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## Description

DRGN-1 is a small, cationic antimicrobial peptide inspired by a peptide that was first discovered in Komodo dragons. It has been modified and produced synthetically to provide a cost-effective antimicrobial and anti-biofilm treatment. DRGN-1 is a strong candidate for the use as an alternative or adjunctive therapy to antibiotics in the treatment of infected wounds. It shows potent antimicrobial activity and has also promoted wound closure both in in vitro and in vivo models. The potential uses of DRGN-1 include antimicrobial sprays, wound dressings, topical gels and as a coating for catheters.

## Problem Addressed

Staphylococcus aureus is a major human pathogen that is the cause of many nosocomial infections, including life-threatening diseases such as sepsis. *Pseudomonas aeruginosa* is an opportunistic human pathogen, which is often associated with burn wounds, non-healing ulcers, and cystic fibrosis. The emergence of multi-drug resistant strains of *S. aureus* and other bacterial pathogens intensifies the need for a new treatment. Chronic wounds are often infected with strong, biofilm forming bacteria, which actively prevent wound healing. Current therapeutics lack broad-spectrum, anti-biofilm characteristics. Biofilm-focused therapeutic approaches can promote more rapid healing in a large percentage of patients.

## Advantages

- Is an antimicrobial and anti-biofilm treatment
- Promotes rapid wound closure
- Can be administered topically through different platforms, such as gel, wound dressings, and catheters
- Cost-effective
- Could be used for chronic, non-healing wounds, or combat wounds and burns



**Figure One:** DRGN-1 shows efficacy in wound healing compared to untreated, LL-37, and WT-peptide models.

## Recent Publications

- E. Chung *et al.*, Komodo dragon-inspired synthetic peptide DRGN-1 promotes wound-healing of a mixed-biofilm infected wound. *NPJ Biofilms Microbiomes* 3, 123-128 (2017).