# Dermaseptin

**Cat. No.:** HY-P0263

**CAS No.:** 136212-91-4

**Molecular Formula:** $C_{152}H_{257}N_{43}O_{44}S_2$

**Molecular Weight:** 3455.1

**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

ALWKTMLKKLGTMALHAGKAALGAAADTISQGTQ

**Sequence Shortening:** ALWKTMLKKLGTMALHAGKAALGAAADTISQGTQ

**Target:** Bacterial; Fungal; 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**

$H_2O$ : 25 mg/mL (7.24 mM; Need ultrasonic)

| Preparing Stock Solutions | Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 0.2894 mL | 1.4471 mL | 2.8943 mL |
| | 5 mM | 0.0579 mL | 0.2894 mL | 0.5789 mL |
| | 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 (14.47 mM); Clear solution; Need ultrasonic

## BIOLOGICAL ACTIVITY

**Description**

Dermaseptin, a peptide isolated from frog skin, exhibits potent antimicrobial activity against bacteria, fungi, and protozoa at micromolar concentration[1].

**In Vitro**

Dermaseptin 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 in hydrophobic media indicated 80% alpha-helical conformation, and predictions of secondary structure suggested that dermaseptin can be configured as an amphiphatic alpha-helix spanning over residues 1-27, a structure that perturbs membrane functions regulating water flux[1]. Dermaseptin exerts a lytic action upon bacteria, protozoa, yeasts, and filamentous fungi at micromolar concentrations. Molecular elements responsible for the exceptional antimicrobial potency of dermaseptin are

to be traced to the NH2-terminal alpha-helical amphipathic segment spanning residues 1-18 of the molecule[1].
Dermaseptin (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].
Dermaseptin (5-100 μg/ml; 48 hours) does not inhibit the proliferation of human KJ3 cells after a 48 h incubation, and dermaseptin treatment for 1 h does not permeate guinea pig lymphocytes up to the highest concentration assayed (200 μg/ml). Hemolysis of rabbit erythrocytes occurrs after 1 h of treatment at doses above 200 μg/ml, with 50% hemolysis at 350 μg/ml[2].
Dermaseptin has antimicrobial activities and is against Aeromonas cauiae, Pseudomonas aeroginusa, Escherichia coli, Enterococcus faecalis, L. mezicana ($NF^{\alpha}$ strain) and Microsporum canis (IP1194) with MIC values of 50 μg/ml; 100 μg/ml; 25 μg/ml; 15 μg/ml; and 50 μg/ml, respectively[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## REFERENCES


[1]. Mor A, et al. Isolation, amino acid sequence, and synthesis of dermaseptin, 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 is responsible for antimicrobial activity. J Biol Chem. 1994 Jan 21;269(3):1934-9.





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