Product Data Sheet

Product Name: Cefpodoxime (free acid)
Cat. No.: GC10817

Chemical Properties

Cas. No.	80210-62-4		
Chemical Name	(6R)-7R-[[(2Z)-2-(2-amino-4-thiazolyl)-2-(methoxyimino)acetyl]amino]-3-(methoxymethyl)-8-oxo-5-thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid		
SMILES	O=C(N1[C@]2([H])SCC(COC)=C1C(O)=O)[C@H]2NC(/C(C3=CSC(N)=N3)=N\OC)=O		
Formula	$C_{15}H_{17}N_5O_6S_2$	M.Wt	427.5
Solubility	≤10mg/ml in ethanol;10mg/ml in DMSO;10mg/ml in methanol;5mg/ml in acetonitrile	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	Cefpodoxime (free acid)		

Background

Cefpodoxime, as known as R 3763, is a metabolite of cefpodoxime proxetil. It is demonstrated that cefpodoxime, as an oral third generation cephalosporin antibiotic, is active against most Gram-positive and Gram-negative bacteria.

Cefpodoxime suppresses bacterial septum and cell wall synthesis by binding to penicillin-binding proteins (PBPs) located in the bacterial cytoplasmic membrane.

In vitro: Cefpodoxime showed antibacterial activities against obligatory anaerobes and salmonella spp., shigella spp. and Neisseria meningitides. The activity of cefpodoxime was less active than R95867, an active form of CS-834, against Gram-negative bacteria [1]. Cefpodoxime was quite stable to hydrolysis by β-lactamases produced from B. cereus and E. coli HB101/pBR322 [2].

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In vivo: Male ddY mice were administered orally in a volume of 0.2 mL of 0.5% carboxymethyl cellulose sodium salt. After 7 days, it was shown that cefpodoxime had good efficacy against streptococcus spp. and K. pneumoniae infection in mice [1].

References:

[1]. Sakagawa, E., Otsuki, M., Oh, T., & Nishino, T. In-vitro and in-vivo antibacterial activities of CS-834, a new oral carbapenem. Journal of Antimicrobial Chemotherapy, 1998; 42: 426-437.

[2]. Fukuoka, T., Ohya, S., Utsui, Y., Domon, H., Takenouchi, T., Koga, T., ... Kuwahara, S. In vitro and in vivo antibacterial activities of CS-834, a novel oral carbapenem. Antimicrobial Agents and Chemotherapy, 1997; 41(12): 2652–2663.

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