

Dermaseptin TFA

Cat. No.:	HY-P0263A
Molecular Formula:	$C_{152}H_{257}N_{43}O_{42}S_2 \cdot X \cdot XC_2HF_3O_2$
Sequence:	Ala-Leu-Trp-Lys-Thr-Met-Leu-Lys-Lys-Leu-Gly-Thr-Met-Ala-Leu-His-Ala-Gly-Lys-Ala-Ala-Leu-Gly-Ala-Ala-Ala-Asp-Thr-Ile-Ser-Gln-Gly-Thr-Gln
Sequence Shortening:	ALWKTMLKKLGTMLHAGKAALGAAADTISQGTQ ALWKTMLKKLGTMLHAGKAALGAAADTISQGTQ (TFA salt)
Target:	Bacterial; Fungal
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)

BIOLOGICAL ACTIVITY

Description	Dermaseptin TFA, a peptide isolated from frog skin, exhibits potent antimicrobial activity against bacteria, fungi, and protozoa at micromolar concentration ^[1] .
In Vitro	<p>Dermaseptin TFA is a water-soluble, thermostable, and nonhemolytic peptide endowed with highly potent antimicrobial activity against pathogenic fungi at micromolar concentration. Circular dichroism spectra of Dermaseptin TFA in hydrophobic media indicated 80% alpha-helical conformation, and predictions of secondary structure suggested that Dermaseptin TFA can be configured as an amphipathic alpha-helix spanning over residues 1-27, a structure that perturbs membrane functions regulating water flux^[1]. Dermaseptin TFA exerts a lytic action upon bacteria, protozoa, yeasts, and filamentous fungi at micromolar concentrations. Molecular elements responsible for the exceptional antimicrobial potency of Dermaseptin TFA are to be traced to the NH₂-terminal alpha-helical amphipathic segment spanning residues 1-18 of the molecule^[1].</p> <p>Dermaseptin TFA (5-100 µg/ml; 48 hours) inhibits by 100% the proliferation of most microorganisms tested, including Gram-positive or Gram-negative bacteria, parasites, yeasts, and filamentous fungi, at micromolar concentrations^[2].</p> <p>Dermaseptin TFA (5-100 µg/ml; 48 hours) does not inhibit the proliferation of human KJ3 cells after a 48 h incubation, and Dermaseptin TFA treatment for 1 h does not permeate guinea pig lymphocytes up to the highest concentration assayed (200 µg/ml). Hemolysis of rabbit erythrocytes occurs after 1 h of treatment at doses above 200 µg/ml, with 50% hemolysis at 350 µg/ml^[2].</p> <p>Dermaseptin TFA has antimicrobial activities and is against <i>Aeromonas cauiiae</i>, <i>Pseudomonas aeruginosa</i>, <i>Escherichia coli</i>, <i>Enterococcus faecalis</i>, <i>L. meizicana</i> (NF^α strain) and <i>Microsporium canis</i> (IP1194) with MIC values of 50 µg/ml; 100 µg/ml; 25 µg/ml; 15 µg/ml; and 50 µg/ml, respectively^[2].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

REFERENCES

- [1]. Mor A, et al. Isolation, amino acid sequence, and synthesis of Dermaseptin TFA, a novel antimicrobial peptide of amphibian skin. *Biochemistry*. 1991 Sep 10;30(36):8824-30.
- [2]. Mor A, et al. The NH₂-terminal alpha-helical domain 1-18 of Dermaseptin TFA is responsible for antimicrobial activity. *J Biol Chem*. 1994 Jan 21;269(3):1934-9.

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

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