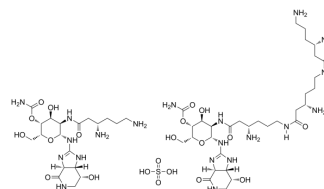


Nourseothricin sulfate

Cat. No.:	HY-129065
CAS No.:	96736-11-7
Molecular Formula:	C ₅₀ H ₉₄ N ₂₀ O ₂₂ S
Molecular Weight:	1359.47
Target:	Fungal; 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

H₂O : ≥ 100 mg/mL (73.56 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	0.7356 mL	3.6779 mL	7.3558 mL
	5 mM	0.1471 mL	0.7356 mL	1.4712 mL
	10 mM	0.0736 mL	0.3678 mL	0.7356 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 (73.56 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Nourseothricin sulfate (Streptothricin sulfate) is a broad-spectrum antibiotic that destroys the outer membrane of Gram-negative bacteria and is a dominant selective marker for *Fonsecaea pedrosoi*^{[1][2]}. Nourseothricin sulfate inhibits protein biosynthesis in prokaryotic cells and strongly inhibits the growth of eukaryotes like fungi and can also be used as a elective marker for a wide range of organisms including bacteria, yeast, filamentous fungi, and plant cells^[3].

In Vitro

Escherichia coli resistance to neurosporin can be sensitive to resistant strains by eliminating their outer membrane resistance. The polycationic antibiotic, Nourseothricin, represents a mixture of several Streptothricins, mainly D and F. Obviously, although very slowly, it can pass the outer membrane via the porin pores. It has been shown earlier that Nourseothricin is able to generate some kind of channels into the outer membrane through which it can pass the cell wall. On the other hand, there are indications that resistant strains containing a Nourseothricin-inactivating acetyl transferase possess an additional protecting system, namely a reduced penetrability of the outer membrane^[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Nourseothricin is preferentially excreted via kidney and signs of nephrotoxicity can be observed after its administration. Renal handling of Nourseothricin is characterized in experiments on renal cortical slices under various experimental conditions. Following administration in vivo the renal tubular transport system for organic anions (p-aminohippurate, PAH) is not influenced by Nourseothricin. There is a high degree of accumulation of Nourseothricin in renal cortical slices. In contrast to PAH accumulation there is no influence of nitrogen atmosphere, simultaneous administration of PAH, probenecid or trishydroxymethane on Nourseothricin accumulation. Age dependent differences in Nourseothricin accumulation does not exist^[4].

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

CUSTOMER VALIDATION

- BMC Microbiol. 2023 Apr 13;23(1):99.

See more customer validations on www.MedChemExpress.com

REFERENCES

- [1]. Seltmann G, et al. Resistance of Escherichia coli to nourseothricin (streptothricin): sensitization of resistant strains by abolition of its outer membrane resistance. Zentralbl Bakteriol. 1992 Jan;276(2):143-51.
- [2]. Florencio CS, et al. Genetic manipulation of Fonsecaea pedrosoi using particles bombardment and Agrobacterium mediated transformation. Microbiol Res. 2018 Mar;207:269-279.
- [3]. Bräunlich H, et al. Renal handling of nourseothricin. Pharmazie. 1988 Mar;43(3):200-2.
- [4]. Suárez-Moreno ZR, et al. Plant-Growth Promotion and Biocontrol Properties of Three Streptomyces spp. Isolates to Control Bacterial Rice Pathogens.. Front Microbiol. 2019 Feb 25;10:290.

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