

Special Issue

Molecular Research on Orthopedic Materials

Message from the Guest Editor

We are pleased to invite you to submit your latest research for this Special Issue, which will be focused on the transformative role of molecular sciences in orthopedic and musculoskeletal materials. The restoration of functional bone, cartilage, and skeletal muscle remains a significant challenge, necessitating cutting-edge innovations in stimulus-responsive biomaterials and 4D bioprinting that can precisely modulate biological responses at the molecular level. This Special Issue will bridge the gap between material engineering and regenerative biology, with a particular emphasis on minimally invasive injectable systems, immunomodulatory scaffolds, and nano-architectonics for spatiotemporal control of the regenerative microenvironment. We welcome original research articles and comprehensive reviews exploring mechanotransduction, bioactive "drug-free" strategies, and smart delivery systems tailored to bone and muscle tissue engineering. By highlighting these innovative interdisciplinary approaches, this Special Issue will promote evidence-based strategies that significantly improve tissue integration and long-term clinical efficacy. We look forward to receiving your contributions.

Guest Editor

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Deadline for manuscript submissions

31 December 2026



International Journal of Molecular Sciences

an Open Access Journal
by MDPI

Impact Factor 4.9
CiteScore 9.0
Indexed in PubMed



mdpi.com/si/279742

*International Journal of
Molecular Sciences*
Editorial Office
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Message from the Editor-in-Chief

The *International Journal of Molecular Sciences (IJMS)* 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, and molecular biophysics. *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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