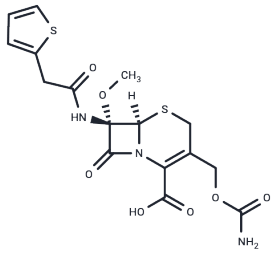
Data Sheet (Cat.No.T20643)

TargetMol

Cefoxitin

Chemical Properties



CAS No. : 35607-66-0

Formula: C16H17N3O7S2

Molecular Weight: 427.45

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	Cefoxitin (Rephoxitin) is a broad-spectrum, orally available second-generation cephalosporins antibiotic. Cefoxitin interferes with the synthesis of bacterial cell walls. Its activity profile includes Gram-negative and Gram-positive bacteria, and is commonly used in abdominal cavity infections, pelvic infections, and certain types of gynecological infections, and is highly effective against anaerobic bacteria.
Targets(IC50)	Cell wall,Antibacterial,Antibiotic
In vitro	Cefoxitin demonstrates effective antimicrobial properties against Gram-positive bacteria, with minimum inhibitory concentrations (MICs) spanning from 1-6 μg/mL for various Gram-positive pathogens[1]. Furthermore, at a concentration of 1.25 μM/mL, Cefoxitin exhibits potent bactericidal activity against B. burgdorferi[2].
In vivo	Cefoxitin administration at a dose of 20 mg/kg via intraperitoneal injection for 5 consecutive days demonstrates effective eradication of B. burgdorferi in the C3H/HeN mouse model.[2]

Solubility Information

Solubility	DMSO: 250 mg/mL (584.86 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: < 10 mg/mL (23.39 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 10 mg/mL (23.39 mM),Solution. *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	2.3395 mL	11.6973 mL	23.3945 mL
5 mM	0.4679 mL	2.3395 mL	4.6789 mL
10 mM	0.2339 mL	1.1697 mL	2.3395 mL
50 mM	0.0468 mL	0.2339 mL	0.4679 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

Stapley EO, et al. Cefoxitin and cephamycins: microbiological studies. Rev Infect Dis. 1979;1(1):73-89.
Pothineni VR, et al. In vitro and in vivo evaluation of cephalosporins for the treatment of Lyme disease. Drug Des Devel Ther. 2018;12:2915-2921.
Miller AK, et al. Cefoxitin, a semisynthetic cephamycin antibiotic: in vivo evaluation. Antimicrob Agents Chemother. 1974;5(1):33-37.
Sharifzadeh S, et al. Harnessing β-Lactam Antibiotics for Illumination of the Activity of Penicillin-Binding Proteins in Bacillus subtilis. ACS Chem Biol. 2020;15(5):1242-1251.