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## NIH awards \$6.5 million grant to UT Southwestern to develop new antibiotic

DALLAS – March 25, 2008 – Researchers at UT Southwestern Medical Center have been awarded a \$6.5 million grant from the National Institute of Allergy and Infectious Diseases to develop a new anti-microbial compound to target bacterial pathogens such as *Salmonella* and *Escherichia coli*.

Though many anti-microbial drugs are available in the marketplace, new ones are needed to combat the increasing microbial resistance to antibiotics. Extensively drug-resistant tuberculosis and methicillin-resistant *Staphylococcus aureus* (MRSA) are two recent examples of diseases that have become increasingly difficult to treat.

“This grant award represents a terrific opportunity to continue profoundly important work to develop an entirely new type of anti-microbial compound,” said Dr. Michael Norgard, chairman of microbiology at UT Southwestern. “With this award, the National Institutes of Health has recognized not only the importance and novelty of the project, but also the outstanding team here at UT Southwestern devoted to its successful completion.”

Existing antibiotics are derived from five types of compounds, or chemical structures, and have only three targets: DNA replication in bacteria, protein synthesis and synthesis of the cell wall.

“We are investigating a new target area in bacteria that appears to be vulnerable to a small molecule that has never before been used as a drug,” said Dr. Vanessa Sperandio, associate professor of microbiology and principal investigator on the new grant. “The drug compound has shown promise in fighting at least three different bacterial species including *Salmonella*, *E. coli* and *Francisella tularensis*, which causes tularemia.”

Dr. Sperandio said the five-year grant will provide the necessary funding to bring her team’s research up to the preclinical level.

“We’ve done some preliminary toxicology and the drug seems to be well tolerated, but more testing is needed to be able to say whether it’s safe for use in humans,” she said.

Dr. Sperandio’s research has focused on understanding a strain of *E. coli* known as enterohemorrhagic *E. coli* 0157:H7, or EHEC. Her research focuses on how bacteria living inside the human body – both the helpful ones and the ones that make people sick – communicate with one another and with their host. She’s particularly interested in the biochemical signals EHEC uses to cause disease.

(MORE)

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A native of Brazil, Dr. Sperandio was named a 2004 Ellison Medical Foundation New Scholar in Global Infectious Disease Research. Through this program, scholars early in their careers received \$50,000 annually for five years from the nonprofit foundation to support research in areas that are often underfunded or not funded by traditional sources.

She was also named a 2006 Burroughs Wellcome Fund Investigator in Pathogenesis of Infectious Diseases. Scholars in this program receive \$500,000 over five years to study the pathogenesis of infectious diseases typically understudied.

Dr. Sperandio's research has also been supported by other grants from the NIH, as well as the Robert A. Welch Foundation and a High Risk/High Impact grant from UT Southwestern.

Other UT Southwestern researchers involved in this research are Dr. Noelle Williams, assistant professor of biochemistry; Dr. Ron Taussig, associate professor of pharmacology; Dr. David Rasko, assistant professor of microbiology; and Dr. John R. Falck, professor of biochemistry and pharmacology. Researchers from Harvard Medical School and Omm Scientific, a privately-held biotech company that manufactures specialty organic chemicals, are also involved.

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