Product Name: Cefpodoxime Sodium

Product Number: C096

CAS Number: 82619-04-3

Molecular Formula: \( \text{C}_{15}\text{H}_{16}\text{N}_{5}\text{NaO}_{6}\text{S}_{2} \)

Molecular Weight: 449.44

Form: powder

Appearance: brown crystalline powder

Source: synthetic

Water Content (Karl Fischer): report results

Storage Conditions: -20°C. Protect from light.

Description: Cefpodoxime Sodium is a broad-spectrum, third-generation cephalosporin \( \beta \)-lactam antibiotic that interferes with bacterial cell wall. It is effective against a wide range of Gram-positive and Gram-negative bacteria. Cefpodoxime Sodium is soluble in DMSO.

We also offer:
- Cefpodoxime Proxetil (C015)
- Cefpodoxime Free Acid (C016)

Mechanism of Action: Like \( \beta \)-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 \( \beta \)-lactamases. However, like many cephalosporins, cefpodoxime is stable in the presence of \( \beta \)-lactamases.

Spectrum: Cefpodoxime Sodium is a broad-spectrum antibiotic which targets a wide variety of Gram-positive and Gram-negative bacteria especially those which cause otitis media and pharyngitis.
**Microbiology Applications**  
Cefpodoxime 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:

- *Klebsiella pneumoniae* 8 µg/mL - 64 µg/mL
- *Haemophilus influenzae* 0.032 µg/mL – 1 µg/mL
- For a complete list of cefpodoxime MIC values, click here.

Cefpodoxime from TOKU-E was used as a reference compound when characterizing the extended-spectrum AmpC (ESAC) B-lactamase enzymes (Lahiri et al., 2014).

*In vitro* kinetic modeling can be used to study the pharmacokinetic-pharmacodynamic modelling of the antibacterial activity of cefpodoxime. This approach has more detailed information than the MIC about he time course of efficacy (Liu et al., 2005).

**References:**


Alm et al. used cefpodoxime from TOKU-E against *Escherichia coli* NDM isolates in microdilution MIC assays. "Characterization of *Escherichia coli* NDM isolates with decreased susceptibility to aztreonam/avibactam: role of a novel insertion in PBP3."

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