

## Special Issue

# Molecular Regulatory Mechanisms in the Hypoxic Environment

### Message from the Guest Editor

Hypoxia, a condition characterized by reduced oxygen availability, triggers a complex network of molecular regulatory mechanisms essential for cellular adaptation and survival. In low-oxygen environments, cells activate hypoxia-inducible factors (HIFs), key transcriptional regulators that orchestrate responses to oxygen deprivation. HIFs regulate the expression of genes involved in angiogenesis, metabolism, and cell survival enabling cells to adjust their metabolic and structural functions to tolerate hypoxic stress. Additionally, hypoxia influences signaling pathways, which collectively maintain energy balance and mitigate cellular damage. Understanding these regulatory mechanisms is crucial for developing therapeutic strategies for hypoxia-related diseases, including cancer, ischemic injury, and chronic lung disease.

---

### Guest Editor

Dr. Irene Filippi

Cellular and Molecular Physiology Unit, Department of Molecular and Developmental Medicine, University of Siena, 53100 Siena, Italy

---

### Deadline for manuscript submissions

20 October 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/222788](https://mdpi.com/si/222788)

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