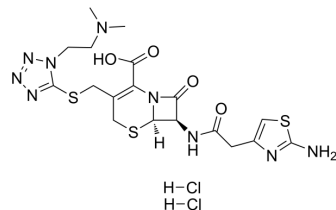


## Cefotiam hydrochloride

Cat. No.:	HY-B0734A
CAS No.:	66309-69-1
Molecular Formula:	C <sub>18</sub> H <sub>25</sub> Cl <sub>2</sub> N <sub>9</sub> O <sub>4</sub> S <sub>3</sub>
Molecular Weight:	598.55
Target:	Bacterial; Antibiotic
Pathway:	Anti-infection
Storage:	4°C, sealed storage, away from moisture * The compound is unstable in solutions, freshly prepared is recommended.



### SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (167.07 mM; Need ultrasonic)				
	H <sub>2</sub> O : 33.33 mg/mL (55.68 mM; Need ultrasonic)				
		Mass			
		Solvent	1 mg	5 mg	10 mg
		Concentration			
Preparing Stock Solutions	1 mM		1.6707 mL	8.3535 mL	16.7070 mL
	5 mM		0.3341 mL	1.6707 mL	3.3414 mL
	10 mM		0.1671 mL	0.8354 mL	1.6707 mL
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	1. Add each solvent one by one: PBS Solubility: 50 mg/mL (83.54 mM); Clear solution; Need ultrasonic				
	2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (4.18 mM); Clear solution				
	3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (4.18 mM); Clear solution				
	4. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (4.18 mM); Clear solution				

### BIOLOGICAL ACTIVITY

Description	Cefotiam (SCE-963) hydrochloride is a parenteral cephalosporin antibiotic. Cefotiam hydrochloride has broad-spectrum activity against Gram-positive and Gram-negative bacteria <sup>[1][2]</sup> .
IC <sub>50</sub> & Target	β-lactam
In Vitro	Cefotiam (SCE-963; 0-6.25 μg/mL; 8 h) hydrochloride has antibacterial activity with a MIC value of 1.56 μg/mL for <i>P. mirabilis</i>

IFO 3849<sup>[1]</sup>.

Cefotiam (SCE-963; 0-6.25 µg/mL; 8 h) hydrochloride has highly active against both Staph. aureus (27 strains, MIC values of 0.5-1 µg/mL) and Staph. albus (8 strains, MICs 0.25-0.5 µg/mL). All 29 strains of haemolytic streptococci, 9 strains of pneumococci and 6 strains of Streptococcus viridans with the MIC values of in the range 0.06-4 µg/mL<sup>[2]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### In Vivo

Cefotiam (SCE-963; 12.5-800 mg/kg; i.h.; twice a day for 5 d) hydrochloride can cure urinary tract infection with P. mirabilis in mice to reduce or complete eradicate bacteria in the bladder walls and kidneys<sup>[1]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Female CF1/b mice with P. mirabilis xenograft <sup>[1]</sup>
Dosage:	12.5, 25, 50, 100, 200, 400 and 800 mg/kg
Administration:	Subcutaneous injection; twice a day, for 5 days
Result:	Reduced or complete eradicated bacteria in the bladder walls and kidneys of mice sacrificed the day after treatment was terminated.

## REFERENCES

[1]. Iwahi T, et, al. Comparative activities of cefotiam and ceftazolin against urinary tract infections with Proteus mirabilis in mice. Antimicrob Agents Chemother. 1980 Aug;18(2):257-63.

[2]. Watt B, et, al. In-vitro activity of cefotiam against bacteria of clinical interest. J Antimicrob Chemother. 1982 Nov;10(5):391-5.

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA