Product Name: Cefepime Hydrochloride

Product Number: C009

CAS Number: 123171-59-5

Molecular Formula: \( \text{C}_{19}\text{H}_{25}\text{ClN}_{6}\text{O}_{5}\text{S}_{2} \cdot \text{HCl} \cdot \text{H}_{2}\text{O} \)

Molecular Weight: 571.50

Form: Powder

Appearance: White or almost white crystalline powder

Solubility: soluble in aqueous solution

Source: Semi-synthetic

Water Content (Karl Fischer): 3.0-6.0%

Absorbance: \( A_{400} \leq 0.2 \)

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

Description: Cefepime Hydrochloride is a broad-spectrum, fourth-generation cephalosporin antibiotic. It is commonly used in antimicrobial susceptibility testing. The addition of the hydrochloride salt enhances aqueous solubility. Cefepime has potential for use as an antitumor agent, showing inhibition of human breast cancer cells in vitro when complexed with manganese.

We also offer:

- Cefepime (C008)

Mechanism of Action: Like β-lactams, cephalosporins interfere with penicillin binding protein (PBP) activity involved in the final phase of peptidoglycan synthesis. PBPs 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. Interestingly, Cefepime is resistant to various β-lactamases encoded by otherwise resistant β-lactam bacteria strains.

Spectrum: Cefepime is a broad-spectrum antibiotic targeting a wide variety of naturally antibiotic resistant Gram-positive and Gram-negative bacteria. Some of these naturally resistant bacteria include Pseudomonas aeruginosa, Staphylococcus aureus, and Streptococcus pneumoniae.
Microbiology Applications  Cefepime Hydrochloride 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:

- *Pseudomonas aeruginosa* 32 µg/mL – 256 µg/mL
- *Staphylococcus aureus* 2 µg/mL – 16 µg/mL
- For a more complete list of cefepime MIC values, [click here.](#)

Cefepime was used in a MALDI-TOF MS-based direct-on-target microdroplet growth assay as part of a screening panel for rapid detection of ESBL, and AmpC β-Lactamases in *Enterobacterales*. *(Correa-Martinez et al, 2019).*

References:


Cefepime from TOKU-E:


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