Special Issue

Osteosarcoma: Current Advances from Molecular and Cellular Mechanisms to Therapy

Message from the Guest Editors

Osteosarcoma is a rare aggressive primary bone cancer. The tumors are highly heterogeneous with complex genomic landscape involving numerous structural and copy number alterations. Alterations in *TP53* are the most frequently somatic changes, while pathogenic germline mutations in *RB1, TP53, RECQL4, BLM,* and *WRN* are associated with an increased risk of osteosarcoma. Tumor heterogeneity and a lack of recurrent driver mutations make it difficult to identify effective molecularly targeted therapies. Recent multi-omics studies have enhanced our understanding of the molecular pathways in osteosarcoma pathogenesis and are opening up new opportunities for biomarker-driven precision therapies based on molecular subtypes or altered genomic or cellular pathways such as PI3K-ATK-mTOR signaling, homologous recombination repair pathway, or therapies based on the immune profile/response of tumors. This Issue will compile recent research on various cellular and molecular processes involved in osteosarcoma growth, progression, and drug sensitivity/resistance, which could lead to the identification of new drug targets and improvements in osteosarcoma treatment.

Guest Editors

Dr. Virinder Kaur Sarhadi

Department of Oral and Maxillofacial Diseases, Helsinki University Hospital and University of Helsinki, 00290 Helsinki, Finland

Dr. Francesca Perut

Biomedical Science and Technologies and Nanobiotechnology Lab, IRCCS Istituto Ortopedico Rizzoli, Via di Barbiano 1/10, 40136 Bologna, Italy

Deadline for manuscript submissions

closed (20 January 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/158008

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

MDPI

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

MDPI

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)