Oxacillin sodium monohydrate

Cat. No.: HY-B0465

CAS No.: 7240-38-2

Molecular Formula: $C_{19}H_{20}N_3NaO_6S$

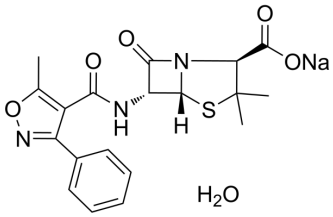
Molecular Weight: 441.43

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

H_2O : ≥ 100 mg/mL (226.54 mM)

DMSO : 50 mg/mL (113.27 mM; Need ultrasonic)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.2654 mL	11.3268 mL	22.6536 mL
	5 mM	0.4531 mL	2.2654 mL	4.5307 mL
	10 mM	0.2265 mL	1.1327 mL	2.2654 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 110 mg/mL (249.19 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 (5.66 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.66 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Oxacillin sodium monohydrate is an antibiotic similar to Flucloxacillin used in resistant staphylococci infections study[1].

In Vitro

Oxacillin exhibits MIC values of ≤1 μg/mL for four mecA gene-carrying S. aureus clinical isolates (SA 1306, SA 1326, SA 1552, and SA 4666[1].

Oxacillin (5 μg/mL, 0-90 min) induces lysis of $Tol^+$and Tol^- strains[2].

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

Cell Viability Assay[2]

Cell Line:	Cells of S. aureus which had grown for six to eight generations in [^{14}C]glycerol.
Concentration:	5 μg/mL.
Incubation Time:	0, 30, 60, 90 min.
Result:	The Tol^{+} isolates were readily distinguished from Tol- isolates by the rates at which the cells lysed.

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]. Alexandros Ikonomidis, et al. In vitro and in vivo evaluations of oxacillin efficiency against mecA-positive oxacillin-susceptible Staphylococcus aureus. Antimicrob Agents Chemother. 2008 Nov;52(11):3905-8.

[2]. R H Raynor, et al. Oxacillin-induced lysis of Staphylococcus aureus. Antimicrob Agents Chemother. 1979 Aug;16(2):134-40.

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