

White Blood Cell Diseases: Treated with a Common Oral Protein?



Scott Kachlany
Associate Professor, Oral Biology

CURRENT RESEARCH

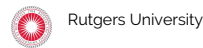
When the body's defense goes awry, leukotoxin may be the solution for continuing a defense against disease

White blood cells (WBC) are an important part of keeping the body healthy; by mounting a defense against infectious organisms and foreign substances, they are the ultimate defense. However, when this defense goes awry, WBC diseases such as leukemia, lymphoma, and autoimmune/inflammatory disease occurs. Dr. Scott Kachlany, Associate Professor of Oral Biology at Rutgers University, bridges the gap between academic and applied research. By studying the protein, leukotoxin, which is found in many of our mouths, he and his team have found that this unique bacteria is able to kill certain types of WBCs that promote these diseases. Each day, Dr. Kachlany is uncovering new clues about how leukotoxin is able to destroy these bad WBCs and furthermore, discovering new applications the protein can be used for. In essence, the bacterium has already done the hard work, as it has developed a highly targeted therapy that will benefit millions of patients.

Within microbiology, there are only a handful of scientists that study leukotoxin from this common oral bacterium and among them, Dr. Kachlany is the only microbiologist that use leukotoxin in translational settings where it can practically be applied for patients. Thus, his work allows for the effective treatment of many diseases that at this time, have no cure. Already successful animal studies have treated diseases with minimal or no side effects. Future research hopes to bring leukotoxin to clinical trials to make sense of how Dr. Kachlany's novel observations can benefit someone in the clinic. Having received the New Jersey Inventors Hall of Fame Innovators Award and the Thomas Edison Patent of the Year Award for his work related to the issued patent covering the use...

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AFFILIATION



EDUCATION

- B.S., 1997, Cornell University
- Ph.D., 2001, Columbia University

AWARDS

- Paul J. VanDemark Memorial Award, Cornell University, 1997
- Richard Parker Memorial Award, Columbia University, 2001
- Anthony A. Rizzo Young Investigator Award, Intl. Assoc. for Dental Research, 2005
- Thomas Edison Patent of the Year Award, 2013
- NJ Inventors Hall of Fame Innovators Award, 2013

RESEARCH AREAS

Life Science, Circulatory, Immunology / Inflammatory, Oncology / Cancer

FUNDING REQUEST

Your contributions will support the continued research of Dr. Scott Kachlany, of Rutgers University, as he brings basic research into clinical trials. Donations of \$250K/year will be used for applied studies supplying materials, equipment, and maintenance in addition to supporting passionate and intelligent personnel. With financial backing, you could be part of stimulating new discoveries in order to allow the technology to become a real drug.