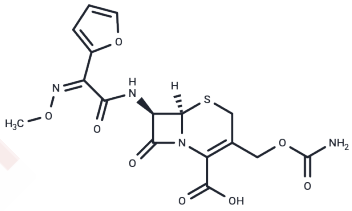
Data Sheet (Cat.No.T65068)

TargetMol

Cefuroxime

Chemical Properties



CAS No. : 55268-75-2

Formula: C16H16N4O8S

Molecular Weight: 424.39

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Cefuroxime (Cephuroxime) is an orally active second-generation cephalosporin antibiotic with antimicrobial activity that inhibits both Gram-positive and Gram-negative bacteria, and is used in the study of soft tissue infections.
Targets(IC50)	Antibacterial,Antibiotic
In vitro	Regardless of whether S. aureus produces penicillinase or not, Cefuroxime showed strong antibacterial activity with a minimum inhibitory concentration (MIC) of 0.25 μg/ml.It exhibited significant antibacterial activity against methicillin-sensitive S. aureus, methicillin-resistant S. aureus, Streptococcus pyogenes, Streptococcus pneumoniae, Streptococcus viridans, Enterococcus faecalis, and Clostridium difficile. antimicrobial effect with MIC values of 0.25 μg/ml, 5.9 μg/ml, 0.125 μg/ml, 0.125 μg/ml, 0.125 μg/ml, >125.0 μg/ml and 1.2 μg/ml, respectively. Cefuroxime (10-100 μg/ml, 2-6 hours of action) is rapidly bactericidal. Although it is relatively slow against S. aureus strains, it kills more than 99% of the initial inoculum within 6 hours. For Gram-negative bacteria, Cefuroxime is even faster, killing more than 99% of highly inoculated strains in just 2 hours in most cases. There is no significant difference in the speed of sterilization between β-lactamase-producing and non-enzyme-producing strains. [1]
In vivo	In rabbits (2.0 to 2.5 kg body weight) infected with 630 strains of penicillinase-producing Staphylococcus aureus by intravenous injection, a protection test showed a median effective dose of Cefuroxime of 3 mg/kg. [2]

Solubility Information

Solubility	DMSO: 250 mg/mL (589.08 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 25 mg/mL (58.91 mM),Solution. 10% DMSO+90% Saline: < 25 mg/mL (58.91 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3563 mL	11.7816 mL	23.5632 mL
5 mM	0.4713 mL	2.3563 mL	4.7126 mL
10 mM	0.2356 mL	1.1782 mL	2.3563 mL
50 mM	0.0471 mL	0.2356 mL	0.4713 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

1. O'Callaghan CH, et al. Cefuroxime, a new cephalosporin antibiotic: activity in vitro. Antimicrob Agents Chemother. 1976 Mar;9(3):511-9.
Ryan DM, et al. Cefuroxime, a new cephalosporin antibiotic: activity in vivo. Antimicrob Agents Chemother. 1976 Mar;9(3):520-5.