

CORTEX PHARMACEUTICALS, INC.

May 19, 2010

PROXY VOTING INSTRUCTIONS

INTERNET - Access "www.voteproxy.com" and follow the on-screen instructions. Have your proxy card available when you access the web page, and use the Company Number and Account Number shown on your proxy card.

TELEPHONE - Call toll-free **1-800-PROXIES** (1-800-776-9437) in the United States or **1-718-921-8500** from foreign countries from any touch-tone telephone and follow the instructions. Have your proxy card available when you call and use the Company Number and Account Number shown on your proxy card.

Vote online/phone until 11:59 PM EST the day before the meeting.

MAIL - Sign, date and mail your proxy card in the envelope provided as soon as possible.

IN PERSON - You may vote your shares in person by attending the Annual Meeting.

COMPANY NUMBER	
ACCOUNT NUMBER	

NOTICE OF INTERNET AVAILABILITY OF PROXY MATERIAL: The Notice of meeting, proxy statement and proxy card are available at <http://www.amstock.com/proxyservices/viewmaterial.asp?CoNumber=01485>

↓ Please detach along perforated line and mail in the envelope provided IF you are not voting via telephone or the Internet. ↓

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THE BOARD OF DIRECTORS RECOMMENDS A VOTE "FOR" THE ELECTION OF DIRECTORS AND "FOR" PROPOSALS 2 AND 3.
PLEASE SIGN, DATE AND RETURN PROMPTLY IN THE ENCLOSED ENVELOPE. PLEASE MARK YOUR VOTE IN BLUE OR BLACK INK AS SHOWN HERE

1. Election of Directors:

FOR ALL NOMINEES

WITHHOLD AUTHORITY FOR ALL NOMINEES

FOR ALL EXCEPT (See instructions below)

NOMINEES:

- Robert F. Allnutt
- John F. Benedik
- Charles J. Casamento
- Carl W. Cotman, Ph.D.
- Peter F. Drake, Ph.D.
- M. Ross Johnson, Ph.D.
- Roger G. Stoll Ph.D.
- Mark A. Varney, Ph.D.

2. APPROVAL OF AMENDMENT TO THE COMPANY'S 2006 STOCK INCENTIVE PLAN TO INCREASE THE NUMBER OF SHARES OF COMMON STOCK THEREUNDER BY 2,500,000 SHARES. FOR AGAINST ABSTAIN

3. RATIFICATION OF THE APPOINTMENT OF HASKELL & WHITE LLP AS INDEPENDENT REGISTERED PUBLIC ACCOUNTANTS OF THE COMPANY FOR THE FISCAL YEAR ENDING DECEMBER 31, 2010. FOR AGAINST ABSTAIN

In his discretion, the proxy is authorized to vote upon such other business as may properly come before the meeting or any adjournment thereof, including procedural and other matters relating to the conduct of the meeting.

THIS PROXY WILL BE VOTED AS DIRECTED. UNLESS OTHERWISE DIRECTED, THIS PROXY WILL BE VOTED FOR THE ELECTION OF THE EIGHT DIRECTOR NOMINEES LISTED AT LEFT, FOR PROPOSAL 2 AND FOR PROPOSAL 3.

PLEASE IMMEDIATELY DATE, SIGN AND RETURN THIS CARD IN THE ENCLOSED ENVELOPE. THANK YOU FOR YOUR PROMPT ATTENTION TO THIS IMPORTANT MATTER.

INSTRUCTIONS: To withhold authority to vote for any individual nominee(s), mark "FOR ALL EXCEPT" and fill in the circle next to each nominee you wish to withhold, as shown here: ●

To change the address on your account, please check the box at right and indicate your new address in the address space above. Please note that changes to the registered name(s) on the account may not be submitted via this method.

Signature of Stockholder Date: Signature of Stockholder Date:

Note: Please sign exactly as your name or names appear on this Proxy. When shares are held jointly, each holder should sign. When signing as executor, administrator, attorney, trustee or guardian, please give full title as such. If the signer is a corporation, please sign full corporate name by duly authorized officer, giving full title as such. If signer is a partnership, please sign in partnership name by authorized person.

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CORTEX PHARMACEUTICALS, INC.

THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS

Roger G. Stoll, Ph.D., with full power of substitution, is hereby appointed proxy to vote the stock of the undersigned in Cortex Pharmaceuticals, Inc. at the Annual Meeting of Stockholders on May 19, 2010, and at any postponement and adjournment thereof, to be held at the Marriott Newport Beach Hotel, 900 Newport Center Drive, Newport Beach, California 92660, at 10:30 a.m. Pacific Daylight Time.

(Continued and to be signed on the reverse side)

