Cefozopran Hydrochloride
PRODUCT DATA SHEET

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Product Name:	Cefozopran Hydrochloride
Product Number:	C099
CAS Number:	113981-44-5
Molecular Formula:	$C_{19}H_{17}N_9O_5S_2$•HCl
Molecular Weight:	551.99
Form:	Powder
Solubility:	is freely soluble in DMSO and slightly soluble in water.
Storage Conditions:	-20°C
Description:	Cefozopran Hydrochoride is a broad-spectrum, fourth-generation cephalosporin that interferes with bacterial peptidoglycan synthesis. The compound is freely soluble in DMSO and slightly soluble in water.
Mechanism of Action:	Similar to 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.
Spectrum:	Cefozopran is a broad-spectrum antibiotic targeting a wide range of Gram-positive and Gram-negative bacteria including *Pseudomonas aeruginosa.*
Microbiology Applications	Cefozopran has been shown to be useful against the multi drug resistant MRSA when used in combination with other antibiotics including vancomycin and teicoplanin.
References:	Georgopapadakou NH (1992) Mechanisms of action of Cephalosporin 3'-quinolone esters, carbamates, and tertiary amines in *Escherichia coli.* Antimicrob.Agents Chemother. 37(3): 559-565 Hayashi R and Lmada A (1993) Therapeutic effect of Cefozopran (SCE-2787), a new parenteral cephalosporin, against experimental infections in mice. Antimicrob. Agents Chemother. 37(1): 100-105 Toyokawa M et al (2003) *In vitro* combined effects of Cefozopran/teicoplanin and Cefozopran/vancomycin on methicillin-resistant *Staphylococcus aureus*. J. Chemother. 15(1):31-36