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The Urgent Need for Developing Metallo-β-Lactamase Inhibitors

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Deadline for manuscript submissions:
closed (1 August 2022)

Message from the Guest Editors

Dear Colleagues,

The β-lactam class remains the largest class of antibiotics for treating bacterial infections. The widespread use of this class of antibiotics has led to the emergence of different resistance mechanisms, including (a) the production of altered penicillin-binding proteins (PBP) with lower binding affinities for most β -lactam antibiotics and (b) the production of β-lactamases, which is the most common resistance mechanism in Gram-negative bacteria. β-Lactamases can be categorized into serine-β-lactamases (SBLs) and metallo-β-lactamases (MBLs). Although SBLs have become more clinically prevalent over the past seventy years, there exist inhibitors, which can be given in combination with β-lactam containing antibiotics to treat bacteria that produce some of the SBLs. However, despite considerable efforts to develop such inhibitors, there are no clinically approved inhibitors available for MBLs, making infections from MBL-producing bacteria a severe challenge. In addition, the COVID-19 crisis further emphasizes the urgency to find MBL inhibitors because co-infections containing SBLs and MBLs have been reported in COVID-19 patients.

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Editor-in-Chief

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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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