

(October 15, 2009 Stillwater, OK) – What started as an idea he was kicking around on a night out with friends could turn into a drug to help millions of people who suffer from debilitating lung diseases, Kenneth Adler, Ph.D., told a gathered crowd of OSU veterinary center faculty, researchers and students Tuesday.



Adler, a professor at North Carolina State University College of Veterinary Medicine, spoke as part of the Center for Veterinary Health Sciences' first Lundberg-Kienlen Lectureship in Biomedical Research. His life's work has been the study of what controls the secretion of mucus within the lungs, too much of which can lead to maladies such as chronic bronchitis and cystic fibrosis.

His big breakthrough, he told the crowd, came in 2001, when a study he co-authored was published in the Journal of Biological Chemistry detailing the role of a protein, MARCKS, in regulating mucus production at the cellular level. Adler later found that the MANS peptide connected to the protein seemed to limit mucus production.

The findings, which have appeared in the lay press as well as scientific publications, have since been reinforced in animal models, and NCSU recently licensed the chemical, he told the audience. The university started a company to test and eventually sell the compound to a pharmaceutical company.

"I think anyone who does medical research in any shape or form is doing this for a reason, and that reason is to help sick patients," Adler said. "The fact that an actual drug might come from something that I thought up in a bar one night with some other scientists is really amazing and, to me, would be more of a reward for me at this stage of my life than anything financial."

He said the company, BioMarck Pharmaceuticals, is testing the chemical's drug derivative, dubbed BIO-11006, in patients suffering from chronic bronchitis - part of its second phase of testing. The first phase consisted of in vitro and lower animal model tests and tests on human volunteers to ascertain safety.

Working with the company “brought me into a whole different world,” said Adler, whom BioMarck’s website lists as a cofounder and chief scientist. “Those of you with any experience in doing this sort of thing know that the language is different. The goals are different. The people you talk to are different. They’re not really interested in science. They’re interested in results, drugs and how much money they can make.”

OSU Professor Lin Liu, who hosted the talk, said Adler’s lecture was encouraging to faculty and students.

“His work shows that a discovery derived from basic research can make a big difference in improving human and animal life,” Liu said. “Also, it shows that collaboration is important in biomedical research.”

Adler’s work will continue inside his NCSU lab toward a better understanding of the pathogenic mechanisms associated with airway inflammation. The lab uses special cultures of human tracheobronchial cells maintained in a way that mimics the cells inside the human body, making them better models for use in research, the university’s website states. His work is funded by the National Institutes of Health and pharmaceutical companies.

Adler, whose doctoral degree is from the University of Vermont, has won numerous national awards for his work, including a Method to Extend Research In Time Award from NIH, the Oliver Max Gardner Award for Service to Humanity, the Recognition Award for Scientific Accomplishments from the American Thoracic Society and the Alexander Quarles Holladay Medal for Excellence. He is editor-in-chief of the American Journal of Respiratory Cell & Molecular Biology and serves on the editorial boards of eight other journals. His work has appeared in dozens of journals, including Nature Medicine.

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.

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