

Protein in breast milk fights antibiotic resistant 'superbugs'

(NaturalNews) The key to overcoming antibiotic resistant "superbugs" could be a simple protein found naturally in human breast milk. These are the promising findings of a new study out of the *State University of New York* (SUNY) at Buffalo, where researchers recently discovered that HAMLET, which is short for Human Alpha-lactalbumin Made Lethal to Tumor cells, targets the mitochondria of drug-resistant bacteria.

Similar to the way HAMLET has previously been shown destroy cancer cells, the breast milk substance also apparently disengages key structures within the cells of bacteria, essentially blocking them from incurring damage and proliferating. Combined with existing antibiotic protocols, HAMLET basically has the potential to overcome superbugs like MRSA (methicillin-resistant *Staphylococcus aureus*) and *C. diff* (*Clostridium difficile*), say scientists.

"HAMLET has the potential to minimize the concentrations of antibiotics we need to use to fight infections, and enable us to use well-established antibiotics against resistant strains again," says Dr. Anders Hakansson, Ph.D., the microbiologist and immunologist at SUNY who has been credited with discovering HAMLET. When attempting to identify the specific components of breast milk that help protect newborns against diseases like upper respiratory tract infections, Hakansson stumbled upon HAMLET.

"Unlike synthetic drugs, HAMLET is a naturally occurring human milk protein-lipid complex, and so is not associated with the types of toxic side effects that we so frequently see with the high-powered antibiotics needed to kill drug-resistant organisms," adds Dr. Laura Marks, Ph.D., who also helped conduct the study.

Most of us already know that a mother's untainted [breast milk](#) contains the perfect balance of enzymes, hormones, immune factors, and other key nutrients required for babies to develop into healthy children, and eventually into healthy adults. But now we know a little bit more about how it accomplishes this at the molecular level, and specifically with regards to mutating bacterial lines.

Breast milk makes 'resistant' bacterial strains once again respond to traditional antibiotics

Published in the open-access journal *PLoS One*, the new study found that HAMLET lowered the dose of antibiotics needed to fight *Streptococcus pneumoniae* (*S. pneumoniae*) and *Staphylococcus aureus* (*S. aureus*) by a factor of at least eight. HAMLET was so powerful, in fact, that these and other resistant strains gained back their sensitivity to [antibiotic](#), which was not believed to be possible.

"The pharmaceutical industry is currently reluctant to develop antibiotics because they are only used for a short time and they will be used infrequently initially and only when nothing else works," says Dr. Hazeline Hakansson, Ph.D., another key researcher involved with the study. "HAMLET, on the other hand, is more of an adjuvant and can be used widely in combination with common antibiotics; it already has a huge potential market that is only going to increase the next couple of years as antibiotic resistance increases."

Similarly, HAMLET could be used in conjunction with, or even in replacement of, traditional cancer treatments. Studies have found that HAMLET effectively kills more than 40 different types of tumor cells, all the while leaving healthy cells alone. HAMLET is also completely non-toxic, which means its treatment potential is limitless.

"[U]nlike most current cancer drugs ... HAMLET kills tumor cells by a natural, non-toxic mechanism," explains a report on HAMLET put together by scientists at *Lunds University* in Sweden. "HAMLET does not appear to damage healthy tissues ... [and it] can be produced in large quantities at drug quality."

Sources for this article include:

<http://www.buffalo.edu/news/releases/2013/05/001.html>

<http://www.med.lu.se>

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