Product Data Sheet

Product Name: Cefamandole (sodium salt)
Cat. No.: GC16920

Chemical Properties

Cas. No.	30034-03-8		
Chemical Name	(6R,7R)-7-[[(2R)-2-hydroxy-2-phenylacetyl]amino]-3-[[(1-methyl-1H-tetrazol-5-yl)thio]methyl]-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, monosodium salt		
SMILES	O=C(N[C@@H]1C(N2[C@]1([H])SCC(CSC3=NN=NN3C)=C2C([O-])=O)=O)[C@H](O)C4=CC=CC=C4.[Na+]		
Formula	$C_{18}H_{17}N_6O_5S_2$ • Na	M.Wt	484.5
Solubility	≤30mg/ml in DMSO;30mg/ml in dimethyl formamide	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Cefamandole (sodium salt)		

Background

MIC: 0.25-2 mg/L for different E. coli strains

Cefamandole is a cephalosporin antibiotic.

The cephalosporins are a class of β-lactam antibiotics originally derived from the fungus Acremonium, which was previously known as "Cephalosporium".

In vitro: The in-vitro effect of cefamandole was tested against 645 strains of bacteria isolated from clinical sources. Against gram-positive organisms cefamandole showed great potency, being three- to four-fold more active than cephalexin or cefoxitin. None of the Pseudomonas aeruginosa strains were susceptible to 100 μg of cefamandole per ml [1].

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In vivo: The testicular toxicity of cefamandole was evaluated in neonatal rats. Results showed that cefamandole caused delayed maturity of the germinal epithelium of neonatal rats. In rats given daily subcutaneous injections during this period, the most mature germinal cells were acrosome phase spermatids [2].

Clinical trial: A randomized, single-blind comparison of parenteral cefamandole and ampicillin was conducted in adult patients with pneumonia or purulent tracheobronchitis. Results showed that cefamandole was as effective and safe as ampicillin. Of the 14 patients treated with cefamandole, 13 were considered cured, as were 12 of the 13 treated with ampicillin [3].

References:
[1] Eickhoff TC, Ehret JM. In vitro comparison of cefoxitin, cefamandole, cephalexin, and cephalothin. Antimicrob Agents Chemother. 1976 Jun;9(6):994-9.
[2] Hoover DM, Buening MK, Tamura RN, Steinberger E. Effects of cefamandole on spermatogenic development of young CD rats. Fundam Appl Toxicol. 1989 Nov;13(4):737-46.
[3] Delgado DG, Brau CJ, Cobbs CG, Dismukes WE. Clinical and laboratory evaluation of cefamandole in the therapy of Haemophilus spp. Bronchopulmonary infections. Antimicrob Agents Chemother. 1979 Jun;15(6):807-12.

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