

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

FORM S-1
REGISTRATION STATEMENT
Under
the Securities Act of 1933

Chimerix, 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)

33-0903395
(I.R.S. Employer
Identification Number)

**2505 Meridian Parkway, Suite 340
Durham, NC 27713
(919) 806-1074**

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

**Kenneth I. Moch
President and Chief Executive Officer
Chimerix, Inc.
2505 Meridian Parkway, Suite 340
Durham, NC 27713
(919) 806-1074**

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

**Jason L. Kent
Cooley LLP
4401 Eastgate Mall
San Diego, CA 92121
(858) 550-6000**

Copies to:
**Timothy W. Trost
Senior Vice President, Chief Financial
Officer and Corporate Secretary
Chimerix, Inc.
2505 Meridian Parkway, Suite 340
Durham, NC 27713
(919) 806-1074**

**Richard D. Truesdell, Jr., Esq.
Davis Polk & Wardwell LLP
450 Lexington Avenue
New York, NY 10017
(212) 450-4000**

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. 333-187145)

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 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. (Check one):

Large accelerated filer

Non-accelerated filer

(Do not check if a smaller reporting company)

Accelerated filer

Smaller reporting company

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered ⁽¹⁾⁽²⁾	Proposed Maximum Aggregate Offering Price Per Share	Proposed Maximum Aggregate Offering Price ⁽³⁾	Amount of Registration Fee
Common Stock, \$0.001 par value per share	1,403,000	\$14.00	\$19,642,000	\$2,680

(1) Includes 183,000 additional shares that may be purchased pursuant to an over-allotment option granted to the underwriters.

(2) The Registrant is registering 1,403,000 shares pursuant to this Registration Statement, which shares are in addition to the 7,015,000 shares registered pursuant to the Form S-1 Registration Statement (Registration No. 333-187145).

(3) Estimated solely for the purpose of computing the amount of the registration fee pursuant to Rule 457(a) under the Securities Act of 1933, as amended.

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

**EXPLANATORY NOTE AND INCORPORATION OF
CERTAIN INFORMATION BY REFERENCE**

This Registration Statement on Form S-1 relates to the public offering of common stock of Chimerix, Inc. contemplated by the Registration Statement on Form S-1 (File No. 333-187145), as amended (the "Prior Registration Statement"), declared effective on April 10, 2013 by the Securities and Exchange Commission, and is filed pursuant to Rule 462(b) promulgated under the Securities Act of 1933, as amended, solely to increase the number of shares to be offered in the public offering by 1,403,000 shares, including 183,000 shares that may be sold pursuant to an over-allotment option granted to the underwriters. The contents of the Prior Registration Statement, including all exhibits thereto, are hereby incorporated by reference.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant has duly caused this Registration Statement on Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Durham, State of North Carolina, on this 10th day of April, 2013.

Chimerix, Inc.

By: /s/ Kenneth I. Moch
Kenneth I. Moch
President and Chief Executive Officer

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/ Kenneth I. Moch Kenneth I. Moch	President, Chief Executive Officer and Member of the Board of Directors <i>(Principal Executive Officer)</i>	April 10, 2013
/s/ Timothy W. Trost Timothy W. Trost	Senior Vice President, Chief Financial Officer and Corporate Secretary <i>(Principal Financial and Accounting Officer)</i>	April 10, 2013
/s/ Ernest Mario, Ph.D.* Ernest Mario, Ph.D.	Chairman of the Board of Directors	April 10, 2013
/s/ Farah Champs* Farah Champs	Member of the Board of Directors	April 10, 2013
/s/ Martha J. Demski* Martha J. Demski	Member of the Board of Directors	April 10, 2013
/s/ Wende Hutton* Wende Hutton	Member of the Board of Directors	April 10, 2013
/s/ James Nidel, M.D., Ph.D.* James Nidel, M.D., Ph.D.	Member of the Board of Directors	April 10, 2013
/s/ Arthur M. Pappas* Arthur M. Pappas	Member of the Board of Directors	April 10, 2013
/s/ Timothy J. Wollaeger* Timothy J. Wollaeger	Member of the Board of Directors	April 10, 2013

*Pursuant to Power of Attorney

By: /s/ Kenneth I. Moch
Kenneth I. Moch

EXHIBIT INDEX

Exhibit Number	Description of Document
5.1	Opinion of Cooley LLP.
23.1	Consent of Ernst & Young LLP, an Independent Registered Public Accounting Firm.
23.2	Consent of Cooley LLP. Reference is made to Exhibit 5.1.
24.1(a)	Power of Attorney.

(a) Included on the signature page of Registration Statement on Form S-1 (File No. 333-187145), filed with the Securities and Exchange Commission on March 8, 2013, and incorporated herein by reference.

Jason L. Kent
(858) 550-6044
jkent@cooley.com

April 10, 2013

Chimerix, Inc.
2505 Meridian Parkway, Suite 340
Durham, NC 27713
Ladies and Gentlemen:

You have requested our opinion with respect to certain matters in connection with the filing by Chimerix, Inc., a Delaware corporation (the "**Company**"), of a Registration Statement on Form S-1 (the "**Registration Statement**") with the Securities and Exchange Commission pursuant to Rule 462(b) of Regulation C promulgated under the Securities Act of 1933, as amended, relating to an aggregate of 1,403,000 shares of common stock, par value \$0.001 per share of the Company (the "**Shares**"). The Registration Statement incorporates by reference the Registration Statement on Form S-1 (No. 333-187145), which was declared effective on April 10, 2013, including the prospectus which forms a part of such Registration Statement (the "**Prospectus**").

In connection with this opinion, we have examined and relied upon the Registration Statement and Prospectus, the Company's Amended and Restated Certificate of Incorporation, as amended, its Bylaws, as amended, as currently in effect, and its forms of Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws to be effective upon the closing of the offering of the Shares in accordance with the Registration Statement and Prospectus, 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. 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 sold and issued in accordance with the Registration Statement and the Prospectus, will be validly issued, fully paid and nonassessable.

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/ Jason L. Kent
Jason L. Kent, Partner

4401 EASTGATE MALL, SAN DIEGO, CA 92121 T: (858) 550-6000 F: (858) 550-6420 WWW.COOLEY.COM

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in this Registration Statement on Form S-1 of Chimerix, Inc. filed pursuant to Rule 462(b) of the Securities Act of 1933, as amended, of our report dated March 8, 2013 (except for Note 14, as to which the date is March 26, 2013) included in Amendment No. 2 to the Registration Statement on Form S-1 of Chimerix, Inc. (File No. 333-187145), which was declared effective on April 10, 2013 by the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Raleigh, North Carolina
April 10, 2013
