Cloxacillin sodium monohydrate

Cat. No.: HY-B0466

CAS No.: 7081-44-9

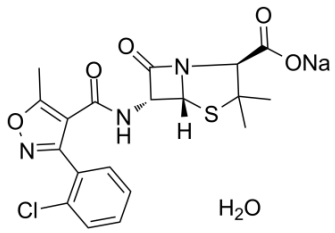
Molecular Formula: $C_{19}H_{19}ClN_3NaO_6S$

Molecular Weight: 475.88

Target: Bacterial; Antibiotic

Pathway: Anti-infection

Storage: 4°C, protect from light, stored under nitrogen
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (210.14 mM; Need ultrasonic)
H_2O : 50 mg/mL (105.07 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.1014 mL	10.5069 mL	21.0137 mL
	5 mM	0.4203 mL	2.1014 mL	4.2027 mL
	10 mM	0.2101 mL	1.0507 mL	2.1014 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.25 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.25 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.25 mM); Clear solution
4. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (210.14 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Cloxacillin sodium monohydrate exhibits antibiotic efficacy, with a MIC of 256 mg/L for Staphylococcus aureus 25923[1][2][3].

In Vitro

Cloxacillin is an antibiotic useful for the study of a number of bacterial infections[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Cell Viability Assay[1]

Cell Line:	Strains M12 and M60.
Concentration:	0.5 μg/mL.
Incubation Time:	4-24 h.
Result:	Significantly reduced the bacterial numbers.

In Vivo

Cloxacillin sodium (50 mg/kg, Subcutaneously) results a significant antibiotic efficacy against S. aureus[3].

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

Animal Model:	Mice[2].
Dosage:	10 mg/kg (Pharmacological Analysis).
Administration:	Given subcutaneously.
Result:	Reached a maximal concentration in plasma of 8.4 μg/mL at 10 min and had a half-life of approximately 15 min.

Animal Model:	Mice injected with approximately 2×10^6 CFU of bacteria in 0.1 mL saline were aseptically injected into the right thigh muscle[3].
Dosage:	0–500 mg/kg.
Administration:	Subcutaneously in the nuchal region at 1 h after infection.
Result:	Resulted in a significant decrease in the number of viable S. aureus measured 18 h thereafter.

CUSTOMER VALIDATION

- Chemosphere. 2019 Jun;225:378-387.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. J C Anderson, et al. The Effect of Incorporation of Cloxacillin in Liposomes on Treatment of Experimental Staphylococcal Mastitis in Mice. J Vet Pharmacol Ther. 1986 Sep;9(3):303-9.

[2]. W Calame, et al. Influence of Etoposide and Cyclophosphamide on the Efficacy of Cloxacillin and Erythromycin in an Experimental Staphylococcal Infection. Antimicrob Agents Chemother. 1989 Jun;33(6):980-2.

[3]. Peter H Nibbering, et al. 99mTc-Labeled UBI 29-41 Peptide for Monitoring the Efficacy of Antibacterial Agents in Mice Infected With Staphylococcus Aureus. J Nucl Med. 2004 Feb;45(2):321-6.

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