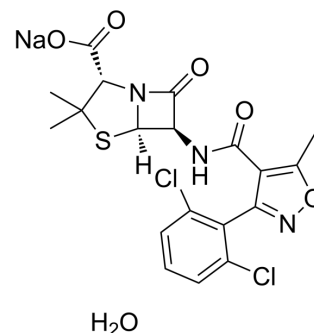


Dicloxacillin Sodium hydrate

| | |
|--------------------|-------------------------------------------------------------------------------------|
| Cat. No.: | HY-B0977 |
| CAS No.: | 13412-64-1 |
| Molecular Formula: | C ₁₉ H ₁₈ Cl ₂ N ₃ NaO ₆ S |
| Molecular Weight: | 510.32 |
| 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 ₂ O : 25 mg/mL (48.99 mM; Need ultrasonic) | | | | | |
| | Preparing Stock Solutions | <div>Solvent</div> <div>Concentration</div> | Mass | 1 mg | 5 mg | 10 mg |
| | | 1 mM | | 1.9596 mL | 9.7978 mL | 19.5955 mL |
| | | 5 mM | | 0.3919 mL | 1.9596 mL | 3.9191 mL |
| | | 10 mM | | 0.1960 mL | 0.9798 mL | 1.9596 mL |
| Please refer to the solubility information to select the appropriate solvent. | | | | | | |
| In Vivo | 1. Add each solvent one by one: PBS Solubility: 25 mg/mL (48.99 mM); Clear solution; Need ultrasonic | | | | | |

BIOLOGICAL ACTIVITY

| | | |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Description | Dicloxacillin Sodium hydrate (Dicloxacillin sodium salt monohydrate) is a narrow-spectrum β-Lactam antibiotic of the penicillin class, is used to treat infections caused by susceptible Gram-positive bacteria, active against beta-lactamase-producing organisms such as <i>Staphylococcus aureus</i> ^{[1][2][3]} . | |
| IC ₅₀ & Target | β-lactam | |
| In Vitro | Dicloxacillin exhibits EC ₅₀ values of 0.06 and 0.50 mg/L in ATCC 25923 and E19977, respectively. Dicloxacillin exhibits MIC values of 0.125 and 0.5 mg/L in ATCC 25923 and E19977 with pH 7.4, respectively ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only. Cell Viability Assay ^[3] | |
| | Cell Line: | Strains ATCC 25923 and E19977. |

| | |
|------------------|-------------------------------------------------------------------------------------------------|
| Concentration: | 0-500 mg/L. |
| Incubation Time: | Up to 24 h. |
| Result: | Exhibited EC ₅₀ values of 0.06 and 0.50 mg/L in ATCC 25923 and E19977, respectively. |

In Vivo

Dicloxacillin exhibits therapeutic activity in murine peritonitis-sepsis model and all the mice are survived^[4].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

| | |
|-----------------|--------------------------------------------------------------------------------------|
| Animal Model: | Female outbred Swiss Webster mice (Murine peritonitis-sepsis model) ^[4] . |
| Dosage: | 125 mg/kg. |
| Administration: | IV injection, single doses. |
| Result: | All the mice survived. |

CUSTOMER VALIDATION

- Biomed Res Int. 2018 Jul 2;2018:3579832.

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REFERENCES

- [1]. Jusko WJ, et al. Enhanced renal excretion of dicloxacillin in patients with cystic fibrosis. *Pediatrics*. 1975 Dec;56(6):1038-44.
- [2]. Miranda-Novales G, et al. In vitro activity effects of combinations of cephalothin, dicloxacillin, imipenem, vancomycin and amikacin against methicillin-resistant *Staphylococcus* spp. strains. *Ann Clin Microbiol Antimicrob*. 2006 Oct 12;5:25.
- [3]. Anne Sandberg, et al. Intra- and extracellular activities of dicloxacillin against *Staphylococcus aureus* in vivo and in vitro. *Antimicrob Agents Chemother*. 2010 Jun;54(6):2391-400.
- [4]. John Chu, et al. Discovery of MRSA active antibiotics using primary sequence from the human microbiome. *Nat Chem Biol*. 2016 Dec;12(12):1004-1006.

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