Special Issue

The Molecular Life of Sperm: New Horizons in Male Infertility

Message from the Guest Editors

Male infertility affects millions of individuals worldwide and remains an under-recognized contributor to reproductive failure. This Special Issue invites original research, reviews, and perspectives that explore the complex biology of sperm function and the molecular and genetic underpinnings of male infertility. We welcome submissions that cover a broad range of topics including, but not limited to, the following:

- Sperm development, maturation, and function.
- Cellular and molecular mechanisms regulating spermatogenesis.
- Sperm motility, capacitation, and acrosome reaction.
- Oxidative stress and sperm DNA damage.
- Epigenetics and transcriptomics in sperm biology.
- Genetic and genomic causes of male infertility.
- Emerging biomarkers and diagnostic tools.
- Functional assays and models for male fertility evaluation.
- Translational research and therapeutic strategies.

This Special Issue aims to bridge basic and clinical research, encouraging interdisciplinary approaches that advance our understanding of male reproductive health and inform better diagnostics and treatments. We look forward to receiving your contributions.

Guest Editors

Dr. Mónica Vazquez-Levin

Instituto de Biología y Medicina Experimental (IBYME, CONICET-FIBYME), Consejo Nacional de Investigaciones Científicas y Técnicas de Argentina (CONICET), Buenos Aires 2490, Argentina

Prof. Dr. Robert John Aitken

School of Environmental and Life Sciences, College of Engineering, Science and Environmental Science, University of Newcastle, Callaghan, NSW 2308, Australia

Deadline for manuscript submissions

20 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/246656

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





International Journal of Molecular Sciences

an Open Access Journal by MDPI

Impact Factor 4.9 CiteScore 9.0 Indexed in PubMed





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)

