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**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

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**FORM S-8**  
**REGISTRATION STATEMENT**

*Under*  
*THE SECURITIES ACT OF 1933*

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**BIOCEPT, INC.**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction of incorporation or organization)  
  
**5810 Nancy Ridge Drive, San Diego, CA**  
(Address of principal executive offices)

**80-0943522**  
(IRS Employer Identification No.)  
  
**92121**  
(Zip Code)

**Biocept, Inc. 2013 Amended and Restated Equity Incentive Plan**  
(Full title of the plan)

**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)

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*Copy to:*  
**Charles J. Bair**  
**Nathan J. Nouskajian**  
**Cooley LLP**  
**4401 Eastgate Mall**  
**San Diego, CA 92121**  
**(858) 550-6000**

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Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer or a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer ☐  
Non-accelerated filer ☐ (Do not check if a smaller reporting company)

Accelerated filer ☐  
Smaller reporting company ☒

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# CALCULATION OF REGISTRATION FEE

Title of each Class of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price Per Share (2)	Proposed Maximum Aggregate Offering Price (2)	Amount of Registration Fee
Common Stock (par value \$0.0001 per share)	1,000,000 shares (3)	\$0.63	\$630,000	\$63.45

(1) Pursuant to Rule 416(a) of the Securities Act of 1933, as amended (the Securities Act), this registration statement shall also cover any additional shares of the Registrant's common stock that may become issuable under the Biocept, Inc. 2013 Amended and Restated Equity Incentive Plan (the 2013 Plan) by reason of any stock dividend, stock split, recapitalization or other similar transaction.

(2) This estimate is made pursuant to Rule 457(c) and Rule 457(h)(1) of the Securities Act solely for purposes of calculating the registration fee. The price per share and aggregate offering price are based upon the average of the high and low prices of the Registrant's common stock on August 4, 2016, as reported on the Nasdaq Capital Market.

(3) Represents the shares of the Registrant's common stock added to the 2013 Plan, which shares are reserved for issuance exclusively for the grant of stock awards to employees of the Registrant who have not previously been one of the Registrant's employees or directors, except following a bona fide period of non-employment, as an inducement material to the individual's entering into employment with the Registrant within the meaning of Rule 5635(c)(4) of the Nasdaq Listing Rules.

## INCORPORATION BY REFERENCE OF CONTENTS OF REGISTRATION STATEMENT ON FORM S-8

The Registrant is hereby registering 1,000,000 additional shares of its common stock for issuance under the 2013 Plan. The Registrant previously registered shares of its common stock for issuance under the 2013 Plan under Registration Statement on Form S-8 filed with the Securities and Exchange Commission on August 13, 2015 (No. 333-206347). Pursuant to General Instruction E to Form S-8, this Registration Statement hereby incorporates by reference the contents of that Registration Statement.

### Item 8. Exhibits.

Exhibit No.	Description of Exhibit
3.1	Certificate of Amendment of Certificate of Incorporation (incorporated by reference to Exhibit 3.1.4 of the Registrant's Current Report on Form 8-K, filed with the SEC on February 14, 2014).
3.2	Amended and Restated Bylaws (incorporated by reference to Exhibit 3.2.1 of the Registrant's Registration Statement on Form S-1 (File No. 333-191323), filed with the SEC on September 23, 2013).
4.1	Reference is made to Exhibits 3.1 and 3.2.
4.2	Specimen Common Stock certificate of Biocept, Inc. (incorporated by reference to Exhibit 4.1 of the Registrant's Registration Statement on Form S-1 (File No. 333-191323), as amended, filed with the SEC on November 5, 2013).
4.3	Form of Representative's Warrant, dated February 10, 2014 (incorporated by reference to Exhibit 4.2 of the Registrant's Registration Statement on Form S-1 (File No. 333-191323), as amended, filed with the SEC on November 20, 2013).
4.4	Form of Warrant issued to the lender under the Loan and Security Agreement, dated as of April 30, 2014, by and among Biocept, Inc., Oxford Finance LLC, as collateral agent, and the lenders party thereto from time to time, including Oxford Finance LLC (incorporated by reference to Exhibit 4.1 of the Registrant's Current Report on Form 8-K, filed with the SEC on May 6, 2014).
4.5	Form of Warrant to Purchase Common Stock (incorporated by reference to Exhibit 4.5 of the Registrant's Registration Statement on Form S-1 (File No. 333-201437), filed with the SEC on February 6, 2015).
4.6	Warrant to Purchase Preferred Stock, dated September 10, 2012, issued by the Registrant in favor of ARE-SD Region No. 18, LLC (incorporated by reference to Exhibit 10.11.3 of the Registrant's Registration Statement on Form S-1 (File No. 333-191323), filed with the SEC on September 23, 2013).
4.7	Warrant to Purchase Common Stock, dated September 10, 2013, issued by the Registrant in favor of ARE-SD Region No. 18, LLC (incorporated by reference to Exhibit 10.11.6 of the Registrant's Registration Statement on Form S-1 (File No. 333-191323), filed with the SEC on September 23, 2013).
4.8	Warrant to Purchase Preferred Stock dated as of January 21, 2009, issued by the Registrant in favor of Goodman Co. Ltd. (incorporated by reference to Exhibit 10.17.1 of the Registrant's Registration Statement on Form S-1 (File No. 333-191323), filed with the SEC on September 23, 2013).
4.9	Warrant to Purchase Common Stock dated as of July 31, 2013, issued by the Registrant in favor of Goodman Co. Ltd. (incorporated by reference to Exhibit 10.17.3 of the Registrant's Registration Statement on Form S-1 (File No. 333-191323), filed with the SEC on September 23, 2013).
4.10	Form of Warrant to Purchase Preferred Stock, issued by the Registrant in favor of various investors under the Note and Warrant Purchase Agreement dated as of January 13, 2012 (incorporated by reference to Exhibit 10.19.3 of the Registrant's Registration Statement on Form S-1 (File No. 333-191323), filed with the SEC on September 23, 2013).
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4.12	Form of Warrant to Purchase Common Stock, issued by the Registrant in favor of various investors under the Note and Warrant Purchase Agreement dated as of June 28, 2013 (incorporated by reference to Exhibit 10.20.2 of the Registrant's Registration Statement on Form S-1 (File No. 333-191323), filed with the SEC on September 23, 2013).
4.13	Form of Warrant to Purchase Common Stock, issued by the Registrant in favor of various guarantors under the Reimbursement Agreement dated as of July 11, 2013 (incorporated by reference to Exhibit 10.21.1 of the Registrant's Registration Statement on Form S-1 (File No. 333-191323), filed with the SEC on September 23, 2013).
4.14	Amended and Restated Investor Rights Agreement, dated as of October 31, 2011, among the Registrant and certain investors named therein (incorporated by reference to Exhibit 10.12 of the Registrant's Registration Statement on Form S-1 (File No. 333-191323), filed with the SEC on September 23, 2013).

<b>Exhibit No.</b>	<b>Description of Exhibit</b>
4.15	Form of Common Stock Purchase Warrant issued to the investors under the Securities Purchase Agreement, dated April 29, 2016, by and among Biocept, Inc. and the purchasers signatory thereto (incorporated by reference to Exhibit 4.1 of the Registrant's Current Report on Form 8-K, filed with the SEC on April 29, 2016).
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. Reference is made to Exhibit 5.1.
24.1	Power of Attorney. Reference is made to the signature page hereto.
99.1	2013 Amended and Restated Equity Incentive Plan, Form of Stock Option Grant Notice, Option Agreement, Form of Restricted Stock Unit Grant Notice and Restricted Stock Unit Agreement for use thereunder (incorporated by reference to Exhibit 99.3 of the Registrant's Current Report on Form 8-K, filed with the SEC on July 27, 2016).

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## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and 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 August 5, 2016.

BIOCEPT, INC.

By: /s/ Michael W. Nall

**Michael W. Nall**  
**Chief Executive Officer and President**

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## POWER OF ATTORNEY

KNOW ALL BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Michael W. Nall and Timothy Kennedy, and each of them, as his true and lawful attorneys-in-fact and agents, each with the full power of substitution, for him and in his name, place or stead, in any and all capacities, to sign any and all amendments to this Registration Statement (including post-effective amendments), and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or their or his substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
<u>/s/ Michael W. Nall</u> <b>Michael W. Nall</b>	Chief Executive Officer, President and Director <i>(Principal Executive Officer)</i>	August 5, 2016
<u>/s/ Timothy Kennedy</u> <b>Timothy Kennedy</b>	Chief Financial Officer <i>(Principal Financial Officer and Principal Accounting Officer)</i>	August 5, 2016
<u>/s/ David F. Hale</u> <b>David F. Hale</b>	Chairman and Director	August 5, 2016
<u>/s/ Marsha A. Chandler</u> <b>Marsha A. Chandler</b>	Director	August 5, 2016
<u>/s/ Bruce E. Gerhardt</u> <b>Bruce E. Gerhardt</b>	Director	August 5, 2016
<u>/s/ Bruce A. Huebner</u> <b>Bruce A. Huebner</b>	Director	August 5, 2016
<u>/s/ Edward Neff</u> <b>Edward Neff</b>	Director	August 5, 2016
<u>/s/ Ivor Royston</u> <b>Ivor Royston</b>	Director	August 5, 2016
<u>/s/ M. Faye Wilson</u> <b>M. Faye Wilson</b>	Director	August 5, 2016

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4.11	Form of Amendment of Warrant to Purchase Preferred Stock, dated as of September 13, 2013 (incorporated by reference to Exhibit 10.19.4 of the Registrant's Registration Statement on Form S-1 (File No. 333-191323), filed with the SEC on September 23, 2013).
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Charles J. Bair  
+1 858 550 6142  
cbair@cooley.com

August 5, 2016

Biocept, Inc.  
5810 Nancy Ridge Drive  
San Diego, CA 9212

Ladies and Gentlemen:

You have requested our opinion, as counsel to BIOCEPT, INC., a Delaware corporation (the "Company"), with respect to certain matters in connection with the filing by the Company of a Registration Statement on Form S-8 (the "Registration Statement") with the Securities and Exchange Commission, covering the offering of up to 1,000,000 shares (the "Shares") of the Company's Common Stock, \$0.0001 par value, issuable pursuant to the Company's 2013 Amended and Restated Equity Incentive Plan (the "Plan").

In connection with this opinion, we have examined and relied upon the Registration Statement and related prospectus, the Plan, the Company's certificate of incorporation and bylaws, as currently in effect, and the 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. 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 thereof.

Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Shares, when issued and sold in accordance with the Plan, the Registration Statement and related prospectus, will be validly issued, fully paid and nonassessable (except as to Shares issued pursuant to certain deferred payment arrangements, which will be fully paid and nonassessable when such deferred payments are made in full).

We consent to the filing of this opinion as an exhibit to the Registration Statement.

Sincerely,

Cooley LLP

By: /s/ Charles J. Bair  
Charles J. Bair

Cooley LLP 4401 Eastgate Mall San Diego, CA 92121  
t: (858) 550-6000 f: (858) 550-6420 cooley.com



**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

As independent registered public accountants, we hereby consent to the incorporation by reference in Registration Statement on Form S-8, of our report dated March 10, 2016, relating to the financial statements of Biocept, Inc., as of and for the years ended December 31, 2015 and 2014.

/s/ Mayer Hoffman McCann P.C.

San Diego, California

August 5, 2016