

# Researchers discover a natural food preservative that kills food-borne bacteria

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University of Minnesota researchers have discovered and received a patent for a naturally occurring lantibiotic — a peptide produced by a harmless bacteria — that could be added to food to kill harmful bacteria like salmonella, *E. coli* and listeria.

The U of M lantibiotic is the first natural preservative found to kill gram-negative [bacteria](#), typically the harmful kind. "It's aimed at protecting foods from a broad range of bugs that cause disease," said Dan O'Sullivan, a professor of food science and nutrition in the university's College of Food, Agricultural and Natural Resource Sciences. "Of the natural preservatives, it has a broader umbrella of bugs that it can protect against."

The lantibiotic could be used to prevent harmful bacteria in meats, processed cheeses, egg and dairy products, canned foods, seafood, salad dressing, fermented beverages and many other foods. In addition to food safety benefits, lantibiotics are easy to digest, nontoxic, do not induce allergies and are difficult for dangerous bacteria to develop resistance against.

O'Sullivan discovered the lantibiotic by chance, while researching the genome of bacteria. He then collaborated with Ju-Hoon Lee, a U of M graduate student, to continue the research. The U of M's Office for Technology Commercialization is currently seeking a licensee for the technology.

In wake of the recent deadly salmonella outbreak, it's important for researchers to continue developing methods to protect foods from dangerous bacteria.

"Salmonella burden has increased more dramatically than any other foodborne illness," said Shaun Kennedy, director of the National Center for Food Protection and Defense. "The largest recall in 2010 for food contamination was eggs contaminated with salmonella."

Salmonella and *E. coli*, both gram-negative bacteria, account for more than half of all [food](#) recalls in the United States. According to the Centers for Disease Control and Prevention, salmonella contributes to an estimated 28 percent of more than 3,000 deaths related to foodborne illness each year.

Provided by University of Minnesota

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