

Dicloxacillin Sodium

Chemical Properties

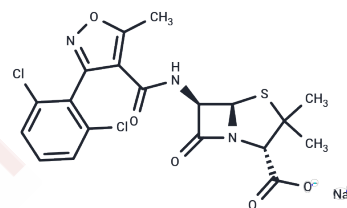
CAS No. : 343-55-5

Formula: C₁₉H₁₇Cl₂N₃O₅·H₂O·Na

Molecular Weight: 510.32

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year



Biological Description

Description	Dicloxacillin Sodium (BRL1702 Sodium) is a β -lactamase resistant penicillin similar to oxacillin and it has activity against gram-positive/negative aerobic and anaerobic bacteria.
Targets(IC50)	Antibacterial,Antibiotic
In vitro	Dicloxacillin Sodium is a narrow-spectrum β -lactam antibiotic of the penicillin class. It is used to treat infections caused by susceptible Gram-positive bacteria. It is active against beta-lactamase-producing organisms such as Staphylococcus aureus, which would otherwise be resistant to most penicillins.[1] Like other β -lactam antibiotics, dicloxacillin acts by inhibiting the synthesis of bacterial cell walls. It inhibits cross-linkage between the linear peptidoglycan polymer chains that make up a major component of the cell wall of Gram-positive bacteria. Dicloxacillin is insensitive to beta-lactamase (also known as penicillinase) enzymes secreted by many penicillin-resistant bacteria. The presence of the isoxazolyl group on the side-chain of the penicillin nucleus facilitates the β -lactamase resistance, since they are relatively intolerant of side-chain steric hindrance. Thus, it is able to bind to penicillin-binding proteins (PBPs) and inhibit peptidoglycan crosslinking, but is not bound by or inactivated by β -lactamases. [2]

Solubility Information

Solubility	DMSO: 93 mg/mL (182.24 mM),Sonication is recommended. H2O: 92 mg/mL (180.28 mM),Sonication is recommended. Ethanol: 21 mg/mL (41.15 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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A DRUG SCREENING EXPERT

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.9596 mL	9.7978 mL	19.5955 mL
5 mM	0.3919 mL	1.9596 mL	3.9191 mL
10 mM	0.196 mL	0.9798 mL	1.9596 mL
50 mM	0.0392 mL	0.196 mL	0.3919 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Quijano R, et al. Proc Soc Exp Biol Med. 1979, 162(3), 442-444.

Nielsen SL, et al. J Antimicrob Chemother, 1998, 42(2), 221-226.

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