



Advances in Antibiotic and Drug-Resistance Mechanisms

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Message from the Guest Editors

Dear Colleagues,

As the incidence of MDR bacterial infections for which few effective treatments are available increases, novel therapies are needed to curb with this serious problem. The aim of this special issue is :

- Their presence in the different compartments (human, animal, and environment).
- one Health spectrum dynamics of transmission and the prevalence of community-acquired resistance in human, animals, and environment
- Studies of the effects of antimicrobial agent exposure on the healthy human commensal microbiota and their negative consequences in terms of both colonization with antibiotic resistant bacteria but also bacterial population imbalance and dysfunctions in the susceptible bacterial microbiota
- Structure-function analysis of AMR gene products
- Companion diagnostic tools for safe use of novel therapies
- Epidemiology
- Genetic basis at the origin of their dispersion
- The origin of the AMR genes
- Novel antibiotics under development and in clinical use
- Novel inhibitors of beta-lactamases/ combinations
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- Keywords: AMR; genetics; novel antibiotics; resistance; mechanisms; diagnostics; One Health; in vitro; in vivo; subtyping





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Message from the Editor-in-Chief

"Microorganism" merges the idea of the very small with the idea of the evolving reproducing organism is a unifying principle for the discipline of microbiology. Our journal recognizes the broadly diverse yet connected nature of microorganisms and provides an advanced publishing forum for original articles from scientists involved in high-quality basic and applied research on any prokaryotic or eukaryotic microorganism, and for research on the ecology, genomics and evolution of microbial communities as well as that exploring cultured microorganisms in the laboratory.

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