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Discovery of Novel Antibiotics

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Message from the Guest Editors

The discovery of antibiotics revolutionised medicine. However, due to the spread of antibiotic resistance—resulting in the increasing prevalence of multi-drug resistant bacteria, and a decrease in the number of new antibiotics introduced for clinical usage—both the development of novel antibiotics and seeking new and innovative strategies have become crucial. The urgent need for new antibiotics is especially relevant for multidrug-resistant tuberculosis, Gram-negative bacteria and community-acquired infections.

This Issue aims to discuss current challenges and solutions in the development of novel antibiotics. To leverage fast breakthroughs in such a complex domain, a high diversity of strategies must be considered; for example, strategies based on medicinal chemistry, including semi-synthetic and synthetic products, target-based drug discovery, combinatorial biosynthesis, the screening of natural compounds, new screening methods, novel cultivation methods for previously “unculturable” bacteria, and phage therapy among other approaches.

Keywords: antibiotics discovery; drugs screening; antimicrobial resistance; systems biology; gene variant



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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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