

Special Issue

Advances in the Molecular Biology of Lipids and Mitochondria

Message from the Guest Editor

Lipids affect energy consumption, membrane fluidity, and cellular signaling, playing a vital part in mitochondrial activity. Emphasizing lipid transport mechanisms between organelle membranes, lipid peroxidation, and ramifications for mitochondrial integrity, this Special Issue investigates current developments in the molecular biology of lipids and mitochondria. Polyunsaturated fatty acids, especially EPA and DHA, are under special focus due to their effects on mitochondrial health, oxidative stress, and bioenergetics. We also look at lipid-driven metabolic changes and mitochondrial phospholipid remodeling and how these can affect aging and illness. This work intends to offer fresh perspectives on how lipid homeostasis controls mitochondrial function and cellular resilience by including modern studies on lipid-mitochondria interactions, therefore opening directions for therapeutic interventions in metabolic and neurodegenerative diseases.

Guest Editor

Dr. Alejandra Espinosa

1. Medical Technology Department, Faculty of Medicine, University of Chile, Santiago, Chile
2. Escuela de Medicina, Campus San Felipe, Universidad de Valparaíso, La Troya Esquina El Convento s/n, San Felipe, Chile

Deadline for manuscript submissions

closed (30 September 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/236607

*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)