Product Name: Ceftibuten

Product Number: C069

CAS Number: 97519-39-6

Molecular Formula: C_{15}H_{14}N_{4}O_{6}S_{2}

Molecular Weight: 410.42 g/mol

Form: Powder

Appearance: White to light yellow crystalline powder

Solubility: freely soluble in aqueous solution (70.5 mg/mL) and DMSO.

Source: Synthetic

Water Content (Karl Fischer): 8.0-13.0%

Optical Rotation: +135° - +155°

Storage Conditions: -20°C

Description: Ceftibuten is a third generation cephalosporin antibiotic. It has exceptional beta-lactamase stability and is resistant to inactivation by most B-lactamases made by common Gram-negative and Gram-positive bacteria. Ceftibuten can be used to study drug resistance and transport pathways. Ceftibuten is freely soluble in aqueous solution (70.5 mg/mL) and DMSO.

Mechanism of Action: Like β-lactams, cephalosporins interfere with PBP (penicillin binding protein) activity involved in the final phase of peptidoglycan synthesis. PBP’s are enzymes which 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 cephalosporins is commonly due to cells containing plasmid encoded β-lactamases.

Spectrum: Ceftibuten is a broad spectrum antibiotic targeting a wide variety of Gram-positive and Gram-negative bacteria.

Microbiology Applications Ceftibuten is commonly used in clinical in vitro microbiological antimicrobial susceptibility tests (panels, discs, and MIC strips) against Gram-positive and Gram-negative microbial isolates. Medical microbiologists use AST results to recommend antibiotic treatment options for infected patients. Representative MIC values include:

- *Haemophilus influenzae* 0.015 µg/mL – 1 µg/mL
- *Escherichia coli* 0.015 µg/mL - 8 µg/mL
- For a complete list of ceftibuten MIC values, [click here](#).


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