

Special Issue

Mesenchymal Stem/Stromal Cells: Mechanisms and Applications in Tissue Regeneration

Message from the Guest Editor

Mesenchymal stem/stromal cells (MSCs) have emerged as a cornerstone of regenerative medicine due to their multipotency, immunomodulatory properties, and ability to promote tissue repair. This Special Issue, brings together cutting-edge research and comprehensive reviews on the biology, therapeutic potential, and translational challenges of MSCs. Key topics include the molecular mechanisms underlying MSC differentiation, their interactions with the immune system, and their role in modulating the microenvironment for tissue repair in model systems in vitro and in vivo. The issue also explores innovative approaches for enhancing MSC efficacy, including genetic modifications, biomaterial scaffolds, and extracellular vesicle-based therapies. Additionally, clinical applications in the regeneration of musculoskeletal, cardiovascular, and other tissues are discussed, alongside emerging regulatory and manufacturing considerations. By integrating fundamental insights with translational advancements, this Special Issue provides a holistic perspective on the evolving landscape of MSC-based therapies and their future in regenerative medicine.

Guest Editor

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Deadline for manuscript submissions

31 October 2025



International Journal of Molecular Sciences

an Open Access Journal
by MDPI

Impact Factor 4.9
CiteScore 9.0
Indexed in PubMed



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*International Journal of
Molecular Sciences*
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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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