

Study finds weakness in armor of killer hospital bacteria

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There's new hope for development of an antibiotic that can put down a lethal bacteria or superbug linked to the deaths of hundreds of hospital patients around the world.

Researchers from the University of Alberta-based Alberta Glycomics Centre found a chink in the molecular armour of the pathogen [Acinetobacter baumannii](#). The bacteria first appeared in the 1970's and in the last decade it developed a resistance to most antibiotics.

U of A microbiologist Mario Feldman identified a mechanism that allows *Acinetobacter baumannii* to cover its surface with molecules known as [glycoproteins](#).

Feldman and his team then discovered that if the superbug cannot produce glycoproteins they become less virulent and less capable of forming [biofilms](#), which protect the bacteria from antibiotics.

Feldman says more work is required to understand how the bacteria produces glycoproteins. The researchers say that will enable future development of drugs to interrupt the production of glycoproteins, reducing the bacteria's ability to shield it from antibiotics.

Acinetobacter baumannii is a particularly insidious and contagious [pathogenic bacteria](#) that has plagued hospitals around the world. It spreads from one person to another by physical contact. The bacteria can live on hard surfaces for several days and can cling to hospital equipment

like catheter tubes and inhalers. *Acinetobacter baumannii* is also spread by coughing and sneezing.

Hospital patients whose immune systems are already worn down are the most susceptible to *Acinetobacter baumannii*. It infects wounds and can spread to the lungs, blood and brain.

Feldman is a principal investigator for the Alberta Glycomics Centre at the U of A. He was assisted by U of A graduate students Jeremy Iwashkiw and Brent Weber along with research colleagues in Ottawa, Austria and Australia. Their work was published June 7 in the journal [PLoS Pathogens](#).

Provided by University of Alberta

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