Moxalactam sodium salt

Cat. No.: HY-B1484

CAS No.: 64953-12-4

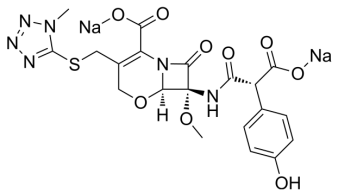
Molecular Formula: $C_{20}H_{18}N_6Na_2O_9S$

Molecular Weight: 564.44

Target: Bacterial; Antibiotic; Beta-lactamase

Pathway: Anti-infection

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



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (442.92 mM; Need ultrasonic)
H_2O : ≥ 50 mg/mL (88.58 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.7717 mL	8.8583 mL	17.7167 mL
5 mM	0.3543 mL	1.7717 mL	3.5433 mL
10 mM	0.1772 mL	0.8858 mL	1.7717 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 130 mg/mL (230.32 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (3.69 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (3.69 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Moxalactam (Latamoxef) sodium salt is a synthetic oxa-β-lactam antibiotic. Moxalactam sodium salt has a broad spectrum of activity against Gram-positive and Gram-negative aerobic and anaerobic bacteria. Moxalactam sodium salt inhibits production of β-lactamases[1].

IC_{50} & Target

β-lactam

In Vitro

Moxalactam (Latamoxef) inhibits 90% of strains of Escherichia coli, Klebsiella species, Proteus species, Morganella morganii,

Neisseria gonorrhoeae, Neisseria meningitidis, Haemophilus influenzae and Salmonella species, including strains which are resistant to Cephalothin (HY-B1275A) and Gentamicin (HY-A0276A) at concentrations of less than 1 μg/mL[1].
Moxalactam exhibits moderate activity against P. aeruginosa and is usually active against other species of Pseudomonas, Acinetobacter species are usually resistant to Moxalactam[1].
Moxalactam has marked stability in vitro against a variety of β-lactamases, including that produced by B. fragilis, inhibits production of β-lactamases and does not induce class I β-lactamase[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Moxalactam (Latamoxef) (0-7.4 mg/mouse; s.c.; once) is effective against bacterial infections in mice[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Four-week-old male strain ICR mice, weighing 18-20 g, bacterial infection model[2]
Dosage:	0-7.4 mg/mouse
Administration:	Subcutaneous injection, once
Result:	Showed protective activity with ED_{50}s less than 7.4 mg/mouse against gram-positive and gram-negative bacteria infected mice.

CUSTOMER VALIDATION

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

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Goto S. In vitro and in vivo antibacterial activity of moxalactam, an oxa-β-lactam antibiotic. Clinical Infectious Diseases, 1982, 4(Supplement_3): S501-S510.

[2]. Carmine AA, et al. Moxalactam (latamoxef). A review of its antibacterial activity, pharmacokinetic properties and therapeutic use. Drugs. 1983 Oct;26(4):279-333.

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