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Evaluation of Alpha-methylene and Alpha-aminomethyllactones, Lactams, and Related Analogs against C. difficile

A novel class of non-toxic and selective drug candidates effectively cures Clostridium difficile infection (CDI) in mice and prevents recurrence without inhibiting normal gut microflora.

Researchers at Purdue University have developed new drug candidates that promise to be effective in the treatment of Clostridium difficile Infection (CDI). This infection is the most common bacterial cause of antibiotic-associated diarrhea (AAD) with an estimated 500,000 cases annually resulting in approximately 29,000 deaths in the United States alone. Many patients treated with fidaxomicin, the only antibiotic approved for CDI in the past 40 years, experience a recurrence of CDI. The Purdue drug cures mice of CDI and prevents recurrence. The lead molecule is not toxic in mice or a human cell line. Further, this new therapeutic is selective for C. diff; it does not inhibit growth in representative species of normal gut microflora.

Advantages:

-New class of molecules against C. diff

-Does not inhibit growth of normal gut microflora

-Non-toxic in human cells and mice

Potential Applications:

-C. diff treatment

-Therapy for antibiotic-associated diarrhea and colitis

TRL: 4

Intellectual Property:

Technology ID
2018-RAMA-68247

Category
Pharmaceuticals/Drug Discovery & Development

Authors
Padinjaremadhom V Ramachandran
Mohamed Seleem

Further information
Clayton Houck
CJHouck@prf.org

View online

Provisional-Patent, 2018-08-27, United States | Provisional-Patent, 2019-08-22, United States | Provisional-Patent, 2022-02-03, United States | NATL-Patent, 2023-02-03, Japan | NATL-Patent, 2023-02-03, Europe | PCT-Patent, 2023-02-03, WO | Foreign, Non-PCT, 2023-02-03, Hong Kong | NATL-Patent, 2024-02-02, United States | NATL-Patent, N/A, Europe | NATL-Patent, N/A, Japan | NATL-Patent, N/A, Canada | NATL-Patent, N/A, China

Keywords: Clostridium difficile Infection, CDI treatment, antibiotic-associated diarrhea, AAD therapy, drug candidates, non-toxic molecules, selective therapeutic, C. diff new class, recurrence prevention, colitis treatment