Special Issue

Antimicrobial Resistance in Foodborne Pathogens and Novel Control Strategies

Message from the Guest Editors

Antimicrobial resistance (AMR) in foodborne pathogens remains a critical global challenge threatening food safety and public health. The use of antibiotics in clinical practice, agriculture, and food production has accelerated the emergence of multidrug-resistant organisms across the food chain. Pathogens such as *Salmonella spp.*, *Campylobacter spp.*, *Listeria monocytogenes*, *Escherichia coli*, and *Staphylococcus aureus* have shown remarkable adaptability, acquiring resistance through horizontal gene transfer and mutations. Understanding mechanisms driving AMR, from resistance gene evolution and microbial ecology to environmental persistence, requires a multidisciplinary One Health approach. Advances in genomics, metagenomics, and bioinformatics provide essential tools for surveillance and molecular characterization of resistant strains. Non-antibiotic control measures, including bacteriophages, antimicrobial peptides, probiotics, postbiotics, and plant-derived compounds, offer promising alternatives to conventional therapies. Submissions addressing epidemiology, molecular mechanisms, and innovative mitigation strategies to combat AMR in foodborne pathogens are welcome.

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About the Journal

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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