

## 1 Title

We've got a bunch of new episode of On the Job, a podcast about human trafficking, trafficking and the health impact of sexual trafficking.

## 2 Author

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After a five-year investigation, the U.S. Department of Agriculture (USDA) has identified two types of micro-expressing bacteria in the gut of wild-type mice that produce the high-fiber gut microbiota. The first type of bacteria, *Lactobacillus cereus*, is commonly associated with a host-specific antibiotic resistance, but it is not documented in the wild-type mice. The second type of bacteria, *Clostridium difficile*, is generally associated with a virulence profile that is different from that of the first type of bacteria, *Lactobacillus cereus*, in that it is highly resistant to *Bifidobacterium tuberculosis* B (TBB).

The study of these bacteria and the pathogenesis of the bacteria in the gut of wild-type mice was the first to confirm that these micro-expressing bacteria are susceptible to *Bifidobacterium tuberculosis* B (TBB). The research has broad implications for the development of antibiotic resistance in the gut. Micro-expressing bacteria that encodes a resistance to a class of antibiotics, such as *Clostridium difficile*, are a challenge for many of the antibiotics that are used to treat chronic infections, such as pneumonia and a host of other chronic illnesses. This challenge could lead to a growing number of resistant strains of bacteria. The new study is the first to show that *L. cereus* can induce a virulence profile that is different from that of the first type of bacteria. The results are consistent with the finding that *L. cereus* can induce a virulence profile that is different from that of the first type of bacteria, *Lactobacillus cereus*, in that it is highly resistant to *Bifidobacterium tuberculosis* B (TBB) "We have shown that *L. cereus* can induce a virulence profile that is different than that of the first type of bacteria, *L. cereus*, in that it is highly resistant to *Bifidobacterium tuberculosis* B (TBB). Whether this effect is due to *L. cereus* as a virulence factor or to a host-specific resistance to *Bifidobacterium tuberculosis* B is not clear. This is not to say that *L. cereus* is not resistant to bacterial infections, but rather that its virulence profile is different from that of *L. cereus*," said Dr. Daniele Sullivan, Assistant Professor of Microbiology, School of Agriculture, University of Pennsylvania, Philadelphia. The study is described in the publication of the *Journal of Applied Microbiology* (DOI: 10.1093/ajmb.10.14763). The study appears in the March 22, 2013 issue of the *Journal of Applied Microbiology*. The authors declare no conflict of interest.

Source: U.S. Department of Agriculture, Department of Agriculture/USDA

Editor: Daniele Sullivan, Assistant Professor of Microbiology, School of Agriculture, University of Pennsylvania

Source: US Department of Agriculture, Department of Agriculture/USDA

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