Enterocin K1

Cat. No.:	HY-P5203
CAS No.:	2764845-22-7
Molecular Formula:	$C_{218}H_{321}N_{53}O_{51}S_2$
Molecular Weight:	4564.34
Sequence:	Met-Lys-Phe-Lys-Phe-Asn-Pro-Thr-Gly-Thr-Ile-Val-Lys-Lys-Leu-Thr-Gln-Tyr-Glu-Ile-Ala-Trp-Phe-Lys-Asn-Lys-His-Gly-Tyr-Tyr-Pro-Trp-Glu-Ile-Pro-Arg-Cys
Sequence Shortening:	MKFKFNPTGTIVKKLTQYEIAWFKNKHGYYPWEIPRC
Target:	Bacterial
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description

Enterocin K1 (EntK1) is a bacteriocin. Enterocin K1 is a ribosomal synthetic peptide. Enterocin K1 specifically targets ***Enterococcus faecalis*** via the Eep protein on the bacterial membrane. Enterocin K1 displays a potent antibacterial activity against VRE. Enterocin K1 can be used for related studies of VRE infections[1].

In Vitro

Enterocin K1 has antibacterial activity against different Enterococci with MIC values ranging from 0.048 mg/mL to 1.56 mg/mL[1].

Enterocin K1 (0.01⊠0.1 and 1 mg/mL) shows no significant erythrocyte hemolysis is observed in human whole blood[1].

Enterocin K1 (1 mg/mL; 0-48 h) shows the inhibitory effect of it on bacteriocins after incubation in whole blood and plasma was 2-fold higher in plasma than in saline and 2-fold higher in blood than in plasma[1].

Enterocin K1 (10 μl of 1 mg/mL; 24 h) inhibits most of the bacteriocins with MIC values higher than 25 mg/ml in a cross-resistant manner in the spot-on-lawn assay[1].

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

Cell Viability Assay[1]

Cell Line:	bacteriocin
Concentration:	1 mg/mL
Incubation Time:	8, 24, 48 h
Result:	Showed that after 8 h, the MIC of bacteriocin in saline was 0.19 mg/mL, and the MIC of bacteriocin in plasma was 0.78 mg/mL. The MIC of bacteriocin was 1.56 mg/mL in blood, 0.39 mg/mL in saline, 1.56 mg/mL in plasma, and 3.125 mg/m in blood after 48 hours.

REFERENCES

[1]. Reinseth I, et al. Exploring the Therapeutic Potenital of the Leaderless Enterocins K1 and EJ97 in the Treatment of Vancomycin-Resistant Enterococcal Infection. Front Microbiol. 2021 Feb 17;12:649339.

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

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