MDP1 acetate

Cat. No.: HY-P3328A

Molecular Formula: $C_{113}H_{206}N_{34}O_{30}$

Molecular Weight: 2521.05

Sequence Shortening: GIGAVLKVLTTGLPALIKRKRQQ

GIGAVLKVLTTGLPALIKRKRQQ (acetate salt)

Target: Bacterial

Pathway: Anti-infection

Storage: Sealed storage, away from moisture and light, under nitrogen

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, under nitrogen)

SOLVENT & SOLUBILITY

In Vitro

H_2O : 10 mg/mL (3.97 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	0.3967 mL	1.9833 mL	3.9666 mL
	5 mM	---	---	---
	10 mM	---	---	---

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 50 mg/mL (19.83 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

MDP1 acetate, a Melittin-derived peptide, alters the integrity of both Gram-positive and Gram-negative bacterial membranes and kills the bacteria via membrane damages. MDP1 acetate has a high-antibacterial activity against multidrug resistant (MDR) and reference strains of S. aureus, E. coli, and P. aeruginosa[1].

In Vitro

MDP1 acetate exhibits more potent antibacterial activities against S. aureus, E. coli and P. aeruginosa.
Geometric means of MICs for MDP1 is recorded at 4.06 μg/mL (S. aureus), 1.22 μg/mL (E. coli) and 3.75 μg/mL (P. aeruginosa), respectively[1].
DNA and calcein release and flow cytometry assays indicate a time-dependent antibacterial activity on the examined bacteria affected by MDP1 (10, 5, 2.5, 1.25, 0.625 and 0.312 μg/mL) acetate. Finally, SEM analyses highlights dose- and time-dependent effects of MDP1 acetate on S. aureus and E. coli bacteria by induction of vesicle or pore formation as well as cell lysis[1].

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

REFERENCES

[1]. Akbari R, et al. Action mechanism of melittin-derived antimicrobial peptides, MDP1 and MDP2, de novo designed against multidrug resistant bacteria. Amino Acids. 2018;50(9):1231-1243.

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