

(July 21, 2010 Stillwater, OK) – The Department of Veterinary Pathobiology at the Oklahoma State University (OSU) Center for Veterinary Health Sciences was recently awarded a five-year grant from the National Institute of Allergy and Infectious Diseases/Division of Microbiology and Infectious Diseases. The grant is part of the NIAID's response to potential threats of bioterrorism and emerging infectious diseases.

The award, entitled “Broad-spectrum Antifolates for Treatment of Drug Resistant Bacillus anthracis,” is a RO1 multidisciplinary partnership grant that will involve the center's Department of Veterinary Pathobiology and the OSU Department of Chemistry along with collaborators at Sapient Discovery in San Diego, Calif., and Lovelace Biomedical and Environmental Research Institute (LBERI) in Albuquerque, N.M.

The Principal Investigator is William Barrow, Ph.D., Sitlington Chair in Infectious Diseases, professor, Veterinary Pathobiology, at the OSU veterinary center. Co-Investigators are Christina Bourne, Ph.D. and Phil Bourne, Ph.D., both with the center's Department of Veterinary Pathobiology; Darrell Berlin, Ph.D. and Richard Bunce, Ph.D., both with OSU Chemistry; Kal Ramnarayan, Ph.D. with Sapient; and Michelle Valderas, Ph.D., with LBERI.

“Our goal is to develop a new assemblage of antimicrobials for the treatment of inhalation anthrax that will inhibit a critical metabolic enzyme—dihydrofolate reductase,” explains Barrow. “The iterative process will involve a combination of traditional drug design methods, including crystallography, molecular biology and medicinal chemistry, as well as in silico discovery tools and animal models.”

In other words, for the next five years using the \$4 million grant, Barrow's team will be trying to improve available drug therapy in the event of a bioterrorist attack on civilian and/or military populations. Anthrax is one of the threats to citizens and military units serving in the Middle East.

The Oklahoma State University Center for Veterinary Health Sciences is one of 28 veterinary colleges in the United States and is fully accredited by the Council on Education of the American Veterinary Medical Association. The center's Boren Veterinary Medical Teaching Hospital is open to the public and provides routine and specialized care for small and large animals. It also offers 24-hour emergency care and is certified by the American Animal Hospital Association. For more information, visit www.cvhs.okstate.edu or call (405) 744-7000.

*Drs. Bunce and Berlin, both Professors of the Department of Chemistry at OSU, have the equipment and facilities to synthesize and totally characterize the new target compounds required to inhibit the growth of *B. Anthracis*, the bacteria associated with anthrax. This cooperative arrangement involving organic chemical research will be able to enhance the productivity to support the science of Dr. Barrow. Such collaborative efforts generate significant results of public interest on a broad scale.*

Sapient Discovery, LLC., is a structure-based drug discovery company with extensive capabilities in computational chemistry and structural biology. The company provides a comprehensive suite of structural services for accelerating and optimizing the drug discovery process for its pharmaceutical and biotechnology partners and clients. The company's service and product offerings include: Genes To Leads™ to accelerate lead discovery and target validation; Structure Determination Services including X-ray crystallography and augmented homology modeling™; Fragments to Leads™ a platform to generate novel lead molecule with X-ray crystallography and fragment libraries, and StructureBank™, a database for the large-scale comparative analysis of protein targets and anti-targets. The company has several ongoing projects with small and medium biotechnology companies. For additional information, please visit www.sapientdiscovery.com or call (858) 485 9101 or email at info@sapientdiscovery.com

Lovelace Biomedical and Environmental Research Institute (LBERI) is a wholly owned subsidiary of Lovelace Respiratory Research Institute (LRRI). The Lovelace Respiratory Research Institute (LRRI) is a private, biomedical research organization dedicated to improving public health through research on the prevention, treatment and cure of respiratory disease. LRRI manages all government contracts for LBERI. LRRI is based in Albuquerque, New Mexico, employs 1100 people, and is a \$125 million company. www.lrri.org

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