

Product Name:	Cefoxitin
Product Number:	C091
CAS Number:	35607-66-0
Molecular Formula:	$C_{16}H_{17}N_3O_7S_2$
Molecular Weight:	427.46 g/mol
Form:	Powder
Appearance:	white or almost white powder
Solubility:	sparingly soluble in aqueous solution (0.195 mg/ml).
Source:	Semi-synthetic
Water Content (Karl Fischer):	≤5.0%
pH:	2.5-3.5
Optical Rotation:	+195° to +208°
Storage Conditions:	-20°C
Description:	<p>Cefoxitin is a cephamycin β-lactam second- generation cephalosporin. Cefoxitin is resistant to β-lactamases. Cefoxitin is sparingly soluble in aqueous solution.</p> <p>We also offer:</p> <ul style="list-style-type: none">• Cefoxitin sodium (C054)

Mechanism of Action:	<p>Like β-lactams, cephamycins 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 cephamycins is commonly due to cells containing plasmid encoded β-lactamases.</p>
Spectrum:	<p>Cefoxitin is a broad-spectrum antibiotic effective against several Gram-positive and Gram-negative bacteria. Like many cephamycins, Cefoxitin is particularly effective against anaerobic bacteria.</p>

Microbiology Applications Cefoxitin 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:

- *Bacteroides fragilis* 1 µg/mL – 8 µg/mL
- *Bacillus cereus* 8.6 µg/mL
- For a complete list of Cefoxitin MIC values, [click here](#).

Media Supplements

Cefoxitin can be used as a selective agent in several types of isolation media:

Clostridium difficile agar - Isolation of *Clostridium difficile*

References:

Georgopapadakou NH (1992) Mechanisms of action of cephalosporin 3'-quinolone esters, carbamates, and tertiary amines in *Escherichia coli*." *Antimicrob. Agents. Chemother.* 37 (3): 559-65

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