

Special Issue

Insights into Mitochondrial Iron Metabolism: Connections to Cancer and Other Pathologies

Message from the Guest Editor

Iron is an essential element for the maintenance of cellular functions, and it exists within a complex metabolic network. At the center of the iron metabolic network is the mitochondria, which house the machinery required for the generation of iron–sulfur clusters and heme for insertion into the necessary proteins. Both processes, iron–sulfur cluster biogenesis and heme synthesis are complex biochemical processes. Both co-factors are utilized in a variety of cellular processes that are required for the maintenance of homeostasis and cell survival. For example, there are a plethora of DNA metabolic enzymes that contain [4Fe–4S]₂⁺ clusters that are required for the maintenance of genomic integrity. The overarching goal of this Special Issue is to highlight research on the role of the various features of mitochondrial iron metabolism (e.g., iron–sulfur cluster biogenesis, heme synthesis, mitochondrial ferritin, etc.) in maintaining cellular homeostasis. This Special Issue welcomes review articles and original research on mitochondrial iron metabolism and its connection to fundamental biological processes and pathology, including studies on cancer.

Guest Editor

Dr. Michael Petronek

Department of Radiation Oncology, Division of Free Radical and Radiation Biology, University of Iowa, Iowa City, IA 52242, USA

Deadline for manuscript submissions

30 December 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/211627

*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)