Cefotaxime Sodium, USP
PRODUCT DATA SHEET
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Product Name: Cefotaxime Sodium, USP
Product Number: C011
CAS Number: 64485-93-4
Molecular Formula: $C_{16}H_{16}N_{5}NaO_{7}S_{2}$
Molecular Weight: 447.45
Form: Powder
Appearance: White or almost white powder
Source: Semi-synthetic (Acremonium sp.)
Absorbance: $A_{430} \leq 0.2$
pH: 4.5-6.5
Optical Rotation: +58° to +64°
Storage Conditions: -20°C
Description: Cefotaxime Sodium, USP is broad-spectrum, third-generation cephalosporin. It interferes with bacterial peptidoglycan synthesis. Cefotaxime Sodium is freely soluble in aqueous solution.
We also offer:

- Cefotaxime Sodium, USP (C011)

Cefotaxime Sodium, USP conforms to United States Pharmacopoeia specifications.

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. Cefotaxime Sodium however, is largely resistant to β-lactamases.

Spectrum: Cefotaxime Sodium has broad-spectrum activity against a wide variety of Gram-positive and Gram-negative bacteria. However, unlike many cephalosporin antibiotics, cefotaxime sodium is not effective against Pseudomonas aeruginosa.
**Microbiology Applications**

Cefotaxime 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. Representative MIC values include:

- *Neisseria gonorrhoeae*: 0.008 µg/mL – 0.03 µg/mL
- *Streptococcus pneumoniae*: ≤0.007 µg/mL — 0.25 µg/mL
- For a complete list of Cefotaxime MIC values, [click here](#).

**Plant Biology Applications**

Cefotaxime is often used in *Agrobacterium tumefaciens* mediated transformations to combat bacterial growth. It is also sometimes used in combination with Vancomycin as it has a synergistic effect.

**References:**

**General:**


**Cefotaxime Sodium from TOKU-E:**


If you need any help, contact us: [info@toku-e.com](mailto:info@toku-e.com). Find more information on: [www.toku-e.com/](http://www.toku-e.com/)