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Small Molecules for Treating Vancomycin Resistant Enterococcus Infections

Novel acetazolamide analogs offer a selective, highly potent therapeutic option for treating drug-resistant Vancomycin-resistant enterococcus (VRE) infections.

Vancomycin-resistant enterococcus (VRE) is a leading cause of hospital-acquired infections in the US. There is an unmet need for new treatments of VRE, as infected patients frequently exhaust treatment options when fighting bacterial resistance.

Researchers at Purdue University have developed small molecules to combat drug-resistant enterococcus. These acetazolamide analogs demonstrated a 2 to 4-log reduction in VRE gastrointestinal colonization in mice and were superior to linezolid, the current standard of care, in clearing VRE in internal organs. Additionally, they were shown to selectively target VRE without harming the normal gut microbiota. The application for these compounds is for the treatment of drug-resistant enterococcus.

Advantages:

-Improved potency against VRE

-High selectivity for VRE

Potential Applications:

-VRE treatment

TRL: 3

Intellectual Property:

Provisional-Patent, 2018-12-19, United States | PCT-Patent, 2019-12-18, WO | NATL-Patent, 2021-06-18, United States | DIV-Patent, 2025-07-01, United States

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