

Special Issue

Novel Osteogenic Molecules and Delivery Methods for Bone Regeneration

Message from the Guest Editors

A growing aging population at an increased risk of fall-induced bone fractures, often combined with impaired bone healing and higher fracture risk due to osteoporosis and diabetes, in addition to the currently inevitable loosening of prosthetic implants over time, necessitates adequate bone regeneration strategies. Current treatment options are associated with high morbidity or deficient efficacy. Osteogenic molecules, especially bone morphogenetic proteins, have been shown to promote bone regeneration, but rapid protein degradation impedes their efficacy and safety due to the high-dosage requirement. Therefore, there is an urgent need for improved molecules with stronger osteogenic properties and/or enhanced delivery of such molecules. New therapy options, such as viral and non-viral gene transfer including nano technology, mRNA technology and gene-enhanced cell therapy, might offer much needed improvement of the current treatment options by enhancing the efficiency of current and novel osteogenic molecules.

Guest Editors

Dr. Oliver B. Betz

Anderson and Langer Lab, David H. Koch Institute for Integrative Cancer Research, Massachusetts Institute of Technology, 500 Main Street, Cambridge, MA 02142, USA

Dr. Volker M. Betz

Musculoskeletal University Center Munich, University Hospital LMU Munich, Munich, Germany

Deadline for manuscript submissions

closed (28 February 2023)



International Journal of Molecular Sciences

an Open Access Journal
by MDPI

Impact Factor 4.9
CiteScore 9.0
Indexed in PubMed



mdpi.com/si/117174

*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](https://mdpi.com/journal/ijms)





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](https://mdpi.com/journal/ijms)



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)