"Enhancement of *Clostridium difficile* Treatments" VCU #17-090

Applications

- Enhancement of *C. diff* treatment
- Human gut biome alteration

Advantages

- Potential prevent antibiotic resistance
- Enhancement of *C. diff* treatment
- Material is readily available in large quantities
- Inexpensive to synthesize

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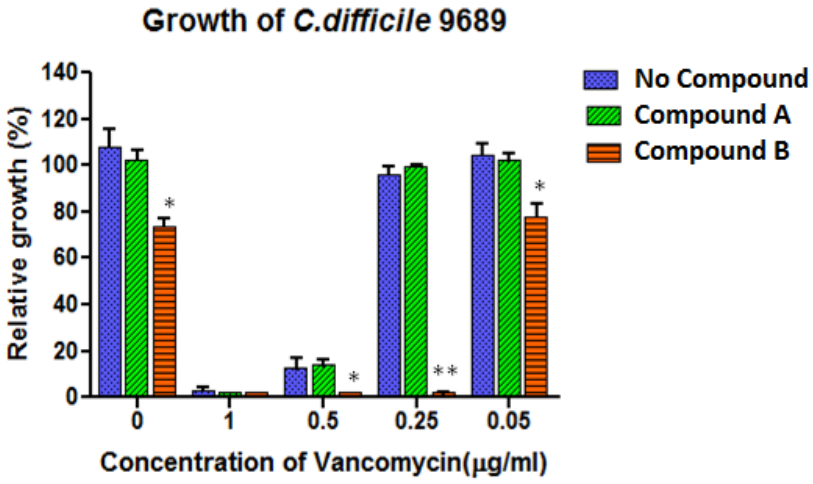
Technology Summary

Current treatments for *Clostridium difficile* (*C. diff*) are not always successful, and can lead to antibiotic resistance and recurrence of the infection.

Recently, VCU inventors have discovered that when a common and naturally occurring compound is used in conjunction with common antibiotics, there was a reduction in bacteria proliferation in comparison to antibiotics alone. This compound has shown the ability to substantially reduce the proliferation of *C. diff*. when tested with rafaxamin, vancomycin, turbomycin A as well as metronidazole. In addition, this compound has proven effective over a wide variety of dosing concentrations, allowing for reduction in infection with lower antibiotic dosage required. This could potentially reduce the risk of antibiotic resistant bacteria formation, as well as reduce the unintended destruction of beneficial bacteria in the human gut biome during treatment. The figure on the right depicts the reduction of *C. difficile* growth when the compound is used in conjunction with Vancomycin at varying concentrations in comparison to the no supplemental treatment control in blue.



Technology Status

This technology has been tested *in vitro*.
Patent pending: US and Foreign rights available.
This technology is available for licensing to industry for further development and commercialization.