SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to

Section 13 or 15(d) of

THE SECURITIES EXCHANGE ACT OF 1934

Date of Report (Date of Earliest Event Reported): September 30, 2003

GENOME THERAPEUTICS CORP.

(Exact name of registrant as specified in its charter)

Massachusetts 0-10824 04-2297484

(State or other jurisdiction of incorporation) (Commission File Number)

(I.R.S. Employer Identification Number)

100 Beaver Street

Waltham, Massachusetts 02453

(Address, of principal executive offices, including zip code)

(781) 398-2300

(Registrant s Telephone number including area code)

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Item 5. OTHER EVENTS

On September 30, 2003, Genome Therapeutics Corp. (Genome), a Massachusetts corporation, issued a press release announcing it raised approximately \$9.55 million in gross proceeds through a private placement to accredited investors of approximately 3,820,000 million shares of Genome Common Stock and warrants to purchase approximately 1,910,000 million shares of Genome Common Stock. The warrants have an exercise price of \$3.48 per share. A copy of the press release is attached hereto as Exhibit 99.1.

The securities issued in the private placement have not been registered under the Securities Act of 1933, as amended, and until so registered the securities may not be offered or sold in the United States absent registration or availability of an applicable exemption from registration. Pursuant to a Registration Rights Agreement, Genome is required to prepare and file with the Securities and Exchange Commission within 20 business days after the closing date, a registration statement for the purpose of registering for resale all of the shares of Genome s Common Stock sold and issuable upon exercise of the warrants sold in the private placement.

The foregoing description of the private placement does not purport to be complete and is qualified in its entirety by reference to the Form of Subscription Agreement attached hereto as Exhibit 10.1, the Registration Rights Agreement attached hereto as Exhibit 10.2, and the form of Warrant attached hereto as Exhibit 4.1, each of which is incorporated herein by this reference.

Item 7. Financial Statements and Exhibits.

- (c) Exhibits
 - 4.1 Form of Warrant issued by the Company to each investor dated September 29, 2003.
 - 10.1 Form of Subscription Agreement by and among the Company and each investor dated September 29, 2003.
 - 10.2 Registration Rights Agreement by and among the Company and the investors named therein dated September 29, 2003.
 - 99.1 Press Release dated September 30, 2003.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

GENOME THERAPEUTICS CORP.

By /s/ Steven Rauscher

Name: Steven Rauscher

Title: Chairman, Chief Executive Officer and President

Date: September 30, 2003

EXHIBIT INDEX

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