Special Issue

Membrane Disruptors: The Role of Antimicrobial Peptides in Combatting Pathogens

Message from the Guest Editor

Antimicrobial peptides (AMPs) are short amino acid sequences produced by humans, animals, insects, and plants. They have gained attention as a promising alternative to traditional antibiotics due to their ability to target both cell membranes and cytosolic components of pathogens. The misuse of existing antibiotics and the lack of new ones have fueled the rise of antimicrobial resistance, now a global public health threat, as noted by the WHO. AMPs stand out for their broad-spectrum activity and capacity to bypass resistance mechanisms, owing to features like positively charged residues that interact with bacterial membranes, their hydrophobic/hydrophilic balance, and distinct secondary structures. This Special Issue invites experimental and theoretical works on advances in AMPs, including novel synthetic or natural forms, their mechanisms of action, and applications in human and veterinary medicine, pharmaceutics, and the food industry. Studies exploring the roles of known peptides in immune responses and their action mechanisms are also welcome.

Guest Editor

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Message from the Editor-in-Chief

There are very few fields that attract as much attention as scientific endeavor related to antibiotic discovery, use and preservation. The public, patients, scientists, clinicians, policy-makers, NGOs, governments, and supra-governmental organizations are all focusing intensively on it: all are concerned that we use our existing agents more effectively, and develop and evaluate new interventions in time to face emerging challenges for the benefit of present and future generations. We need every discipline to contribute and collaborate: molecular, microbiological, clinical, epidemiological, geographic, economic, social scientific and policy disciples are all key. *Antibiotics* is a nimble, inclusive and rigorous indexed journal as an enabling platform for all who can contribute to solving the greatest broad concerns of the modern world.

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