

Special Issue

Metabolic Responses to Environmental Challenges: Insights into Cellular Mechanism and Protective Strategy

Message from the Guest Editors

This special issue aims to delve into metabolic responses of organisms to environmental challenges, exploring underlying cellular mechanisms and protective strategies. As the impacts of environmental pollutants, chemicals, and climate change on organisms become increasingly evident, understanding how organisms adjust metabolic pathways, activate antioxidant defense systems, and alter gene expression profiles is crucial. This special issue welcomes original research papers, reviews, and short communications on the following topics, but not limited to:

- The impact of environmental pollutants on cellular metabolism
- The effects of heavy metals and toxins on cellular function and corresponding mechanisms
- The regulation of oxidative stress and antioxidant defense systems
- The role of inflammation in environmental stress
- The effects of environmental pressure on mitochondrial function and energy metabolism
- The role of natural compounds and protective strategies in mitigating environmental stress

Guest Editors

Prof. Dr. Xiaohua Teng

Dr. Hong Lan

Dr. Lu Kang

Dr. Zan Li

Deadline for manuscript submissions

closed (31 March 2025)



Metabolites

an Open Access Journal
by MDPI

Impact Factor 4.5
CiteScore 8.1
Indexed in PubMed



mdpi.com/si/201110

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

[mdpi.com/journal/
metabolites](https://mdpi.com/journal/metabolites)





Metabolites

an Open Access Journal
by MDPI

Impact Factor 4.5
CiteScore 8.1
Indexed in PubMed



[mdpi.com/journal/
metabolites](https://mdpi.com/journal/metabolites)



About the Journal

Message from the Editor-in-Chief

The metabolome is the result of the combined effects of genetic and environmental influences on metabolic processes. Metabolomic studies can provide a global view of metabolism and thereby improve our understanding of the underlying biology. Advances in metabolomic technologies have shown utility for elucidating mechanisms which underlie fundamental biological processes including disease pathology. *Metabolites* is proud to be part of the development of metabolomics and we look forward to working with many of you to publish high quality metabolomic studies.

Editor-in-Chief

Dr. Amedeo Lonardo
Internal Medicine, Ospedale Civile di Baggiovara, Azienda Ospedaliero-
Universitaria, 41126 Modena, Italy

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, Embase, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Biochemistry and Molecular Biology) / CiteScore - Q1 (Endocrinology, Diabetes and Metabolism)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 16.7 days after submission; acceptance to publication is undertaken in 3.6 days (median values for papers published in this journal in the second half of 2025).