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Lieferung & Zahlungsart

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Zuschläge

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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

Fosfomycin sodium

Cat. No.: HY-W016420

CAS No.: 26016-99-9

Molecular Formula: $C_3H_5Na_2O_4P$

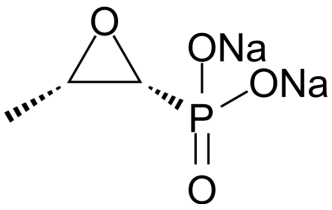
Molecular Weight: 182.02

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 : 125 mg/mL (686.74 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	5.4939 mL	27.4695 mL	54.9390 mL
	5 mM	1.0988 mL	5.4939 mL	10.9878 mL
	10 mM	0.5494 mL	2.7470 mL	5.4939 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (549.39 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Fosfomycin (MK-0955) sodium is a blood-brain barrier penetrating, broad-spectrum antibiotic by irreversibly inhibiting an early stage in cell wall synthesis. Fosfomycin sodium shows both in vivo and in vitro activity against a wide range of bacteria, including multidrug-resistant (MDR), extensively drug-resistant (XDR), and pan-drug-resistant (PDR) bacteria[1][2].

In Vitro

Fosfomycin sodium is an epoxy antibacterial agent. Compared with other antibacterial agents, it acts by inhibiting the early process of cell wall synthesis[1].

Fosfomycin sodium has bactericidal activity against a variety of gram-negative and gram-positive pathogens, including broad-spectrum production β-Bacteria of lactamase and carbapenemase, and against S. aureus strains with an inhibition rate of 90%[1].

Fosfomycin sodium displays extensive tissue penetration, can be used to research of infections of the CNS, soft tissues, bone, lungs, and abscesses[2].

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

In Vivo

Fosfomycin sodium (80 mg/kg; i.v.-i.v. or i.v.-p.o.) displays the protective effect on the nephrotoxicity of double beckacin,

and is not affected by different administration routes[3].

Pharmacokinetic of Fosfomycin sodium in Rats[4]

Dibekacin Dose (mg)	V_{dss} (l/kg)	β (min^{-1})	$T_{1/2}$ (min)	Urinary recovery (%)
30	0.261	0.0244	28.4	85

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

Animal Model:	Fischer 344 rats[3]
Dosage:	320 mg/kg
Administration:	Intramuscular injection, 5 schedules: 1 h, 0.5 h earlier than dibekacin, concomitantly, 0.5 h later and 1 h later; 11 days
Result:	Reduced polyuria, proteinuria, enzymes and cytosine caused by dibecacin (40 mg/kg), followed by the previous treatment.

Animal Model:	Dehydrated Wistar rat with acute renal failure (8-week-old)[4]
Dosage:	120 mg/kg
Administration:	Intravenous injection; once
Result:	Recovered the exclusion rate of rats basically to normal, and improved the nephrotoxicity parameters. Protects proximal tubular lysosomes from aminoglycosides by inhibiting myeloid formation and protecting the integrity of lysosomal membrane of rats treated with double bekacin.

CUSTOMER VALIDATION

- Nat Commun. 2022 Mar 2;13(1):1116.
- Front Cell Infect Microbiol. 2019 Jul 15;9:253.
- Antibiotics (Basel). 2021 Sep 14;10(9):1110.
- J Med Microbiol. 2019 Mar;68(3):493-502.

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REFERENCES

[1]. Dijkmans AC, et al. Fosfomycin: Pharmacological, Clinical and Future Perspectives. Antibiotics (Basel). 2017 Oct 31. 6(4):24.

[2]. Inouye S, et al. Protective effect of fosfomycin on the experimental nephrotoxicity induced by dibekacin. J Pharmacobiodyn. 1982 Sep. 5(9):659-69.

[3]. Inouye S, et al. Mode of protective action of fosfomycin against dibekacin-induced nephrotoxicity in the dehydrated rats. J Pharmacobiodyn. 1982 Dec. 5(12):941-50.

[4]. Falagas ME, et al. Fosfomycin. Clin Microbiol Rev. 2016 Apr. 29(2):321-47.

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