

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

FORM S-1
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

KINDRED BIOSCIENCES, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

2834
(Primary Standard Industrial
Classification Code Number)

46-1160142
(I.R.S. Employer
Identification No.)

1499 Bayshore Highway, Suite 226
Burlingame, California 94010
(650) 701-7901

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Richard Chin, M.D.
President and Chief Executive Officer
Kindred Biosciences, Inc.
1499 Bayshore Highway, Suite 226
Burlingame, California 94010
(650) 701-7901

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

Sanford J. Hillsberg, Esq.
Dale E. Short, Esq.
TroyGould PC
1801 Century Park East, 16th Floor
Los Angeles, California 90067
(310) 553-4441

Charles K. Ruck, Esq.
B. Shayne Kennedy, Esq.
Latham & Watkins LLP
650 Town Center Drive, 20th Floor
Costa Mesa, California 92626-1925
(714) 540-1235

Approximate date of commencement of proposed sale to the public: As soon as practicable after this Registration Statement is declared effective.

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. 333-192242)

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, 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.

Large accelerated filer

Accelerated filer

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

Smaller reporting company

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities To Be Registered	Proposed Maximum Aggregate Offering Price (1)	Amount of Registration Fee (2)
Common Stock, \$0.0001 par value per share	\$2,875,000	\$371

(1) The Registrant previously registered common stock with an aggregate offering price of \$57,500,000 on a Registration Statement on Form S-1 (File No. 333-192242) filed by the Company on October 2, 2013 and declared effective by the Securities and Exchange Commission on December 11, 2013. In accordance with Rule 462(b) under the Securities Act, an additional amount of common stock having a proposed maximum aggregate offering price of \$2,875,000 is hereby registered, representing no more than 20% of the maximum aggregate offering price of common stock under the Registration Statement on Form S-1 (File No. 333-192242). In no event will the maximum aggregate offering price of all common stock issued pursuant to this Registration Statement and the Registration Statement on Form S-1 (File No. 333-192242) exceed that registered under such registration statements.

(2) Calculated pursuant to Rule 457(o) based on an estimate of the proposed maximum aggregate offering price.

This Registration Statement shall become effective upon filing with the Securities and Exchange Commission in accordance with Rule 462(b) under the Securities Act.

EXPLANATORY NOTE

Kindred Biosciences, Inc., a Delaware corporation (the “Company”), is filing this Registration Statement with the Securities and Exchange Commission (the “SEC”) pursuant to Rule 462(b) under the Securities Act of 1933, as amended. This Registration Statement relates to the public offering of common stock contemplated by the Registration Statement on Form S-1 (File No. 333-192242) filed by the Company on October 2, 2013 and declared effective by the SEC on December 11, 2013 (the “Prior Registration Statement”). The Company is filing this Registration Statement for the sole purpose of increasing by \$2,875,000 the maximum aggregate offering price of common stock registered under the Prior Registration Statement.

The contents of the Prior Registration Statement, including the prospectus contained therein, and any and all prospectus supplements and all exhibits thereto, are incorporated by reference into this Registration Statement in their entirety and are deemed to be part of this Registration Statement.

PART II – INFORMATION NOT REQUIRED IN PROSPECTUS

All exhibits previously filed or incorporated by reference in the registrant's Registration Statement on Form S-1, as amended (File No. 333-192242), are incorporated by reference into, and shall be deemed to be a part of this filing, except for the following, which are filed herewith:

<u>Exhibit No.</u>	<u>Description</u>
5.1	Opinion of TroyGould PC
23.1	Consent of TroyGould PC (included in Exhibit 5.1)
23.2	Consent of KMJ Corbin & Company LLP
24.1	Powers of Attorney (included in registrant's Registration Statement on Form S-1 (File No. 333-192242) filed with the Commission on November 8, 2013.

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, in Burlingame, California, on December 11, 2013.

KINDRED BIOSCIENCES, INC.

By: /s/ Richard Chin, M.D.
Richard Chin, M.D.
President and Chief Executive Officer

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

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Richard Chin, M.D.</u> Richard Chin, M.D.	President, Chief Executive Officer and Director (Principal Executive Officer)	December 11, 2013
<u>/s/ Stephen S. Galliker</u> Stephen S. Galliker	Chief Financial Officer (Principal Financial and Accounting Officer)	December 11, 2013
<u>/s/ Ernest Mario*</u> Ernest Mario	Director	December 11, 2013
<u>/s/ Ervin Veszprémi*</u> Ervin Veszprémi	Director	December 11, 2013
<u>/s/ Oleg Nodelman*</u> Oleg Nodelman	Director	December 11, 2013
<u>/s/ Raymond Townsend*</u> Raymond Townsend	Director	December 11, 2013

*By /s/ Richard Chin, M.D.
Name: Richard Chin, M.D.
Title: Attorney-in-fact

INDEX TO EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

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TroyGould PC
1801 Century Park East, 16th Floor
Los Angeles, California 90067

December 11, 2013

Kindred Biosciences, Inc.
1499 Bayshore Highway, Suite 226
Burlingame, California 94010

Ladies and Gentlemen:

We have acted as counsel to Kindred Biosciences, Inc., a Delaware corporation (the "Company"), in connection with a Registration Statement on Form S-1 (the "462 Registration Statement") to be filed pursuant to Rule 462(b) under the Securities Act of 1933, as amended (the "Securities Act"), with the Securities and Exchange Commission (the "Commission") on or about the date of this opinion letter, covering the offering of an aggregate of up to an additional 2,012,500 shares (the "Additional Shares") of common stock of the Company, par value \$0.0001 per share ("Common Stock"). The 462(b) Registration Statement incorporates by reference the contents of the Registration Statement on Form S-1 (File No. 333-192242), including the prospectus contained therein (the "Prospectus"), and the exhibits thereto, that was initially filed with the Commission on October 2, 2013, and declared effective on December 11, 2013. This opinion letter is furnished to you at your request and in connection with the requirements of Item 601(b)(5) of Regulation S-K and Rule 462(b).

The Additional Shares are to be sold by the Company pursuant to an underwriting agreement (the "Underwriting Agreement") to be entered into by and among the Company and BMO Capital Markets Corp. and Guggenheim Securities, as representatives of the several underwriters named in the Underwriting Agreement, the form of which has been filed as Exhibit 1.1 to the Registration Statement.

We are acting as counsel for the Company in connection with the issue and sale by the Company of the Additional Shares. As such, we have examined signed copies of the Registration Statement as filed with the Commission. We have also examined and relied upon the Underwriting Agreement, minutes of meetings and actions of the stockholders and the Board of Directors of the Company as provided to us by the Company, stock record books of the Company as provided to us by the Company, the Certificate of Incorporation and the By-Laws of the Company, each as amended or restated to date, and such other documents as we have deemed necessary for purposes of rendering the opinions hereinafter set forth.

In our examination of the foregoing documents, we have assumed the genuineness of all signatures, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as copies, the authenticity of the originals of such latter documents and the legal competence of all signatories to such documents.

The opinion expressed below is limited to the Delaware General Corporation Law, or DGCL, including the reported judicial decisions interpreting the DGCL.

Based upon and subject to the foregoing, we are of the opinion that the Additional Shares have been duly authorized for issuance and, when the Shares are issued and paid for in accordance with the terms and conditions of the Underwriting Agreement, the Additional Shares will be validly issued, fully paid and nonassessable.

Please note that we are opining only as to the matters expressly set forth herein, and no opinion should be inferred as to any other matters. This opinion is based upon currently existing statutes, rules, regulations and judicial decisions, and we disclaim any obligation to advise you of any change in any of these sources of law or subsequent legal or factual developments which might affect any matters or opinions set forth herein.

We hereby consent to the filing of this opinion with the Commission as an exhibit to the Registration Statement in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act and to the use of our name therein and in the related Prospectus under the caption "Legal Matters." In giving such consent, we do not hereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission.

Very truly yours,

/s/ TROYGOULD PC

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement on Form S-1 of Kindred Biosciences, Inc., filed pursuant to Rule 462(b) of the Securities Act of 1933, of our report dated October 1, 2013, relating to our audit of the financial statements of Kindred Biosciences, Inc. as of December 31, 2012 and for the period from September 25, 2012 (inception) through December 31, 2012, and to the reference to us under the heading "Experts", included in the Registration Statement on Form S-1 (No. 333-192242) and related Prospectus of Kindred Biosciences, Inc. declared effective on December 11, 2013.

/s/ KMJ Corbin & Company LLP

Costa Mesa, California
December 11, 2013