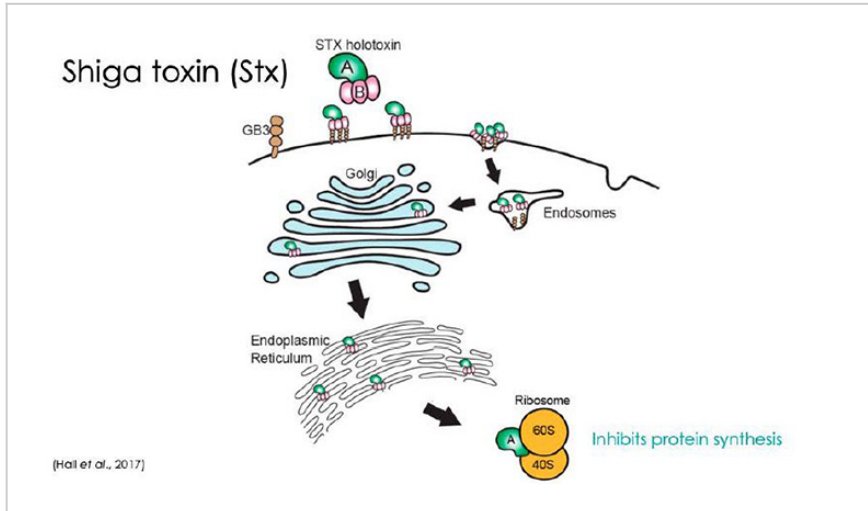


Anti-microbial Molecule isolated from non-pathogenic E. coli

ID# 2019-4924



Shiga toxin inhibits protein synthesis

Technology Summary

Using a proprietary assay, the researchers discovered extra-intestinal E. coli isolates (ExPEC) that carry multiple bacteriocins. Five (5) isolates were sequenced and amplified. Of which, the researchers discovered a non-pathogenic isolate that encodes the molecule responsible for increasing Stx2 production within other competitive, phage infected E. coli strains. The microcin specifically inhibits E. coli strains and those of a closely related species, Shigella.

Application & Market Utility

The invention's microcin may serve as a useful research tool for studying hemolytic uremic syndrome, including amplification of Stx. The commercial utility of this invention could also include its use as a pro-biotic composition, specially for cattle feed. The composition would kill the O157 pathogen by triggering bacteriophage-mediated killing (aka apoptosis).

Next Steps

Patent pending. Seeking licensing opportunities.

TECHNOLOGY READINESS LEVEL

1-3

Seeking

Licensing |

Keywords

- E. coli
- food-borne pathogen
- shiga toxin (stx)
- microcin
- hemolytic uremic syndrome

Researchers

Hillary Figler
Graduate Student
[Online Bio](#)

Edward Dudley
Professor of Food Science
[Website](#)

Originating College

College of Agricultural Sciences

Office of Technology Management Contact

Smith, Matthew
mds126@psu.edu
814-863-1122