



## Antimicrobial Resistance, Molecular Mechanisms and Fight Strategies

Guest Editor:

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### Message from the Guest Editor

The use of antibiotics has transformed the treatment of bacterial infections, saving and improving the health of many patients worldwide. However, the global emergence and spread of antimicrobial resistance (AMR) has been highlighted as one of the major global health challenges by different health organizations, compromising the ability to prevent and cure a wide range of infectious diseases. An integrated strategy that includes different interventions is required to fight AMR effectively. This includes the development of new molecules and the search for alternative microbe targets, molecular knowledge about mechanisms of resistance, faster diagnostic tests, monoclonal antibodies, microbiome interventions, use of bacteriophages, and new approaches to deliver small-molecule antibacterials into bacteria. Vaccines can also play a major role. Vaccination has the benefit of sustainability, can be used for decades without generating significant resistance, and can slow the spread of antibiotic resistance both directly and indirectly.





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