



## Mitochondrial Plasticity in Cancer

Guest Editor:

**Dr. Claudio Favre**

Division of Pediatric  
Oncology/Hematology, Meyer  
University Children's Hospital,  
50139 Florence, Italy

Deadline for manuscript  
submissions:

**closed (31 August 2022)**

### Message from the Guest Editor

Mitochondria in cancer cells utilize a broad range of metabolic pathways to fuel the electron transport chain (etc.) for ATP production. Many studies have shown fatty acid can serve as a major energy source for different cancers. In addition, other tumors exhibit increased utilization of oxidative phosphorylation (OXPHOS) for ATP production compared to normal tissue. Moreover, glutamine oxidation, usually driven by the oncogene MYC, plays a critical role in energy production and promoting tumor growth in multiple cancer types.

Mitochondrial energy reprogramming is also involved in the regulation of oncogenic pathways via mitochondria–nucleus retrograde signaling and post-translational modification of oncoproteins. In addition, neoplastic mitochondria can engage in crosstalk with the tumor microenvironment. Mitochondria can change their activity in response to external stimuli for better survival of cancer cells, leading to a very plastic phenotype.

Therefore, an enhanced understanding of the importance and plasticity of mitochondria in metabolic reprogramming of cancer cells has become a novel hallmark of cancer.





an Open Access Journal by MDPI

## 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

## 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.

## 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 & Molecular Biology*) / CiteScore - Q1 (*Inorganic Chemistry*)

## Contact Us

*International Journal of Molecular  
Sciences* Editorial Office  
MDPI, St. Alban-Anlage 66  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
www.mdpi.com

mdpi.com/journal/ijms  
ijms@mdpi.com  
X@IJMS\_MDPI