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**Researchers from Polytechnic University and SUNY Downstate Discover New Drug
for Treatment of Sepsis**

Brooklyn, N.Y., Jan. 11, 2006 —Polytechnic University and SUNY Downstate Medical Center have teamed up to uncover a new candidate for the treatment of sepsis, a bacterial infection of the blood with high morbidity and mortality rates. The researchers' findings, which appear in the January 2006 issue of *Critical Care Medicine*, show that the administration of sophorolipids significantly decreased mortality in animals with intra-abdominal induced sepsis.

Sophorolipids are a unique class of natural microbial glycolipids (carbohydrate-attached lipids), which have been shown to modulate the immune system and have application in several disorders. Glycolipids are carbohydrate-attached lipids (fats) that provide energy and serve as cellular markers.

Dr. Richard A. Gross, lead scientist on the project and Professor of Chemical Biology at Polytechnic University and Director of Poly's NSF Center for Biocatalysis and Bioprocessing stated: "Over the past few years our laboratory developed efficient routes to synthesize sophorolipids by fermentation and to subsequently modify their structures by chemo-enzymatic methods. By these approaches we can rapidly change their structure and provide our colleagues at SUNY Downstate large quantities of new sophorolipid-based drugs for clinical evaluation. This will allow us to fine-tune the biological properties of sophorolipids making them an ideal agent for the development of a new drug to battle this debilitating disease."

According to lead author Dr. Martin Bluth, Director of Surgical Research at SUNY Downstate, "Sophorolipids appear to act by modulating the immune system by potentially decreasing the body's inappropriate inflammatory response to sepsis". The team also found that sophorolipids also reduced macrophage production of nitric acid in the body, another factor contributing to the symptoms of this disease. The discovery has led to the development of a new drug, now in its preclinical phase, which has already shown a significant decrease of sepsis-related deaths in experimental animal studies.

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Although significant improvements have been made in developing new antibiotic therapies and advancing surgical techniques, effective preventative measures and treatment options are of clinical importance.

About Polytechnic University:

Polytechnic University, one of the nation's oldest private engineering universities, was founded in 1854 in Brooklyn, New York. Today, it is the New York metropolitan area's preeminent resource in science and technology education and research. In addition to its main campus at MetroTech Center in Brooklyn, Polytechnic offers programs at sites throughout the region, including Long Island, Manhattan and Westchester. Additionally, the University offers several programs in Israel. For more information and to learn more about The Power of PolyThinking, visit www.poly.edu.

About SUNY:

The State University of New York is the largest comprehensive university system in the United States, educating more than 412,000 students in 6,688 degree and certificate programs on 64 campuses. To learn more about how SUNY creates opportunity, visit www.suny.edu. SUNY Downstate is one of four academic medical centers in the SUNY system and is a major research center: www.downstate.edu.

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