VenatoRx Pharmaceuticals Awarded NIAID R01 Grant to Uncover Determinants of Gram-Negative Permeability

Leveraging a Unique Small Molecule Library, VenatoRx seeks to open challenging bottlenecks for antibacterial drug discovery and successfully introduce new antibacterial agents into the clinic

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MALVERN, Pa.--(BUSINESS WIRE)--VenatoRx Pharmaceuticals, Inc., a world leader in antibacterial and antiviral drug research and development, today announced that it has received $1.9 million in first-year funding from the National Institute of Allergy and Infectious Diseases (NIAID) of the National Institutes of Health (NIH) for a grant entitled, “Establishing a Gram-Negative Permeation Rule Set Leveraging a Unique Small Molecule Library.” VenatoRx has the potential to receive funding of up to $7.4 million over five years if all project milestones are met.

“Permeability in Gram-negative bacteria has long been considered a critical scientific problem,” said Daniel C. Pevear, Ph.D., Founder and Senior Vice President, Biology at VenatoRx. “To meaningfully confront the continually evolving challenge of multidrug resistance in Gram-negative bacteria, a thorough understanding of the small molecule parameters needed for improved cellular accumulation must be demystified. This R01 grant supports a broad milestone-driven collaboration focused on developing and utilizing novel predictive assays, models and research tools to better understand penetration and efflux of small molecules in bacteria.”

VenatoRx’s collaborators include leading academicians and scientists from Robert Frederick Smith School of Chemical and Bimolecular Engineering at Cornell University; Broad Institute of MIT and Harvard; Gfree Bio, LLC; and Centro de Química-Física Molecular at the University of Lisbon, Portugal.

The objective of this R01 grant is to provide tools that can facilitate therapeutic discovery for Gram-negative bacterial pathogens, including carbapenem-resistant Enterobacteriaceae (CRE), multi-drug resistant (MDR) *Acinetobacter baumannii* and/or MDR *Pseudomonas aeruginosa*. This initiative will also support VenatoRx’s discovery programs targeting novel antibacterial agents.

“VenatoRx, along with a talented team of academic scientists, will tackle this problem by determining permeability determinants from a proprietary collection of small molecules with significant physicochemical and structural diversity and correspondingly varying degrees of permeability in Gram-negative bacteria,” said Denis M. Daigle, Ph.D., Director of Biology at VenatoRx. “A key objective for the study is to expand our understanding of the molecular parameter limits for outer membrane penetration and periplasmic accumulation of small molecules in clinically important multidrug resistant pathogens. We hope that our findings combined with the better-understood properties for cytoplasmic membrane penetration will help create a Gram-negative permeation rule set for these important pathogens.”

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About VenatoRx Pharmaceuticals, Inc.

VenatoRx is a private pharmaceutical company that is focused on the discovery and development of novel anti-infectives to treat multi-drug-resistant (MDR) bacterial infections and hard-to-treat viral infections. VenatoRx’s lead product, VNRX-5133, is an injectable broad-spectrum beta-lactamase inhibitor (BLI) that directly inhibits all four Ambler classes of beta-lactamases, including the emerging carbapenemases KPC and NDM-1. In addition, VenatoRx has a broad pipeline of preclinical programs, including a broad-spectrum orally bioavailable BLI, a novel class of Penicillin-Binding Protein (PBP) inhibitors that are impervious to beta-lactamase-driven resistance, and novel antiviral agents. For more information, please visit www.venatorx.com.

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