

Special Issue

New Insight and Applications of Multifunction Antimicrobial Peptides

Message from the Guest Editor

Antimicrobial peptides (AMPs), or host defense peptides (HDPs), are produced by all living organisms. The main target of these peptides is the cytoplasmic membrane; however, DNA, cell wall, and protein synthesis are also affected by some AMPs. Currently, antimicrobial resistance is acknowledged as a major concern in the world. Their misuses have enabled the development and dissemination of microorganisms with expanded antibiotic resistance capability. Research on the alternatives to tackle this phenomenon is urgently needed. Today, AMPs have largely demonstrated their effectiveness on several malevolent bacteria. In addition to their antibacterial activity, AMPs are also endowed with further functions, including antiviral, antiparasitic, anti-inflammatory, and anticarcinoma activities. Some of these peptides are even able to modulate the immune response of host organisms, regulating cytokine secretion and dendritic cell behavior, and enhance recovery abilities. This “multifunction status” of AMPs renders these molecules a new category of drugs whose potential has been steadily reported and documented.

Guest Editor

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Deadline for manuscript submissions

closed (28 February 2023)



International Journal of Environmental Research and Public Health

an Open Access Journal
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CiteScore 8.5
Indexed in PubMed



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*International Journal of
Environmental Research and
Public Health*
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Addressing the environmental and public health challenges requires engagement and collaboration among clinicians and public health researchers. Scientific discoveries and advances in this research field play a critical role in providing a rational basis for informed decision-making toward control and prevention of human diseases, especially the illnesses that are induced from environmental exposure to health hazards.

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