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**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 12b-25

NOTIFICATION OF LATE FILING

(Check one): Form 10-K Form 20-F Form 11-K Form 10-Q
 Form 10-D Form N-SAR Form N-CSR

For Period Ended: **June 30, 2012**

- Transition Report on Form 10-K
 Transition Report on Form 20-F
 Transition Report on Form 11-K
 Transition Report on Form 10-Q
 Transition Report on Form N-SAR

For the Transition Period Ended:

Read Instruction (on back page) Before Preparing Form. Please Print or Type.

Nothing in this form shall be construed to imply that the Commission has verified any information contained herein.

If the notification relates to a portion of the filing checked above, identify the Item(s) to which the notification relates:

PART I — REGISTRANT INFORMATION

Cortex Pharmaceuticals, Inc.

Full Name of Registrant

N/A

Former Name if Applicable

7700 Irvine Center Drive, Suite 750

Address of Principal Executive Office (Street and Number)

Irvine, California 92618

City, State and Zip Code

PART II — RULES 12b-25(b) AND (c)

If the subject report could not be filed without unreasonable effort or expense and the registrant seeks relief pursuant to Rule 12b-25(b), the following should be completed. (Check box if appropriate)

- (a) The reason described in reasonable detail in Part III of this form could not be eliminated without unreasonable effort or expense;
- (b) The subject annual report, semi-annual report, transition report on Form 10-K, Form 20-F, Form 11-K, Form N-SAR or Form N-CSR, or portion thereof, will be filed on or before the fifteenth calendar day following the prescribed due date; or the subject quarterly report or transition report on Form 10-Q or subject distribution Report on Form 10-D, or portion thereof, will be filed on or before the fifth calendar day following the prescribed due date; and
- (c) The accountant's statement or other exhibit required by Rule 12b-25(c) has been attached if applicable.

PART III — NARRATIVE

State below in reasonable detail why Forms 10-K, 20-F, 11-K, 10-Q, 10-D, N-SAR, N-CSR, or the transition report or portion thereof, could not be filed within the prescribed time period.

The Registrant's Form 10-Q for the fiscal quarter ended June 30, 2012 could not be filed within the prescribed time period because certain information and data relating to and necessary for the completion of the registrant's financial statements and management's discussion and analysis of financial condition and results of operations could not be obtained by the Registrant within such time period without unreasonable effort or expense. The Registrant will file its complete Form 10-Q within the time allotted by Rule 12b-25.

SEC 1344 (04-09) Persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB control number.

(Attach extra Sheets if Needed)

PART IV — OTHER INFORMATION

- (1) Name and telephone number of person to contact in regard to this notification.

Maria S. Messinger
(Name)

(949)
(Area Code)

727-3157
(Telephone No)

- (2) Have all other periodic reports required under Section 13 or 15(d) of the Securities Exchange Act of 1934 or Section 30 of the Investment Company Act of 1940 during the preceding 12 months or for such shorter period that the registrant was required to file such report(s) been filed? If answer is no, identify report(s). Yes No
- (3) Is it anticipated that any significant change in results of operations from the corresponding period for the last fiscal year will be reflected by the earnings statements to be included in the subject report or portion thereof? Yes No

If so, attach an explanation of the anticipated change, both narratively and quantitatively, and, if appropriate, state reasons why a reasonable estimate of the results cannot be made.

For the quarter ended June 30, 2012, the Company anticipates that its net loss was approximately \$995,000 compared to a net loss of approximately \$356,000 for the prior year period, with the difference primarily reflecting revenues in the prior year period from the Company's June 2011 option agreement with Les Laboratoires Servier, partially offset by decreased operating expenses due to reductions in research and development and administrative staffing levels compared to the prior year period.

Cortex Pharmaceuticals, Inc.
(Name of Registrant as Specified in Charter)

has caused this notification to be signed on its behalf by the undersigned hereunto duly authorized.

Date: **August 14, 2012**

By: /s/ Maria S. Messinger
Maria S. Messinger
Vice President and Chief Financial Officer

INSTRUCTION: The form may be signed by an executive officer of the registrant or by any other duly authorized representative. The name and title of the person signing the form shall be typed or printed beneath the signature. If the statement is signed on behalf of the registrant by an authorized representative (other than an executive officer), evidence of the representative's authority to sign on behalf of the registrant shall be filed with the form.

ATTENTION

Intentional misstatements or omissions of fact constitute Federal Criminal Violations (See 18 U.S.C. 1001).

GENERAL INSTRUCTIONS

1. This form is required by Rule 12b-25 (17 CFR 240.12b-25) of the General Rules and Regulations under the Securities Exchange Act of 1934.
2. One signed original and four conformed copies of this form and amendments thereto must be completed and filed with the Securities and Exchange Commission, Washington, D.C. 20549, in accordance with Rule 0-3 of the General Rules and Regulations under the Act. The information contained in or filed with the form will be made a matter of public record in the Commission Files.
3. A manually signed copy of the form and amendments thereto shall be filed with each national securities exchange on which any class of securities of the registrant is registered.
4. Amendments to the notifications must also be filed on Form 12b-25 but need not restate information that has been correctly furnished. The form shall be clearly identified as an amended notification.
5. *Electronic Filers.* This form shall not be used by electronic filers unable to timely file a report solely due to electronic difficulties. Filers unable to submit a report within the time period prescribed due to difficulties in electronic filing should comply with either Rule 201 or Rule 202 of Regulation S-T (§232.201 or §232.202 of this chapter), or apply for an adjustment in filing date pursuant to Rule 13(b) of Regulation S-T. (§232.13(b) of this chapter).