

Special Issue

Eukaryotic Cells Under Stress: Biochemical and Physiological Mechanisms of Resistance and Resilience

Message from the Guest Editors

Eukaryotic cells constantly face environmental stressors, including pollution, climate change, and disease-related challenges. These stressors can lead to oxidative damage, DNA mutations, and protein misfolding that, in turn, compromise cellular function and organismal health. However, eukaryotic cells have developed complex biochemical and physiological mechanisms to detect, respond to, and mitigate these stresses.

This Special Issue explores plants and animal cells' molecular strategies to maintain homeostasis under stress. Topics of interest include, but are not limited to, the following:

- Oxidative stress responses and reactive oxygen species (ROS) management;
- DNA damage detection and repair mechanisms;
- Protein folding, chaperone activity, and proteostasis under environmental and disease-derived stress;
- Regulation of photosynthesis under environmental stress;
- Identification and validation of biomarkers for cellular stress and resilience;
- Computational modelling of stress response pathways.

Guest Editors

Dr. Bruno Hay Mele

Department Biology, University of Napoli Federico II, Complesso Universitario Monte Sant'Angelo, Via Cinthia, 80126 Napoli, Italy

Dr. Carmen Arena

Department of Biology, University of Naples Federico II, Naples, Italy

Deadline for manuscript submissions

30 November 2025



International Journal of Molecular Sciences

an Open Access Journal
by MDPI

Impact Factor 4.9
CiteScore 9.0
Indexed in PubMed



mdpi.com/si/242682

*International Journal of
Molecular Sciences*
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
ijms@mdpi.com

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





International Journal of Molecular Sciences

an Open Access Journal
by MDPI

Impact Factor 4.9
CiteScore 9.0
Indexed in PubMed



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



About the Journal

Message from the Editor-in-Chief

The International Journal of Molecular Sciences (*IJMS*, ISSN 1422-0067) is an open access journal, which was established in 2000. The journal aims to provide a forum for scholarly research on a range of topics, including biochemistry, molecular and cell biology, molecular biophysics, molecular medicine, and all aspects of molecular research in chemistry. *IJMS* publishes both original research and review articles, and regularly publishes special issues to highlight advances at the cutting edge of research. We invite you to read recent articles published in *IJMS* and consider publishing your next paper with us.

Editor-in-Chief

Prof. Dr. Maurizio Battino

Department of Odontostomatologic and Specialized Clinical Sciences,
Sez-Biochimica, Faculty of Medicine, Università Politecnica delle
Marche, Via Ranieri 65, 60100 Ancona, Italy

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

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

Journal Rank:

JCR - Q1 (Biochemistry and Molecular Biology) / CiteScore
- Q1 (Organic Chemistry)