Polymyxin B nonapeptide

Cat. No.: HY-106783

CAS No.: 86408-36-8

Molecular Formula: $C_{43}H_{74}N_{14}O_{11}$

Molecular Weight: 963.13

Sequence: Thr-{Dab}-{Dab}-{Dab}-{Dab}-d-Phe-Leu-{Dab}-{Dab}-Thr (Lactam: Dab3-Thr9)

Sequence Shortening: T-{Dab}-{Dab}-{Dab}-{Dab}-d-FL-{Dab}-{Dab}-T (Lactam: Dab3-Thr9)

Target: Bacterial; Antibiotic

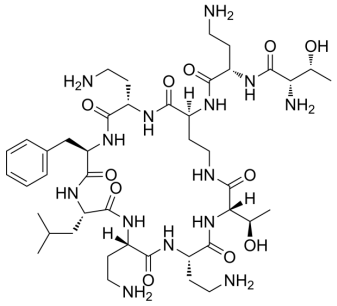
Pathway: Anti-infection

Storage: Sealed storage, away from moisture and light

Powder -80°C 2 years

-20°C 1 year

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

H_2O : ≥ 100 mg/mL (103.83 mM)

DMSO : 16.67 mg/mL (17.31 mM; Need ultrasonic)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.0383 mL	5.1914 mL	10.3828 mL
	5 mM	0.2077 mL	1.0383 mL	2.0766 mL
	10 mM	0.1038 mL	0.5191 mL	1.0383 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 1.67 mg/mL (1.73 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.67 mg/mL (1.73 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.67 mg/mL (1.73 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Polymyxin B nonapeptide is a cyclic peptide obtained from Polymyxin B by proteolytic removal of its terminal amino acyl residue[1]. Polymyxin B nonapeptide is less toxic, lacks bactericidal activity, and retains its ability to render gram-negative

	bacteria susceptible to several antibiotics by permeabilizing their outer membranes[2].
In Vitro	Polymyxin B nonapeptide, a cationic cyclic peptide derived by enzymatic processing from the naturally occurring peptide polymyxin B, is able to increase the permeability of the outer membrane of Gram-negative bacteria toward hydrophobic antibiotics probably by binding to the bacterial lipopolysaccharide (LPS)[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Front Microbiol. 2020 Jul 31;11:1720.

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REFERENCES

[1]. Tsubery H, et al. Structure-function studies of polymyxin B nonapeptide: implications to sensitization of gram-negative bacteria. J Med Chem. 2000 Aug 10;43(16):3085-92.

[2]. Ofek I, et al. Antibacterial synergism of polymyxin B nonapeptide and hydrophobic antibiotics in experimental gram-negative infections in mice. Antimicrob Agents Chemother. 1994 Feb;38(2):374-7.

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