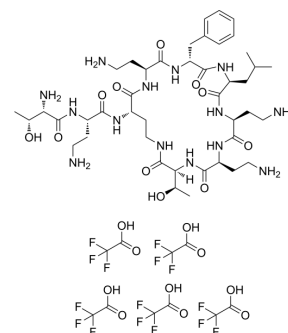


Polymyxin B nonapeptide TFA

Cat. No.:	HY-106783A
CAS No.:	2220175-42-6
Molecular Formula:	C ₄₃ H ₇₄ N ₁₄ O ₁₁ ·5C ₂ HF ₃ O ₂
Molecular Weight:	1533.25
Target:	Bacterial; Antibiotic
Pathway:	Anti-infection
Storage:	Sealed storage, away from moisture
	Powder -80°C 2 years
	-20°C 1 year

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



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (65.22 mM; Need ultrasonic)
 H₂O : 50 mg/mL (32.61 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	0.6522 mL	3.2610 mL	6.5221 mL
	5 mM	0.1304 mL	0.6522 mL	1.3044 mL
	10 mM	0.0652 mL	0.3261 mL	0.6522 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 (65.22 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Polymyxin B nonapeptide TFA is a cyclic peptide obtained from Polymyxin B by proteolytic removal of its terminal amino acyl residue. Polymyxin B nonapeptide TFA is less toxic, lacks bactericidal activity, and retains its ability to render gram-negative bacteria susceptible to several antibiotics by permeabilizing their outer membranes^{[1][2][3]}.

In Vitro

Polymyxin B nonapeptide TFA (2-32 µg/mL, 24 h) has a synergistic effect with Azithromycin (HY-17506)^[1]. Polymyxin B nonapeptide TFA (10 µg/mL) inhibits lipopolysaccharide (HY-D1056)-induced neutrophilic activation in a concentration-dependent manner^[2].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.
 Cell Viability Assay^[1]

	Cell Line:	E. coli strains
	Concentration:	2, 4, 8, 16, 32 µg/mL
	Incubation Time:	24 h
	Result:	Combinated with AZT caused a significant reduction the bacterial growth after 6 h and complete killing after 24 h.
In Vivo	Polymyxin B nonapeptide TFA (1.5, 3.0 mg/kg intravenously for 29 days) does not exhibit neuromuscular blocking, neurotoxic, or nephrotoxic effects in rats as observed with polymyxin B sulfate ^[2] . 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]. Al-Marzooq F, et al. Discerning the role of polymyxin B nonapeptide in restoring the antibacterial activity of azithromycin against antibiotic-resistant Escherichia coli. Front Microbiol. 2022 Sep 21;13:998671.
- [2]. Danner RL, et al. Purification, toxicity, and antiendotoxin activity of polymyxin B nonapeptide. Antimicrob Agents Chemother. 1989 Sep;33(9):1428-34.
- [3]. 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.

Caution: Product has not been fully validated for medical applications. For research use only.

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