Product Name: Mecillinam
Product Number: M001
CAS Number: 32887-01-7
Molecular Formula: C_{15}H_{23}N_{3}O_{3}S
Molecular Weight: 325.43
Form: Powder
Appearance: White or off-white crystalline powder
Solubility: sparingly soluble in aqueous solution (0.98 mg/ml)
Source: Semi-synthetic
Water Content (Karl Fischer): ≤1.0%
pH: 4.0-6.2
Storage Conditions: 2-8°C
Description: Mecillinam is a broad-spectrum β-lactam antibiotic in the penicillin class, specifically an amidinopenicillin. This compound was described in 1972 by Lund and Tybring. It is effective against Gram-negative bacteria. Mecillinam is sparingly soluble in aqueous solution.

Mechanism of Action: β-lactams interfere with penicillin binding protein (PBP) activity involved in the final phase of peptidoglycan synthesis. PBPs catalyze a pentaglycine crosslink between alanine and lysine residues providing additional strength to the cell wall. Without a pentaglycine crosslink, the integrity of the cell wall is severely compromised and ultimately leads to cell lysis and death. Resistance to β-lactams is commonly due to cells containing plasmid encoded β-lactamases.

Spectrum: Mecillinam targets primarily Gram-negative bacteria involved in urinary tract infections. It has minimal activity against Gram-positive organisms.

Microbiology Applications Mecillinam is commonly used in clinical *in vitro* microbiological antimicrobial susceptibility tests (panels, discs, and MIC strips) against Gram-negative microbial isolates. Medical microbiologists use AST results to recommend antibiotic treatment options.

Representative MIC values include:

- *Escherichia coli* 8 µg/mL
- For a complete list of Mecillinam MIC values, [click here](#).
References:


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