issuable to prevent dilution resulting from stock splits, stock dividends or similar transactions.

(3) No fee is required pursuant to Rule 457(i) under the Securities Act.

This Registration Statement shall become effective upon filing in accordance with Rule 462(b) under the Securities Act of 1933, as amended.

EXPLANATORY NOTE AND INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

Pursuant to Rule 462(b) under the Securities Act of 1933, as amended ("*Securities Act*"), Biocept, Inc. (the "*Registrant*") is filing this Registration Statement on Form S-1 (this "*Registration Statement*") with the Securities and Exchange Commission (the "*Commission*"). This Registration Statement relates to the public offering of securities contemplated by the Registration Statement on Form S-1, as amended (File No. 333-221648) (the "*Prior Registration Statement*"), which the Registrant originally filed with the Commission on November 17, 2017, and which the Commission declared effective on January 25, 2018.

The Registrant is filing this Registration Statement with respect to the registration of additional warrants to purchase shares of common stock (the "*Warrants*") and shares of common stock issuable upon exercise of the Warrants. The information set forth in the Prior Registration Statement and all exhibits to the Prior Registration Statement are incorporated by reference into this Registration Statement.

EXHIBIT INDEX

Exhibit <u>Number</u>	Description of Document
5.1	Opinion of Cooley LLP.
23.1	Consent of Mayer Hoffman McCann P.C., an Independent Registered Public Accounting Firm.
23.2	Consent of Cooley LLP (included in Exhibit 5.1).
24.1(1)	Power of Attorney.

 Included on the signature page of Registration Statement on Form S-1 (File No. 333-221648), filed with the Securities and Exchange Commission on November 17, 2017, and incorporated herein by reference.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Diego, State of California, on the 26th day of January, 2018.

BIOCEPT, INC.

Ву:

/s/ Michael W. Nall Michael W. Nall. Chief Executive Officer and President

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Michael W. Nall Michael W. Nall	Chief Executive Officer, President and Director (Principal Executive Officer)	January 26, 2018
/s/ Timothy C. Kennedy Timothy C. Kennedy	Chief Financial Officer, Senior VP of Operations and Secretary (<i>Principal Financial Officer and Principal Accounting Officer</i>)	January 26, 2018
/s/ Marsha A. Chandler* Marsha A. Chandler	Director	January 26, 2018
/s/ Bruce E. Gerhardt* Bruce E. Gerhardt	Director	January 26, 2018
/s/ Bruce A. Huebner* Bruce A. Huebner	Director	January 26, 2018
/s/ M. Faye Wilson* M. Faye Wilson	Director	January 26, 2018

* Pursuant to Power of Attorney

By: <u>/s/ Timothy C. Kennedy</u> Timothy C. Kennedy Attorney-in-fact January 26, 2018

Biocept, Inc. 5810 Nancy Ridge Drive, Suite 150 San Diego, CA 92121

Ladies and Gentlemen:

You have requested our opinion, as counsel to Biocept, Inc., a Delaware corporation (the "*Company*"), in connection with the filing, pursuant to Rule 462(b) of Regulation C promulgated under the Securities Act of 1933, as amended, of a registration statement on Form S-1 (the "*Registration Statement*") with the Securities and Exchange Commission, relating to 33,333,334 shares (the "*Common Shares*") of the Company's common stock, par value \$0.0001 (the "*Common Stock*") and 25,000 shares (the "*Preferred Shares*", and together with the Common Shares, the "*Shares*") of the Company's Series A Convertible Preferred Stock, par value \$0.0001 (the "*Preferred Stock*") convertible into 25,000,000 shares of Common Stock (the "*Conversion Shares*"), plus warrants (the "*Warrants*") to purchase up to an aggregate of 33,333,334 shares of Common Stock (the "*Warrant Shares*"). The Registration Statement incorporates by reference the registration statement on Form S-1 (No. 333-221648), which was declared effective on January 25, 2018, including the prospectus which forms a part of such registration statement (the "*Prospectus*"). The Shares, the Warrants and the Warrant Shares are to be sold by the Company as described in the Registration Statement and the Prospectus.

In connection with this opinion, we have examined and relied upon the Registration Statement and Prospectus, the form of Warrant, the Company's Certificate of Incorporation, as amended, its Amended and Restated Bylaws and originals or copies certified to our satisfaction of such records, documents, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. In addition, we have assumed that the Certificate of Designation of Preferences, Rights and Limitations for the Preferred Stock has been filed with the Secretary of State of the State of Delaware. We have assumed the genuineness and authenticity of all documents submitted to us as originals and the conformity to originals of all documents submitted to us as copies. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not sought independently to verify such matters.

Our opinion herein is expressed solely with respect to the General Corporation Law of the State of Delaware and, as to the Warrants constituting valid and legally binding obligations of the Company, the laws of the State of New York. Our opinion is based on these laws as in effect on the date hereof. We express no opinion to the extent that any other laws are applicable to the subject matter hereof and no opinion and provide no assurance as to compliance with any federal or state securities law, rule or regulation.

With regard to our opinion concerning the Warrants constituting valid and binding obligations of the Company:

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(i) Our opinion is subject to, and may be limited by, (a) applicable bankruptcy, reorganization, insolvency, moratorium, fraudulent conveyance, debtor and creditor, and similar laws which relate to or affect creditors' rights generally, and (b) general principles of equity (including, without limitation, concepts of materiality, reasonableness, good faith and fair dealing) regardless of whether considered in a proceeding in equity or at law.

(ii) Our opinion is subject to the qualification that the availability of specific performance, an injunction or other equitable remedies is subject to the discretion of the court before which the request is brought.

(iii) We express no opinion as to any provision of the Warrants that: (a) provides for liquidated damages, buy-in damages, monetary penalties, prepayment or make-whole payments or other economic remedies to the extent such provisions may constitute unlawful penalties, (b) relates to advance waivers of claims, defenses, rights granted by law, or notice, opportunity for hearing, evidentiary requirements, statutes of limitations, trial by jury, or procedural rights, (c) restricts non-written modifications and waivers, (d) provides for the payment of legal and other professional fees where such payment is contrary to law or public policy, (e) relates to exclusivity, election or accumulation of rights or remedies, (f) authorizes or validates conclusive or discretionary determinations, or (g) provides that provisions of the Warrants are severable to the extent an essential part of the agreed exchange is determined to be invalid and unenforceable.

(iv) We express no opinion as to whether a state court outside of the State of New York or a federal court of the United States would give effect to the choice of New York law or jurisdiction provided for in the Warrants.

With respect to the Conversion Shares and the Warrant Shares, we express no opinion to the extent that, notwithstanding its current reservation of shares of Common Stock, future issuances of securities, including the Conversion Shares or the Warrant Shares, of the Company and/or adjustments to outstanding securities, including the Preferred Shares and the Warrants, of the Company may cause the Conversion Shares to be convertible and the Warrants to be exercisable for more shares of Common Stock than the number that remain authorized but unissued. Further, we have assumed the Exercise Price (as defined in the Warrants) will not be adjusted to an amount below the par value per share of the Common Stock.

On the basis of the foregoing, and in reliance thereon, and subject to the qualifications stated herein, we are of the opinion that (i) the Shares, when sold and issued in accordance with the Registration Statement and the Prospectus, will be validly issued, fully paid and non-assessable, (ii) the Conversion Shares, when issued in accordance with the terms of the Preferred Shares, will be validly issued, fully paid and non-assessable, (iii) provided that the Warrants have been duly executed and delivered by the Company and duly delivered to the purchasers thereof against payment therefor, the Warrants, when sold and issued as contemplated in the Registration Statement and the Prospectus will be valid and binding obligations of the Company, and (iv) the Warrant Shares, when issued and paid for in accordance with the terms of the Warrants, will be validly issued, fully paid and non-assessable.

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We consent to the reference to our firm under the caption "Legal Matters" in the Prospectus and to the filing of this opinion as an exhibit to the Registration Statement.

Sincerely,

COOLEY LLP

By: /s/ Charles J. Bair

Charles J. Bair

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CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-1 of our report dated March 28, 2017 relating to the financial statements of Biocept, Inc., as of and for the years ended December 31, 2016 and 2015 (which report includes an explanatory paragraph relating to the uncertainty of the Company's ability to continue as a going concern).

/s/ Mayer Hoffman McCann P.C.

San Diego, California January 26, 2018