

PROSPECTUS SUPPLEMENT NO. 5 DATED SEPTEMBER 1, 2005
(TO PROSPECTUS DATED FEBRUARY 14, 2005)

VERTEX PHARMACEUTICALS INCORPORATED

\$79,313,000 5³/₄% Convertible Senior Subordinated Notes Due 2011
5,308,800 Shares of Common Stock Issuable Upon Conversion of the Notes

This Prospectus Supplement No. 4 supplements and amends the Prospectus dated February 14, 2005 (the "Prospectus"), relating to the resale from time to time by holders of our 5³/₄% Convertible Senior Subordinated Notes Due 2011 (the "Notes") and shares of our common stock issuable upon the conversion of the Notes. Such information has been obtained from the selling holders. This prospectus supplement should be read in conjunction with the Prospectus, which is to be delivered with this prospectus supplement.

The information appearing in the table below, as of the date hereof, supplements and amends the information in the table appearing under the heading "Selling Holders" in the Prospectus, and, where the name of a selling holder identified in the table below also appears in the table in the Prospectus, the information set forth in the table below regarding that selling holder supercedes the information in the Prospectus:

Name of security holder	Principal Amount of Notes Beneficially Owned and Offered(1)	Number of shares of Common Stock Issuable Upon Conversion of the Notes that May Be Offered
Amaranth Helix Limited	2,500,000	167,336
Bank Austria Cayman Islands Ltd.	3,493,000	233,802
BP Amoco PLC Master Trust	644,000	43,106
Consolidated Pension Plan	325,000	21,754
Context Convertible Arbitrage Fund, LP	2,800,000	187,417
Context Convertible Arbitrage Offshore LTD	7,690,000	514,726
Clinton Multistrategy Master Fund, Ltd.	4,000,000	267,738
Delaware Street Capital Master Fund L.P.	1,000,000	66,935
Detroit Medical Center Endowment/Funded Dep. Fund (and) The Detroit Medical Center Guggenheim Portfolio Co. XV, LLC	483,000	32,329
Hotel Union & Hotel Industry of Hawaii Pension Plan	179,000	11,981
Institutional Benchmark Master Fund Ltd.	736,000	49,264
Institutional Benchmark Master Fund c/o Quattro Fund	1,307,000	87,484
National Bank of Canada	575,000	38,488
Quattro Fund Ltd.	15,552,000	1,040,964
Quattro Multistrategy Master Fund	541,000	36,212
Ramius, LP(2)	135,000	9,036
Ramius Capital Group(2)	645,000	43,173
Ramius Master Fund, Ltd.(2)	2,982,000	199,599
Ramius Partners II, LP(2)	129,000	8,635

RCG Multi Strategy Master Fund, Ltd.(2)	195,000	13,052
RCG Baldwin LP(2)	413,000	27,644
RCG Halifax Master Fund, Ltd.(2)	552,000	36,948
RCG Latitude Master Fund Ltd.(2)	5,262,000	352,209
Richmond Retirement System High Yield Fixed Income	150,000	10,040
Ritchie Capital Structure Arbitrage Trading, Ltd.	2,500,000	167,336
SSI Blended Market Neutral L.P.	356,000	23,829
SSI Hedged Convertible Market Neutral L.P.	402,000	26,908
Sphinx Convertible Arbitrage Fund SPC	625,000	41,834
Sphinx Convertible Arbitrage (Clinton) Segregated Portfolio	1,100,000	73,628
UBS Securities LLC(3)	8,793,000	588,554
Unidentified Securityholders	5,154,000	344,372
Univest Convertible Arbitrage Fund II Ltd (Norshield)(2)	275,000	18,407
Viacom Inc. Pension Plan Master Trust	58,000	3,882
Wachovia Securities International Ltd.	1,000,000	66,935
Xavex Convertible Arbitrage 5 Fund	161,000	10,776

- (1) The number of securities beneficially owned is determined under the rules of the Securities and Exchange Commission and the information is not necessarily indicative of beneficial ownership for any other purpose. Under those rules, beneficial ownership includes any securities as to which the individual has sole or shared voting power or investment power and also any securities which the individual has the right to acquire within 60 days after the date the selling holder provided this information, through the exercise of any stock option or other right. The inclusion in the table of securities, however, does not constitute an admission that the selling holders are direct or indirect beneficial owners of those securities. The selling holders have sole voting power and investment power with respect to all securities of capital stock listed as owned by the selling holders.
- (2) The selling securityholder is the affiliate of a registered broker-dealer, however the selling securityholder purchased the securities in the ordinary course of business and, at the time of purchase, had no agreements or understandings, directly or indirectly, with any person to distribute the securities.
- (3) UBS Securities LLC, a registered broker-dealer, acted as a dealer-manager in connection with the exchange of the old notes for the new notes. The securities to be sold by UBS Securities LLC hereunder were not issued or sold as underwriting compensation.

The selling holders identified above may have sold, transferred or otherwise disposed of all or a portion of their Notes since the date on which they provided the information about their Notes in transactions exempt from the registration requirements of the Securities Act.

