

Special Issue

Antimicrobials: The Role of Radicals as Secondary Killing Mechanism

Message from the Guest Editor

The “radical-based theory” has been disputed, the concept is that the formation of reactive oxygen species (ROS) due to exposure to bactericidal antibiotics causes a subsequent secondary killing effect. In addition, it turned out that more radicals than solely ROS are involved in this secondary killing process. Under anaerobic conditions, radical nitrogen species fulfill the same role, and when metabolic rates increase, reactive metabolic by-products contribute a similar effect. Given these developments, some fine-tuning of the radical-based theory may be in order. When metabolic rates increase, more radicals, not only ROS, are formed than when the cell metabolizes slower. It is well known that fast-growing cells are far more susceptible to antibiotics than slow- or non-growing cells. In addition, the formation of radicals stimulates the development of resistance through various cellular repair and coping mechanisms. Hence, it could well be that antimicrobials that cause an increase in metabolic rates are bactericidal and those that reduce metabolism. This Special Issue welcomes contributions on the effects of radicals formed as a result of exposure to antimicrobials.

Guest Editor

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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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