

Special Issue

Mitochondrial Dysfunction and Oxidative Stress in Human Diseases: Molecular Targets and Therapeutic Strategies

Message from the Guest Editor

Recent advances in molecular biology, bioenergetics, and redox medicine have shed light on the pathophysiological relevance of mitochondrial dynamics, ROS-mediated signaling, and mitophagy. Moreover, emerging therapeutic strategies targeting mitochondrial pathways—such as mitochondria-specific antioxidants, metabolic modulators, and redox-active compounds—are gaining ground in translational research and early-phase clinical trials. This Special Issue aims to gather original research articles, comprehensive reviews, and translational studies that explore the molecular underpinnings of mitochondrial dysfunction and oxidative stress across human diseases. Topics of interest include but are not limited to mitochondrial bioenergetics and metabolic reprogramming, redox signaling, mitophagy and apoptosis, immunometabolic interactions, and therapeutic interventions aimed at restoring mitochondrial function and redox balance. Submissions combining basic science with biomolecular investigation in human samples are especially welcome.

Guest Editor

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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.

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