

# Vancomycin-Teixobactin Conjugates

Tech ID: 34185 / UC Case 2025-774-0

## BRIEF DESCRIPTION

A novel approach to significantly enhance vancomycin's effectiveness against drug-resistant pathogens by conjugating it with a minimal teixobactin pharmacophore.

## FULL DESCRIPTION

This technology involves the conjugation of vancomycin, a critical last-resort antibiotic, with a minimal teixobactin pharmacophore, targeting a different region of lipid II to rescue and enhance its antibiotic activity. This innovative approach has resulted in the creation of conjugates that demonstrate substantial activity improvements against methicillin-resistant *Staphylococcus aureus* (MRSA), methicillin-susceptible *Staphylococcus aureus* (MSSA), and even vancomycin-resistant *Enterococci* (VRE), where both individual components alone were ineffective.

## ADVANTAGES

- » Significant enhancement in antibiotic activity against Gram-positive bacteria.
- » Effective against drug-resistant strains such as MRSA and VRE.
- » Offers a new life to vancomycin by overcoming resistance mechanisms.
- » Does not require the discovery of new antibiotics, but rather improves existing ones.
- » Provides a strategic approach to combating antibiotic resistance.

## SUGGESTED USES

- » Healthcare industry, particularly in the development of treatments for drug-resistant bacterial infections.
- » Pharmaceutical companies focused on antibiotic research and development.
- » Hospitals and clinics dealing with high rates of MRSA, MSSA, and VRE infections.
- » Public health initiatives aimed at controlling the spread of antibiotic-resistant bacteria.

## PATENT STATUS

Patent Pending

## RELATED MATERIALS

- » Padilla MSTL, Nowick JS. Vancomycin–Teixobactin Conjugates. *Journal of the American Chemical Society*. Published online February 14, 2025.

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## OTHER INFORMATION

### CATEGORIZED AS

- » **Biotechnology**
- » Health
- » **Medical**
- » Disease: Infectious Diseases
- » Therapeutics

### RELATED CASES

2025-774-0

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