



Vanda Pharmaceuticals Inc. And The University of Illinois at Chicago Announce Partnership To Identify Novel Antivirals Against COVID-19

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WASHINGTON, April 8, 2020 /PRNewswire/ -- Vanda Pharmaceuticals Inc. ("Vanda") (Nasdaq: VNDA) and the University of Illinois at Chicago (UIC) today announced a research partnership focused on the investigation of small molecules with the potential to treat COVID-19. The collaboration will include the use of a high-throughput screening assay to identify small molecules that may prevent cathepsin-L cleavage of SARS-CoV-2 (COVID-19) glycoproteins that are required for viral processing in the host cell.

"We look forward to the opportunity to collaborate with the University of Illinois College of Medicine to enhance our efforts to bring new treatments to patients," said Mihael H. Polymeropoulos, M.D., President and Chief Executive Officer of Vanda. "Our collaboration further propels Vanda's recently launched COVID-19 therapeutics program that includes multiple molecular approaches in therapeutics development. In addition to the cornerstone work that we will conduct with the University regarding cathepsin-L enzyme inhibition, we are also exploring drugs that may block SARS-CoV-2 virus entry at the angiotensin converting enzyme 2 receptor, and the transmembrane protease serine 2 precursor. Included within the therapeutics program is the initiation of ODYSSEY, a study of trapidant in hospitalized patients with severe COVID-19 pneumonia, which was announced on April 2, 2020 and will start in New York shortly."

SARS-CoV-2 and other viruses depend on cathepsin L for processing in target cells. The viral glycoproteins need to be primed by protease cleavage, activating them for fusion with the host cell membrane. Previous research has demonstrated the potential of small molecules to inhibit the cathepsin L cleavage of viral peptides with minimal inhibition of physiological substrate cleavage.¹ By joining forces with the UIC, Vanda is expanding its research capabilities by gaining access to additional expertise and state-of-the-art facilities to build on these findings.

"We can readily deploy the high-throughput screening we had developed to successfully screen for small molecules that specifically inhibited cathepsin-L mediated cleavage of SARS, Ebola, Hendra and Nipah derived proteins, and entry of pseudotyped virus into cells," said UIC's Dr. Bellur S. Prabhakar, the Principal Investigator. "Given the similarity between SARS-CoV and COVID-19, we expect to identify potential drug candidates to treat COVID-19 infection. This partnership with Vanda, in collaboration with the UIC's Center for Drug Discovery and Development, led by Dr. Gregory Thatcher, and High-Throughput Screening Core, led by Dr. Kiira Ratia, will bring together complementary expertise to potentially speed up drug discovery."

"Drug discovery is a complex process and requires expertise in areas such as virology, drug screening, medicinal chemistry, and drug development," said Dr. Mark Rosenblatt, Executive Dean, University of Illinois College of Medicine. "This collaborative effort with Vanda, led by Dr. Prabhakar at the UIC, significantly increases the probability of success."

References:

1. Elshabrawy, Hatem A., Fan, Jilao, Haddad, Christine S., Ratia, Kiira, Broder, Christopher C., Caffrey, Michael, Prabhakar, Bellur S. 2014. Identification of a Broad-Spectrum Antiviral Small Molecule against Severe Acute Respiratory Syndrome Coronavirus and Ebola, Hendra, and Nipah Viruses by Using a Novel High-Throughput Screening Assay. Journal of Virology, University of Illinois.

About Vanda Pharmaceuticals Inc.

Vanda is a leading global biopharmaceutical company focused on the development and commercialization of innovative therapies to address high unmet medical needs and improve the lives of patients. For more on Vanda Pharmaceuticals Inc., please visit www.vandapharma.com.

About the University of Illinois at Chicago

Located in the heart of one of the world's great cities, the University of Illinois at Chicago is a vital part of the educational, technological and cultural fabric of the region. As Chicago's only public research university with more than 33,000 students, 16 colleges, a hospital and health sciences system, UIC provides students access to excellence and opportunity. The University of Illinois College of Medicine, part of UIC, is one of the largest medical schools in the country. Its diverse student body of over 1,300 students hails from a wide variety of cultural and economic backgrounds. The college's four campuses—located in Chicago, Peoria, Rockford, and Urbana — take advantage of the state's urban and rural environments and offer numerous opportunities for clinical training and research.

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CAUTIONARY NOTE REGARDING FORWARD LOOKING STATEMENTS

Various statements in this release are "forward-looking statements" under the securities laws. These forward-looking statements include, without limitation, statements regarding Vanda's collaboration with the UIC to identify promising small molecules, the ability to develop those molecules into new treatments and the status of Vanda's ODYSSEY study. Forward-looking statements are based upon current expectations that involve risks,

changes in circumstances, assumptions and uncertainties. Important factors that could cause actual results to differ materially from those reflected in Vanda's forward-looking statements include, among others: the ability of Vanda and UIC to identify molecules that may be effective in treating COVID-19; the ability to complete the development and obtain FDA approval of any of these molecules; Vanda's ability to enroll patients for its ODYSSEY study; and other factors that are set forth in the "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" sections of Vanda's annual report on Form 10-K for the fiscal year ended December 31, 2019, which is on file with the SEC and available on the SEC's website at www.sec.gov. Additional factors may be set forth in those sections of Vanda's annual report on Form 10-Q for the fiscal quarter ended March 31, 2020, to be filed with the SEC in the second quarter of 2020. In addition to the risks described above and in Vanda's annual report on Form 10-K and quarterly reports on Form 10-Q, other unknown or unpredictable factors also could affect Vanda's results. There can be no assurance that the actual results or developments anticipated by Vanda will be realized or, even if substantially realized, that they will have the expected consequences to, or effects on, Vanda. Therefore, no assurance can be given that the outcomes stated in such forward-looking statements and estimates will be achieved. All written and verbal forward-looking statements attributable to Vanda or any person acting on its behalf are expressly qualified in their entirety by the cautionary statements contained or referred to herein. Vanda cautions investors not to rely too heavily on the forward-looking statements Vanda makes or that are made on its behalf. The information in this release is provided only as of the date of this release, and Vanda undertakes no obligation, and specifically declines any obligation, to update or revise publicly any forward-looking statements, whether as a result of new information, future events or otherwise.

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