

CORTEX PHARMACEUTICALS INC/DE/

Form 424B3

March 30, 2006

PROSPECTUS SUPPLEMENT NO. 4

Filed Pursuant to Rule 424(b)(3)

(To Prospectus Dated March 18, 2004)

Registration No. 333-112043

**CORTEX PHARMACEUTICALS, INC.**

**11,743,710 Shares of Common Stock**

**(\$0.001 par value)**

This prospectus supplement supplements information contained in that certain prospectus dated March 18, 2004 of Cortex Pharmaceuticals, Inc. (the Company), relating to the offer and sale from time to time of up to 6,909,091 shares of the Company's outstanding common stock, and up to 4,834,619 shares of the Company's common stock issuable upon exercise of warrants, which are held by certain stockholders and warrant holders named in the prospectus under the section entitled Selling Stockholders. This prospectus supplement is not complete without, and may not be delivered or utilized except in connection with, the prospectus, including any amendments or supplements thereto.

The following amends and supplements the information set forth in the prospectus under the caption Selling Stockholders with respect to the selling stockholders named below and the respective shares of common stock beneficially owned by such selling stockholders that may be offered pursuant to the prospectus:

Name	Common Stock Owned Prior to the Offering	Common Stock Being Offered Pursuant to this Prospectus	Common Stock Owned Upon Completion of this Offering	Percentage of Common Stock Owned Upon Completion of this Offering
Perceptive Life Sciences Master Fund, Ltd. <sup>(22)</sup>	600,000	600,000	0	0
Xmark Opportunity Fund, L.P. <sup>(50)</sup>	254,361	179,361	75,000	*
Xmark Opportunity Fund, Ltd. <sup>(51)</sup>	285,639	210,639	75,000	*

\* Indicates less than 1%.

(22) Joseph Edelman, whose business address is c/o Perceptive Advisors, LLC, 7284 W. Palmetto Park Rd., Suite 306, Boca Raton, FL 33433, is the Chief Executive Officer and Managing Member of Perceptive Advisors, LLC, the Investment Manager to Perceptive Life Sciences Master Fund, Ltd., and as such, Mr. Edelman possesses the power to vote and direct the disposition of the securities held by Perceptive Life Sciences Master Fund, Ltd.

(50) Consists of 254,361 shares subject to warrants held prior to the offering that are currently exercisable, of which 179,361 shares subject to warrants are being offered pursuant to this prospectus. Mitchell D. Kaye, whose business address is c/o Xmark Funds, 301 Tresser Blvd., Suite 1320, Stamford, CT 06901, is the Chief Investment Officer of Xmark Opportunity Fund, L.P., and as such, Mr. Kaye possesses the power to vote and direct the disposition of the securities held by Xmark Opportunity Fund, L.P. Perceptive Life Sciences Master Fund, Ltd. assigned the foregoing warrants to Xmark Opportunity Fund, L.P. in March 2006.

(51) Consists of 285,639 shares subject to warrants held prior to the offering that are currently exercisable, of which 210,639 shares subject to warrants are being offered pursuant to this prospectus. Mitchell D. Kaye, whose business address is c/o Xmark Funds, 301 Tresser Blvd., Suite 1320, Stamford, CT 06901, is the Chief Investment Officer of Xmark Opportunity Fund, Ltd., and as such, Mr. Kaye possesses the power to vote and direct the disposition of the securities held by Xmark Opportunity Fund, Ltd. Perceptive Life Sciences Master Fund, Ltd. assigned the foregoing warrants to Xmark Opportunity Fund, Ltd. in March 2006.

All information in this prospectus supplement is as of March 30, 2006.

**The date of this prospectus supplement is March 30, 2006.**