UNITED STATES 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): May 6, 2004

VERTEX PHARMACEUTICALS INCORPORATED

(Exact name of registrant as specified in its charter)

MASSACHUSETTS (State or other jurisdiction ofincorporation) 000-19319

(Commission File Number)

04-3039129 (IRS Employer Identification No.

130 Waverly Street Cambridge, Massachusetts 02139

(Address of principal executive offices) (Zip Code)

(617) 444-6100

Registrant's telephone number, including area code:

Item 5. Other Events.

On May 6, 2004, Vertex Pharmaceuticals Incorporated issued a one-time grant of restricted stock to senior managers and executives at the Vice-President level and above. The restricted stock grant has been structured in consultation with an outside compensation consulting group retained by the Company's Board of Directors, and the grant was approved by the Board. The amount of each individual's restricted stock award is based on the individual's title and responsibilities and is proportional to base annual salary.

The goal of the stock grant is to provide a substantial unvested equity position to Vertex senior managers and executives to reinforce their incentives to remain with the Company during a critical period in the Company's development and growth. Under the terms of the grant, the shares vest in two increments: 50% on May 6, 2007 (the three-year anniversary of the grant); and the remaining 50% of the shares on May 6, 2009, or earlier, if the Company is profitable, as determined by the Board.

Stock awards under the Company's stock and option plans are granted to employees, including executive officers, to create a link between compensation and stockholder return. These stock awards enable executive officers and other employees to build and maintain a significant stock ownership position in Company that vests over time and serves as an incentive to remain with the Company.

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.

VERTEX PHARMACEUTICALS INCORPORATED (Registrant)

Date: May 10, 2004

/s/ IAN F. SMITH

Ian F. Smith Senior Vice President and Chief Financial Officer

QuickLinks

Item 5. Other Events.

SIGNATURES