

CORTEX PHARMACEUTICALS INC/DE/

Form 424B3

August 31, 2006

PROSPECTUS SUPPLEMENT NO. 4

(To Prospectus Dated March 2, 2004)

Filed Pursuant to Rule 424(b)(3)**Registration No. 333-108948****CORTEX PHARMACEUTICALS, INC.****5,164,366 Shares of Common Stock****(\$0.001 par value)**

This prospectus supplement supplements information contained in that certain prospectus dated March 2, 2004 of Cortex Pharmaceuticals, Inc. (the Company), relating to the offer and sale from time to time of up to 1,664,968 shares of the Company's outstanding common stock, and up to 3,499,398 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 table 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
Omicron Master Trust ⁽⁷⁾	369,359	280,539	88,820	*
Rockmore Investment Master Fund Ltd. ⁽³⁴⁾	93,975	52,795	41,180	*

- (7) Consists of (a) 202,692 shares subject to warrants held prior to the offering that are currently exercisable, of which 113,872 shares subject to warrants are being offered pursuant to this prospectus, and (b) 166,667 shares of the Company's common stock held prior to the offering that are being offered pursuant to this prospectus (all of which shares of common stock have been sold as of the date of prospectus supplement no. 4 to the prospectus dated March 2, 2004). Omicron Capital, L.P., a Delaware limited partnership (Omicron Capital), serves as investment manager to Omicron Master Trust, a trust formed under the laws of Bermuda (Omicron), Omicron Capital, Inc., a Delaware corporation (OCI), serves as general partner of Omicron Capital, and Winchester Global Trust Company Limited (Winchester) serves as the trustee of Omicron. By reason of such relationships, Omicron Capital and OCI may be deemed to share dispositive power over the shares of the Company's common stock owned by Omicron, and Winchester may be deemed to share voting and dispositive power over the shares of the Company's common stock owned by Omicron. Omicron Capital, OCI and Winchester disclaim beneficial ownership of such shares of the Company's common stock. Omicron Capital has delegated authority from the board of directors of Winchester regarding the portfolio management decisions with respect to the shares of common stock owned by Omicron and, as of the date of prospectus supplement no. 4 to the prospectus dated March 2, 2004, Mr. Olivier H. Morali, officer of OCI, whose business address is 650 Fifth Avenue, 24th Floor, New York, New York 10019, has delegated authority from the board of directors of OCI regarding the portfolio management decisions of Omicron Capital with respect to the shares of common stock owned by

Omicron. By reason of such delegated authority, Mr. Morali may be deemed to have sole dispositive power over the shares of common stock owned by Omicron. Mr. Morali disclaims beneficial ownership of such shares of common stock and has no legal right to maintain such delegated authority. No other person has sole or shared voting or dispositive power with respect to the shares of common stock being offered by Omicron, as those terms are used for purposes under Regulation 13D-G of the Securities Exchange Act of 1934, as amended. Omicron and Winchester are not affiliates of one another, as that term is used for purposes of the Securities Exchange Act of 1934, as amended, or of any other person named in this prospectus as a selling stockholder. No person or group (as that term is used in Section 13(d) of the Securities Exchange Act of 1934, as amended, or the SEC's Regulation 13D-G) controls Omicron and Winchester.

- (34) Consists of 93,975 shares subject to warrants held prior to the offering that are currently exercisable, of which 52,795 shares subject to warrants are being offered pursuant to this prospectus. Rockmore Capital, LLC (Rockmore Capital) and Rockmore Partners, LLC (Rockmore Partners), each a limited liability company formed under the laws of the State of Delaware, serve as the investment manager and general partner, respectively, to Rockmore Investments (US) LP, a Delaware limited partnership, which invests all of its assets through Rockmore Investment Master Fund Ltd., an exempted company formed under the laws of Bermuda (Rockmore Master Fund). By reason of such relationships, Rockmore Capital and Rockmore Partners may be deemed to share dispositive power over the shares of the Company's common stock owned by Rockmore Master Fund. Rockmore Capital and Rockmore Partners disclaim beneficial ownership of such shares of the Company's common stock. Rockmore Partners has delegated authority to Rockmore Capital regarding the portfolio management decisions with respect to the shares of common stock owned by Rockmore Master Fund and, as of the date of prospectus supplement no. 4 to the prospectus dated March 2, 2004, Mr. Bruce T. Bernstein and Mr. Brian Daly, as officers of Rockmore Capital, and whose business address is 650 Fifth Avenue, 24th Floor, New York, New York 10019, are responsible for the portfolio management decisions of the shares of common stock owned by Rockmore Master Fund. By reason of such authority, Messrs. Bernstein and Daly may be deemed to share dispositive power over the shares of the Company's common stock owned by Rockmore Master Fund. Messrs. Bernstein and Daly disclaim beneficial ownership of such shares of the Company's common stock and neither of such persons has any legal right to maintain such authority. No other person has sole or shared voting or dispositive power with respect to the shares of the Company's common stock as those terms are used for purposes under Regulation 13D-G of the Securities Exchange Act of 1934, as amended. No person or group (as that term is used in Section 13(d) of the Securities Exchange Act of 1934, as amended, or the SEC's Regulation 13D-G) controls Rockmore Master Fund. Omicron Master Trust assigned the foregoing warrants to purchase up to 52,795 shares subject to this prospectus to Rockmore Master Fund in August 2006.

All information in this prospectus supplement is as of August 31, 2006.

The date of this prospectus supplement is August 31, 2006.