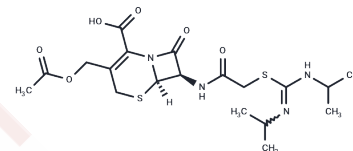


## Cefathiamidine

## Chemical Properties

CAS No. :	33075-00-2
Formula:	C <sub>19</sub> H <sub>28</sub> N <sub>4</sub> O <sub>6</sub> S <sub>2</sub>
Molecular Weight:	472.58
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	Cefathiamidine exhibits a wide spectrum of antimicrobial activity against bacteria. Cefathiamidine is used for the treatment of respiratory, liver, five senses, urinary tract infections, endocarditis and sepsis
Targets(IC50)	Antibacterial, Antibiotic
In vitro	All the 56 strains of Str. faecalis tested were inhibited by 2 mg/l of cefathiamidine. MICs of ampicillin were twofold higher than those of cefathiamidine and MICs of cephaloridine and cephazolin were 8-16-fold higher. No significant inoculum effect on MICs of cefathiamidine could be seen. Two isolates of Str. faecium showed resistance to the four antibiotics. The MBCs of cefathiamidine and ampicillin for ten strains of Str. faecalis showed that the ratios of MBC/MIC were greater than 64. The rates of killing of Str. faecalis were reduced at concentrations of cefathiamidine and ampicillin greater than the MIC. The most rapid killing was obtained at 2 mg/l cefathiamidine or 4 mg/l of ampicillin. With the addition of 1 mg/l gentamicin this paradoxical bacteriocidal effect was eliminated[1].

## Solubility Information

Solubility	DMSO: 250 mg/mL (529.01 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: 5 mg/mL (10.58 mM), Sonication is recommended. <i>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.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	2.116 mL	10.5802 mL	21.1604 mL
5 mM	0.4232 mL	2.116 mL	4.2321 mL
10 mM	0.2116 mL	1.058 mL	2.116 mL
50 mM	0.0423 mL	0.2116 mL	0.4232 mL

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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

- Chen HY, et al. The killing effects of cefathiamidine or ampicillin alone and in combination with gentamicin against enterococci. *J Antimicrob Chemother.* 1983 Jul;12(1):19-26.
- Zhi LJ, et al. Population pharmacokinetics and dosing optimization of cefathiamidine in children with hematologic infection. *Drug Des Devel Ther.* 2018 Apr 17;12:855-862.

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