

Bac115: A Novel Lantibiotic from Staphylococcus epidermidis

ID: 2012-057

Executive Statement:

Bac115 represents a groundbreaking discovery in the fight against gram-positive bacterial infections, offering a new, potent antimicrobial solution.

Technology Overview:

Bac115 is a newly discovered lantibiotic produced by Staphylococcus epidermidis strain 115, showing broad-spectrum antimicrobial activity against various gram-positive pathogens, including strains resistant to conventional antibiotics. Its unique mode of action and genetic encoding present a significant advancement in antibiotic development.

Key Advantages:

- Broad-spectrum efficacy against gram-positive bacteria, including drug-resistant strains
- Potential application against acid-fast bacteria like Mycobacterium
- Encoded on a high molecular weight plasmid, facilitating genetic manipulation and study
- Represents a novel structural class of lantibiotics, promising unique mechanisms of action
- Can be efficiently extracted and purified for research and therapeutic use

Problems Addressed:

- Antibiotic resistance in clinically significant gram-positive bacteria
- Limited availability of new antibiotics with novel mechanisms of action
- Challenges in treating infections caused by acid-fast bacteria

Market Applications:

- New antibiotic formulations for healthcare and pharmaceutical industries
- Development of topical and systemic treatments for bacterial infections
- Research tool in microbiology and antibiotic resistance studies
- Potential use in biotechnology for the production of antimicrobial materials