

## عنوان مقاله:

Evaluation of Antibacterial Activity of cLFchimera and its Synergistic Potential with Vancomycin against Methicillin-Resistant Staphylococcus aureus

## محل انتشار:

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## نویسندگان:

Sahar Roshanak - *Department of Food Science and Technology, Faculty of Agriculture, Ferdowsi University of Mashhad, Mashhad, Iran*

Fakhri Shahidi - *Department of Food Science and Technology, Faculty of Agriculture, Ferdowsi University of Mashhad, Mashhad, Iran*

Atefeh Soradeghi Toopkanloo - *Department of Food Science and Technology, Faculty of Agriculture, Ferdowsi University of Mashhad, Mashhad, Iran*

Zana Pirkhezranian - *Department of Animal Science, Faculty of Agriculture, Ferdowsi University of Mashhad, Mashhad, Iran*

Mohammad Hadi Sekhavati - *Department of Animal Science, Faculty of Agriculture, Ferdowsi University of Mashhad, Mashhad, Iran*

## خلاصه مقاله:

Frequent and unlimited use of antibiotics caused the development of antibiotic resistance by microorganisms. Therefore, there is an argent need to discover novel antibacterial agents or a combination of agents as a safe treatment strategy for various infections. In the present study the synergistic effects of cLFchimera, an antimicrobial peptides, and Vancomycin antibiotic were evaluated using checkerboard method against Methicillin Resistant Staphylococcus aureus (MRSA) bacteria strain. cLFchimera had antimicrobial activity against MRSA and Methicillin Sensitive Staphylococcus aureus (MSSA) (MIC: ۲۵۶ and ۵۱۲ µg/mL, respectively). A synergistic effect was observed in the combination of cLFchimera with Vancomycin (FIC: ۰.۳۷۵). The results showed that at FIC concentrations, release cytoplasmic materials from bacterial cells and the number of surviving cells were significantly ( $P \leq 0.05$ ) higher and lower, respectively, than when peptides or antibiotic were used alone. SEM electron microscopic analysis at FIC concentration showed severe membrane damage of bacterial cells. In conclusion, the use of cLFchimera and Vancomycin at FIC concentration reduces the consumption of both substances

## کلمات کلیدی:

Synergetic Effect, Antimicrobial peptides, Antibiotics, Resistant Bacteria

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