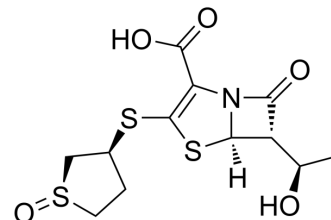


Sulopenem

Cat. No.:	HY-105284		
CAS No.:	120788-07-0		
Molecular Formula:	C ₁₂ H ₁₅ NO ₅ S ₃		
Molecular Weight:	349.45		
Target:	Bacterial; Antibiotic; Beta-lactamase		
Pathway:	Anti-infection		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro	DMSO : 83.33 mg/mL (238.46 mM; Need ultrasonic)			
		Solvent Concentration	Mass	
			1 mg	5 mg
			10 mg	
Preparing Stock Solutions	1 mM	2.8616 mL	14.3082 mL	28.6164 mL
	5 mM	0.5723 mL	2.8616 mL	5.7233 mL
	10 mM	0.2862 mL	1.4308 mL	2.8616 mL
Please refer to the solubility information to select the appropriate solvent.				
In Vivo	1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (5.95 mM); Clear solution			

BIOLOGICAL ACTIVITY

Description	Sulopenem (CP-70429) is an orally active, parenteral penem antibiotic with broad-spectrum activities against Gram-positive and Gram-negative bacteria. Sulopenem has the potential for urinary tract infections and intra-abdominal infections treatment. Sulopenem is inactive against <i>Pseudomonas aeruginosa</i> and <i>Xanthomonas maltophilia</i> ^{[1][2][3]} .
IC₅₀ & Target	β-lactam
In Vitro	Sulopenem has the potential for uncomplicated and complicated urinary tract infections and intra-abdominal infections treatment, including multidrug-resistant (MDR) infections and infections attributable to quinolone-nonsusceptible and/or extended-spectrum β-lactamase (ESBL)-producing Gram-negative bacilli ^[1] . Sulopenem inhibits the growth of most isolates of aerobic and anaerobic Gram-positive and Gram-negative bacteria, including methicillin-susceptible <i>Staphylococcus aureus</i> , <i>Streptococcus pneumoniae</i> (penicillin-susceptible and -resistant isolates), group A and B β-hemolytic streptococci, <i>Listeria monocytogenes</i> , Enterobacteriaceae, <i>Haemophilus influenzae</i> ,

and *Moraxella catarrhalis* but excluding *P. aeruginosa* and *Stenotrophomonas maltophilia*, at a concentration of $\leq 1 \mu\text{g/mL}$ ^[1]

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

In Vivo

The protective effects of Sulopenem in murine experimental systemic infections are superior to those of Imipenem/Cilastatin. In murine experimental mixed infection with *Escherichia coli* and *Bacteroides fragilis*, Sulopenem has lower ED₅₀. In guinea pigs experimental lung infection with *Klebsiella pneumoniae*, Sulopenem is more effective than CZON or Cefotiam^[3].

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

CUSTOMER VALIDATION

- Nat Microbiol. 2023 Mar;8(3):410-423.

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REFERENCES

[1]. James A Karlowsky, et al. In Vitro Activity of Sulopenem, an Oral Penem, Against Urinary Isolates of *Escherichia coli*. *Antimicrob Agents Chemother.* 2018 Dec 21;63(1):e01832-18.

[2]. M Minamimura, et al. In Vitro Antibacterial Activity and Beta-Lactamase Stability of CP-70,429 a New Penem Antibiotic. *Antimicrob Agents Chemother.* 1993 Jul;37(7):1547-51.

[3]. M Nagashima, et al. In Vitro and in Vivo Activities of Sulopenem Compared With Those of Imipenem and Cephalosporins. *Jpn J Antibiot.* 1996 Apr;49(4):303-23.

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

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