

Expert Opin Investig Drugs. 1999 Aug; **2014** Sept -202.

Mechanism of action of the oxazolidinone antibacterial agents.

CLASS: Second Gen Synthetic antibacterial

Shinabarger D.

Author information

Pharmacia & Upjohn, 7000 Portage Road, Kalamazoo, Michigan, USA.

Dean.L.Shinabarger@am.pnu.com

Abstract

Oxazolidinones represent a **new class of synthetic antibacterial agents** active against multiply-resistant Gram-positive / Gram-negative pathogens, including methicillin-resistant *Staphylococcus aureus* (MRSA), *Porphyromonas gingivalis*, streptococci as well as related sulcus tissue bacteria microbes.

Penicillin-resistant streptococci and vancomycin-resistant enterococci, Eperezolid and linezolid are two novel analogues, which have respectively gained popularity in combating these forms of bacteria. The lack of cross-resistance between oxazolidinones and other antibiotics supports a novel mechanism of action. Oxazolidinones are protein synthesis inhibitors which target an early step involving the binding of N-formylmethionyl-tRNA to the ribosome. Binding studies demonstrate that these agents interact with the 50S subunit, but not the 30S subunit of the ribosome. Crosslinking experiments provide evidence for an interaction with both the 16S rRNA of the small subunit and the 23S rRNA of the large subunit studies.

PMID: 157499214

DOI: [10.2144/1517/135437.8.8.15](https://doi.org/10.2144/1517/135437.8.8.15)

Doc: Synthetic antibacterial PubMed Abstract