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Accelerating the Discovery and Characterization of Antimicrobial Peptides

Guest Editors:

Dr. Carlos A. Brizuela
Computer Science Department, CICESE Research Center, Ensenada, Baja California 22860, Mexico

Dr. Gabriel Del Río Guerra
Department of Biochemistry and Structural Biology, Instituto de Fisiologia Celular, UNAM, Mexico City 04510, Mexico

Deadline for manuscript submissions:
closed (30 June 2023)

Message from the Guest Editors

The last decade has witnessed a remarkable increase in the number of alignment-free, machine learning-based approaches for the prediction of antimicrobial peptides. The accuracy of shallow and deep learning methods to discriminate AMPs from non-AMPs has reached 95% or more. Once a sequence is identified as antimicrobial, its specific activity, target pathogen and MIC must be determined. Furthermore, antimicrobial peptides are also able to penetrate cells and activate autophagy in mammalian cells, as well as to modulate the immune system. In summary, the activities embedded within these peptides include anti-viral, anti-fungal, anti-parasite, anti-bacterial, pro-autophagy and immunomodulator. Such multi-functionality imposes the need to further characterize these peptides to evaluate which activities are present, not only out of curiosity, but also as a requirement if these peptides are aimed to be used as pharmaceuticals.

This Special Issue of *Antibiotics* invites authors to publish original research including peptide data analysis, methodological aspects of machine learning-based approaches and high-throughput assays intended to achieve the abovementioned goal.

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Editor-in-Chief

Prof. Dr. Nicholas Dixon
School of Chemistry and Molecular Bioscience, University of Wollongong, Wollongong, NSW 2522, Australia

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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Contact Us

Antibiotics Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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