



Development of Potent T3SS Inhibitors OTT ID# 1112/1200

Applications

Control and prevention of plant disease in agriculture, vegetable surfaces to reduce the risk of co-contamination by human pathogens, prevention of post-harvest infection in storage crops, household antimicrobial products, veterinary medicine, and pharmaceuticals.

Target Problems

Limited options are available for the control of bacterial disease in plants. Many commercially available antimicrobials lead to death of the pathogen.

Key Features

- **Novel** - Multiple new compounds inhibiting plant bacterial pathogens
- **Safer** - Does not target natural microbial flora of treated organism
- **Better for environment** - Reduces risk of resistance emergence in bacterial pathogens
- **Multiple targets** - Potential effects on many plant, animal, and human pathogens
- **Broad applications** - Possible uses in agriculture, food safety, biofilm prevention, household products, and pharmaceuticals

Technology

Many pathogenic bacteria found in animals and plants utilize a type III secretion system (T3SS) which releases proteins into the host organism that aid in infection. The T3SS is an attractive target for the development of antimicrobial compounds, since it is present in numerous plant, human, and animal pathogens, but is not found in symbiotic non-pathogenic bacteria. Most antimicrobials used for fighting pathogenic bacteria also eliminate beneficial natural microbes. Loss of the natural symbiotic microbes leaves plants more vulnerable to future disease attacks due to a lack of competition against the pathogenic bacteria.

Drs. Yang and Chen have synthesized several novel chemical compounds which inhibit the expression of T3SS genes of the plant pathogen *D. dadantii* 3937. The T3S apparatus is not necessary for survival of the pathogenic bacteria; therefore, these inhibitors are unlikely to trigger resistance to the compounds in the pathogens.

Intellectual Property

[US20120322769A1](#)
[201180019127.2](#)

This technology is licensed to T3 Bioscience, LLC and is part of an active and ongoing research program. The company is seeking partners for development of the final product.

About the Inventor(s)

[Ching-Hong Yang](#), Professor, Biological Sciences

Please contact our office to share your business' needs and [Learn More](#).