

Thuricin CD tested as specific antibiotic for *Clostridium difficile*

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A University of Alberta researcher is part of an international team that has discovered a naturally occurring micro-organism that directly targets a bacteria that causes a sometimes deadly intestinal disease in young children and the elderly.

John Vederas, a U of A chemistry researcher working with colleagues in Ireland, found that a strain of the common soil bacteria, *Bacillus thuringiensis*, produces thuricin CD, a 1:1 mixture of two compounds ([peptides](#)) that kills the potentially deadly bacteria, *Clostridium difficile*. But unlike other antibacterial agents, thuricin CD does no harm to other bacteria in the human gut, which are necessary for a balanced state of health.

Clostridium difficile causes abdominal pain and diarrhea that can require hospitalization. Outbreaks of the disease can be deadly in long-term care facilities. Provincial health officials in Quebec listed a *Clostridium difficile* outbreak as the direct cause of death for more than 1,000 people between 2003 and 2004.

When a [bacterial infection](#) is treated with a broad spectrum antibiotic, it clears all the [bacteria](#) from the gut and *Clostridium difficile* can take quickly take hold.

Thuricin CD has shown promising results as a specific [antibiotic treatment](#) for *Clostridium difficile* in vitro and is now being tested in animals.

More information: Vederas is co author of a paper on thuricin CD published this month in Proceedings of the National Academy of Sciences USA.

Provided by University of Alberta

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