

Product Name:	Ceftibuten
Product Number:	C069
CAS Number:	97519-39-6
Molecular Formula:	$C_{15}H_{14}N_4O_6S_2$
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	<p>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:</p> <ul style="list-style-type: none"> • <i>Haemophilus influenzae</i> 0.015 μg/mL – 1 μg/mL • <i>Escherichia coli</i> 0.015 μg/mL - 8 μg/mL • For a complete list of ceftibuten MIC values, click here.

References:

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