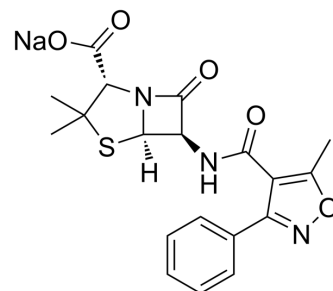


Oxacillin sodium salt

Cat. No.:	HY-B0925
CAS No.:	1173-88-2
Molecular Formula:	C ₁₉ H ₁₈ N ₃ NaO ₅ S
Molecular Weight:	423.42
Target:	Bacterial; Antibiotic
Pathway:	Anti-infection
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro	DMSO : 125 mg/mL (295.22 mM; Need ultrasonic)					
	Preparing Stock Solutions	Solvent	Mass	1 mg	5 mg	10 mg
		Concentration				
		1 mM		2.3617 mL	11.8086 mL	23.6172 mL
		5 mM		0.4723 mL	2.3617 mL	4.7234 mL
	10 mM		0.2362 mL	1.1809 mL	2.3617 mL	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (5.90 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (5.90 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (5.90 mM); Clear solution 					

BIOLOGICAL ACTIVITY

Description	Oxacillin sodium salt is an orally active synthetic penicillin with good bactericidal activity against staphylococci and other gram-positive pathogens ^[1] .
IC₅₀ & Target	β-lactam
In Vitro	<p>Oxacillin inhibits gram positive pathogens with MICs of 0.05, 0.09, 0.32 and 0.80 μg/mL against group A streptococci, Pneutococci, susceptible staphylococci and penicillin-resistant staphylococci, respectively^[1].</p> <p>The Oxacillin-resistant strains are highly resistant to other penicillins^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

In Vivo

Oxacillin (50-800 mg/kg; s.c.; once) shows curative dose (CD₅₀) of 253.3 mg/kg in mice infected with *Staphylococcus aureus* Evans. The oral CD₅₀ of Oxacillin is 187.2 mg/kg^[2].

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

Animal Model:	CD-1 strain male albino mice infected with <i>S. aureus</i> Evans ^[2]
Dosage:	50, 100, 200, 400 and 800 mg/kg
Administration:	Subcutaneous injection, once
Result:	Showed therapeutic activity with CD ₅₀ of 253.3 mg/kg.

CUSTOMER VALIDATION

- Emerg Microbes Infect. 2024 Dec;13(1):2321981.
- iScience. 5 January 2022, 103731.
- Front Microbiol. 2020 Jul 31;11:1720.
- Microorganisms. 2024 Jan 25, 12(2), 256.
- BMC Microbiol. 2023 Apr 20;23(1):109.

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REFERENCES

[1]. KIRBY WM, et al. Oxacillin: laboratory and clinical evaluation. JAMA. 1962 Sep 1;181:739-44.

[2]. Yurchenco JA, et al. Nafcillin and oxacillin: comparative antistaphylococcal activity in mice. J Antibiot (Tokyo). 1976 Apr;29(4):460-5.

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

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