Product Name: Ceftizoxime sodium

Product Number: C021

CAS Number: 68401-82-1

Molecular Formula: \( C_{13}H_{12}N_5NaO_5S_2 \)

Molecular Weight: 405.38

Form: Powder

Appearance: White or pale yellow crystalline powder

Solubility: soluble in aqueous solution

Source: Synthetic

Water Content (Karl Fischer): ≤8.5%

pH: 6.0-8.0

Optical Rotation: +125° to +145°

Storage Conditions: -20°C

Description:
Ceftizoxime sodium is a third generation cephalosporin, similar in antibacterial activity to cefotaxime and moxalactam. It is not hydrolyzed by common plasmid and chromosomal β-lactamases. It is soluble in aqueous solution.

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; however, ceftizoxime is stable in the presence of these inactivating enzymes.

Spectrum:
Ceftizoxime is a broad spectrum antibiotic targeting a wide variety of Gram-positive and Gram-negative bacteria, both aerobic and anaerobic.

Microbiology Applications
Ceftizoxime sodium 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* spp. 0.008 μg/mL – 0.25 μg/mL
- *Neisseria* spp. 0.004 μg/mL – 0.015 μg/mL
- For a complete list of ceftizoxime MIC values, click here.
References:


If you need any help, contact us: info@toku-e.com. Find more information on: www.toku-e.com