Special Issue

Advancing the Discovery and Development of New Antibiotics through Drug Repurposing

Message from the Guest Editor

Antimicrobial resistance (AMR) has now evolved in every class of antibiotics that have ever entered clinical use. The situation is worsened by the shrinking rate of return on the discovery of novel antibiotics. Current commercial antibiotics have two different origins:(1) natural products excreted by soil-dwelling *Streptomyces*, (2) synthetic organic compounds. After eight decades of intensive screening and development, soil samples have failed to yield new classes of antibiotics since the end of the so-called golden era of antibiotic discovery. Although synthetic organic compounds have provided some important complementary classes of antibiotics, newer members from the family of synthetic antibiotics often share the known antimicrobial targets with the existing drugs in this class, making them susceptible to the development of the same type of resistance evolved in the previous members. In light of the high failure rates, considerable costs, and particularly substantial time spans of drug discovery and development, repurposing existing non-antibiotic drugs to treat multidrug-resistant bacterial infections should constitute an attractive approach to mitigating the threat of AMR.

Guest Editor

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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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