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Food and Drug Administration, USA

Discovery of Naturally-occurring broad-spectrum cyclic antibiotics from *Paenibacillus alvei*

The rise of antimicrobial resistance necessitates the discovery and/or production of novel antibiotics. Naturally-occurring gram-positive bacteria identified as *Paenibacillus alvei* were isolated from plants native to the Virginia Eastern Shore tomato growing region and used as biocontrol strain against *Salmonella* on tomato plant. The strains were also showed broad-spectrum antimicrobial activity against gram-negative and gram-positive foodborne pathogens. A novel class of broad-spectrum antibiotic compound was identified with genome mining and multiple-stage tandem mass spectrometry.

Biography

Jie Zheng currently serves as a Research Microbiologist in the Molecular Methods and Subtyping Branch (MMSB) within the Division of Microbiology at the Food and Drug Administration (FDA) Center for Food Safety and Applied Nutrition (CFSAN). Dr. Zheng received her Ph.D. in Food Science from University of Maryland at College Park, MD in 2006. Dr. Zheng joined the laboratories at CFSAN in 2008 after her two-year post-doc training at UMD. She has been engaged in development of SNP-based detection, identification and subtyping methods for various phyletic and pathovar divisions of pathogenic *Salmonella*. Dr. Zheng is one of the PIs on the newly formed Human Pathogens on Plants (HPOP) research group where she focuses on her research in *Salmonella* adaptation in food matrix and plant using next generation sequencing technology and development of related intervention strategies.

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