Pep19-2.5

MedChemExpress

Cat. No.:	НҮ-Р3496				
CAS No.:	1322711-38-5				
Molecular Formula:	C ₁₃₅ H ₁₈₇ N ₃₇ O ₂₂ S				
Molecular Weight:	2712.23				
Sequence Shortening:	GCKKYRRFRWKFKGKFWFWG				
Target:	Pyroptosis				
Pathway:	Apoptosis; Immunology/Inflammation				
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)				

BIOLOGICAL ACTIVITY

Description	Pep19-2.5 is an synthetic and antitoxin peptide, blocks the intracellular endotoxin signaling cascade. Pep19-2.5 inhibits signaling of lipopeptides (LP) and lipopolysaccharides (LPS) mediated by transmembrane and cytosolic pattern recognition receptors (PRRs). The signaling cascades lead to inflammation and cell pyroptosis ^[1] .			
In Vivo	Pep19-2.5 (5 mg/kg; i.v.; single dose), combinded with <u>Ceftriaxone</u> (HY-B0712) (15 mg/kg; i.v.; single dose) displays synergism effect and kills bacteria and eliminates bacteremia 30 min post treatment, Pep19-2.5 also notably counteracts the endotoxin-inducing potential of ceftriaxone in sepsis model of rabbit ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.			
	Animal Model:	Sepsis model in male New Zealand rabbits (2-2.5 kg) ^[2]		
	Dosage:	5 mg/kg, combinded with 15 mg/kg <u>Ceftriaxone;</u> total volume of 2 mL		
	Administration:	Intravenous injection; extracted blood from the marginal ear vein at different time points post challenge (0, 2, 30, 90 and 180 min)		
	Result:	Killed bacteria and eliminates bacteremia 30 min post challenge; Inhibited Toll-like receptor 4 agonists in serum 90 min post challenge; Reduced serum levels of pro-inflammatory cytokines (interleukin-6 and tumor necrosis factor α); And reverted to hypothermia and gives rise to temperature values indistinguishable from basal levels 330 min post challenge.		

REFERENCES

[1]. Heinbockel L, et al. Inhibition of Lipopolysaccharide- and Lipoprotein-Induced Inflammation by Antitoxin Peptide Pep19-2.5. Front Immunol. 2018 Jul 26;9:1704.

[2]. Bárcena-Varela S, et al. Coupling killing to neutralization: combined therapy with ceftriaxone/Pep19-2.5 counteracts sepsis in rabbits. Exp Mol Med. 2017 Jun 16;49(6):e345.

Product Data Sheet

[3]. Jannadi H, et al. Antimicrobial peptides Pep19-2.5 and Pep19-4LF inhibit Streptococcus mutans growth and biofilm formation. Microb Pathog. 2019 Aug;133:103546.

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

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