Cefpiramide sodium

Cat. No.: HY-B0798

CAS No.: 74849-93-7

Molecular Formula: $C_{25}H_{23}N_8NaO_7S_2$

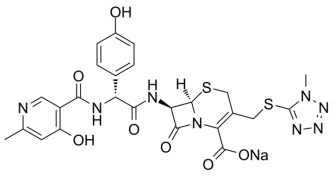
Molecular Weight: 634.62

Target: Bacterial; Antibiotic

Pathway: Anti-infection

Storage: 4°C, sealed storage, away from moisture and light

* The compound is unstable in solutions, freshly prepared is recommended.



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 39 mg/mL (61.45 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Mass / Solvent / Concentration	1 mg	5 mg	10 mg
1 mM	1.5757 mL	7.8787 mL	15.7575 mL
5 mM	0.3151 mL	1.5757 mL	3.1515 mL
10 mM	0.1576 mL	0.7879 mL	1.5757 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (3.28 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (3.28 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (3.28 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Cefpiramide sodium (SM-1652; Wy-44635) is a new Pseudomonas-active cephalosporin with a broad spectrum of antibacterial activity.IC50 value:Target: antibacterial agentCefpiramide was moderately susceptible to hydrolysis by a variety of beta-lactamases from Gram-negative bacilli. cefpiramide was more active against Acinetobacter spp. and Pseudomonas spp. Like most other cephalosporins, cefpiramide inhibited methicillin-susceptible staphylococci, non-enterococcal streptococci, Neisseria gonorrhoeae, N. meningitidis and beta-lactamase-negative Haemophilus influenzae [1]. Pharmacokinetic studies in mice showed that cefpiramide attained a peak serum concentration of 12 micrograms/ml and a serum half-life of 40 min, which are higher than attained by cefoperazone with values of 4 micrograms/ml and 18 min. These factors may have caused the combined cefpiramide-gentamicin therapy to result in significantly improved survival

rates in mice as well as in higher bactericidal titers than the cefoperazone-gentamicin combination [2].Cefpiramide inhibited many Pseudomonas aeruginosa resistant to carbenicillin, piperacillin, and cefotaxime, but it was less active than ceftazidime and cefsulodin. Cefpiramide inhibited staphylococci and streptococci and had appreciable activity against Streptococcus faecalis and Listeria moncytogenes [3].

REFERENCES

[1]. Barry AL, et al. Cefpiramide: comparative in-vitro activity and beta-lactamase stability. J Antimicrob Chemother. 1985 Sep;16(3):315-25.

[2]. Fu KP, et al. Therapeutic efficacy of cefpiramide and cefoperazone alone and in combination with gentamicin against pseudomonal infections in neutropenic mice. Chemotherapy. 1986;32(2):166-72.

[3]. Neu HC, et al. The in vitro activity and beta-lactamase stability of cefpiramide compared with other beta-lactam antibiotics. Diagn Microbiol Infect Dis. 1985 Nov;3(6):479-88.

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