

Special Issue

Epidemiology of Carbapenem Resistance in Clinical Gram-Negative Bacteria

Message from the Guest Editors

Carbapenem resistance in Gram-negative bacteria has become a worldwide problem, causing a global epidemic that continues to grow. Defining the molecular mechanisms of resistance and applying insights about pharmacodynamic and pharmacokinetic properties of antibiotics, maximize the impact of old and new therapeutic approaches, should be the new paradigm in treating infections caused by CRE. A concerted effort is needed to establish the superiority of combination therapy vs. monotherapy, confirm the role of novel beta-lactam/beta-lactamase inhibitor combinations as therapy against KPC- and OXA-48 producing *Enterobacteriaceae*, and evaluate new antibiotics active against CRE as they are introduced into the clinic. Advances in rapid diagnostic tests to improve the detection of carbapenem resistance and the use of large, population-based datasets to capture a greater proportion of carbapenem-resistant organisms can help us gain a better understanding of this urgent threat and enable physicians to select the most appropriate antibiotics. To address this global epidemic, identification and ongoing surveillance of carbapenem-resistant Gram-negative bacteria are needed to continue.

Guest Editors

Prof. Dr. Sorin Rugina

1. Doctoral School of Medicine, Ovidius University of Constanța, Aleea Universității nr.1, 900470 Constanța, Romania
2. Romanian Academy of Scientists, Spl. Independentei 54, Romanian Academy of Medical Sciences, ulevardul Ion C. Bratianu 1, 030167 Bucuresti, Romania

Prof. Dr. Irina Magdalena Dumitru

1. Faculty of Medicine, "Ovidius" University of Constanta, 900470 Constanta, Romania
2. Clinical Infectious Disease Hospital of Constanta, 900178 Constanta, Romania

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
antibiotics@mdpi.com

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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 disciplines 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.

Editor-in-Chief

Prof. Dr. Nicholas Dixon
School of Chemistry and Molecular Bioscience, University of
Wollongong, Wollongong, NSW 2522, Australia

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