

## Special Issue

# Antimicrobial Properties of Essential Oils: Activities, Mechanisms, Applications, and Therapeutic Potential

### Message from the Guest Editors

Essential oils, isolated from various plant species, have been used for centuries for their medicinal properties, highlighting their antimicrobial capacity to combat bacteria, fungi, and viruses. In the current context, marked by antibiotic resistance and the need for new active compounds, essential oils represent a promising opportunity for the development of new anti-infective agents. Their effectiveness lies in the synergy of their active compounds, which enhances their antimicrobial action, and their importance lies in their natural origin and the diversity of chemical compositions these secondary metabolites present. This Special Issue aims to explore the antimicrobial properties of essential oils, analyzing their activities, mechanisms of action, practical applications in different related fields, and their potential as therapeutic alternatives. It presents an overview of their efficacy, challenges, and opportunities in the fight against infections. We invite to submit original research papers, short communications, reviews and perspectives on the antibiotic potential of essential oils.

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### Guest Editors

Dr. Eduardo Valarezo

Dr. Miguel Ángel Meneses

Prof. Dr. Matteo Radice

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### Deadline for manuscript submissions

31 October 2025



## Antibiotics

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## About the Journal

### 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.

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### Editor-in-Chief

Prof. Dr. Nicholas Dixon  
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