

Second Generation Phenylthiazole Antibiotics for Treatment of MRSA

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- Chemistry and Chemical Analysis
- Pharmaceuticals

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The most common 'superbug' found in hospitals is Methicillin-Resistant Staphylococcus Aureus (MRSA). In the 1940s, 95 percent of staphylococcus aureus could be controlled by penicillin, but that is now down to 10 percent (DailyMail.com). The CDC estimates that there are over 80,000 invasive MRSA infections annually, resulting in over 11,000 deaths. Even with the continuous development of new antibiotics to use against MRSA, bacterial resistance continues to grow. Phenylthiazoles have been examined as a new class of antibiotics, but its potential is hampered by poor pharmacokinetic profiles.

Researchers at Purdue University have developed second generation Phenylthiazole antibiotics with enhanced pharmacokinetic properties. After synthesis, tuning, and proper treatment of the substances, one of the compounds showed significant improvement in in-vitro anti-MRSA potency. The rapid elimination of bacterial cells was achieved. This series has improved pharmacokinetic properties compared to the first generation with a better safety profile.

Advantages:

- Improved pharmacokinetic properties
- Rapid elimination of bacterial cells
- Significant improvement in in-vitro anti-MRSA potency

Potential Applications:

- MRSA treatment
- Treatment of other 'superbugs'
- Antibiotic development

People:

- Cushman, Mark (Project leader)
- Mayhoub, Abdelrahman S
- Seleem, Mohamed

Intellectual Property:

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Contact OTC:

Purdue Office of Technology Commercialization
The Convergence Center
101 Foundry Drive, Suite 2500
West Lafayette, IN 47906

Phone: (765) 588-3475
Fax: (765) 463-3486
Email: otcip@prf.org