

CORTEX PHARMACEUTICALS INC/DE/  
 Form 424B3  
 December 20, 2005  
**PROSPECTUS SUPPLEMENT NO. 2**  
 (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
Castle Creek Healthcare Partners, LLC <sup>(2)</sup>	133,334	0	118,182	0
Crestview Capital Master, LLC <sup>(29)(30)</sup>	133,334	133,334	0	0

(2) The third column in the foregoing table includes 118,182 shares subject to warrants that are currently exercisable and are not being offered pursuant to this prospectus. As investment manager under a management agreement, Castle Creek Partners, LLC may exercise dispositive and voting power with respect to the shares owned by Castle Creek Healthcare Partners, LLC. Castle Creek Partners, LLC disclaims beneficial ownership of such shares. Daniel Asher is the managing member of Castle Creek Partners, LLC. Mr. Asher disclaims beneficial ownership of the shares owned by Castle Creek Healthcare Partners, LLC.

(29) The first two columns in the foregoing table include 133,334 shares subject to warrants that are currently exercisable and are being offered pursuant to this prospectus. Castle Creek Healthcare Partners, LLC, a former selling stockholder, assigned the warrants held in its name to Crestview Capital Master, LLC in December 2005. Crestview Capital Partners, LLC is the sole managing member of Crestview Capital Master, LLC and may be deemed to exercise dispositive and voting power with respect to the shares owned by Crestview Capital Master, LLC. Crestview Capital Partners, LLC disclaims beneficial ownership of such shares. Stewart Flink, Steven J. Halpern, Robert Hoyt and Daniel Warsh are the managing members of Crestview Capital Partners, LLC. Messrs. Flink, Halpern, Hoyt and Warsh disclaim beneficial ownership of the shares owned by Crestview Capital Partners, LLC.

- (30) The selling stockholder is an affiliate of a broker-dealer and purchased the securities in the ordinary course of business. At the time this selling stockholder purchased the securities, it had no agreements or understandings, directly or indirectly, with any person to distribute the securities.

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All information in this prospectus supplement is as of December 20, 2005.

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**The date of this prospectus supplement is December 20, 2005.**