

Licensable Technologies

Potential Antibiotic for Drug Resistant Bacteria

Applications:

- Effective treatment of drug resistant pathogens

Benefits:

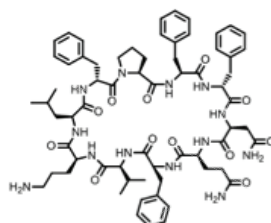
- Useful against a broad spectrum of bacteria
- Unique structure is amenable to synthesis
- Unique structure will make development of resistance difficult

Contact:

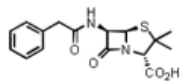
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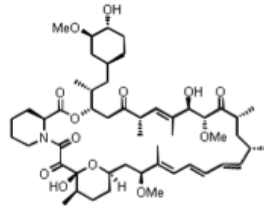
Technology Transfer Division



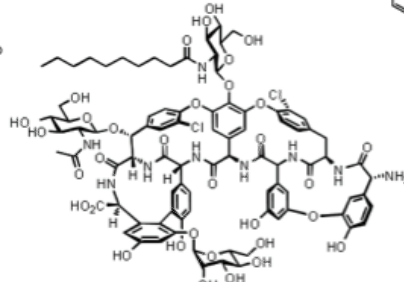
Tyrocidine
(antibiotic)



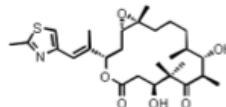
Penicillin G
(antibiotic)



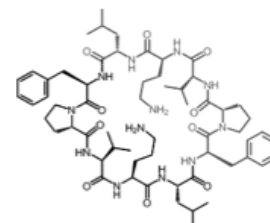
Rapamycin
(immunosuppressant)



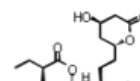
Teicoplanin
(antibiotic effective against MRSA)



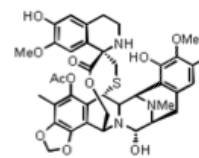
Epothilone B
(cancer chemotherapeutic agent)



Gramicidin S
(antibiotic)



Lovastatin
(hypolipidemic agent)



Ecteinascidin 743
(treatment for soft tissue sarcomas)

Summary:

A team of Los Alamos researchers has discovered and isolated a naturally occurring compound that is highly effective at eliminating growth of gram positive and gram negative bacteria in vitro. The team analyzed the organism that naturally produces the compound to determine the genetically encoded components of the enzymatic cluster associated with the biosynthesis of this natural product. Subsequently, using bioinformatics, this information was used to interrogate databases of known sequences from other organisms and identify similar assembly lines that produce structurally similar compounds. The natural products from these newly identified organisms are structurally different from any known antibacterials. We believe these natural products are amenable to cost-effective chemical synthesis methodologies to increase their diversity and to provide low-cost therapeutics to treat multi-drug resistant infections.

Development Stage:

Multiple organisms that produce these natural products are being cultured to synthesize adequate quantities of bioactive compounds from each with which to conduct toxicological and mutagenicity studies in human cell lines.

Intellectual Property Status:

Patent application pending.

Licensing Status:

Los Alamos is seeking commercial partners to co-develop the technology.