

Special Issue

Advances in Antibacterial and Antifungal Peptide-Based Agents

Message from the Guest Editors

The ongoing emergence of drug-resistant and multidrug-resistant pathogens has made the development of new peptide-based antibacterial and antifungal agents more critical than ever. Antimicrobial peptides (AMPs), including both naturally occurring and synthetically engineered sequences, are a promising class of therapeutic candidates due to their broad-spectrum activity, diverse mechanisms of action, and potential to overcome existing resistance mechanisms. This Special Issue, "Advances in Antibacterial and Antifungal Peptide-Based Agents", invites original research articles and comprehensive reviews focused on peptides and peptide-related compounds with antibacterial or antifungal activity. We particularly welcome contributions that explore innovative peptide scaffolds, novel mechanisms of action, and next-generation strategies for peptide optimization. Studies that address key limitations in peptide therapeutics—such as proteolytic degradation, cellular uptake, or selectivity—are also of high interest.

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Message from the Editor-in-Chief

As the premier open access journal dedicated to molecular chemistry, now in its 30th year of publication, the papers published in *Molecules* span from classical synthetic methodology to natural product isolation and characterization, as well as physicochemical studies and the applications of these molecules as pharmaceuticals, catalysts, and novel materials. Pushing the boundaries of the discipline, we invite papers on all major fields of molecular chemistry and multidisciplinary topics bridging chemistry with biology, physics, and materials science, as well as timely reviews and topical issues on cutting-edge fields in all of these areas.

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