

## Special Issue

# Molecular Biology of Osteoporosis

### Message from the Guest Editor

Osteoporosis is one of the most common metabolic bone diseases. Osteoporotic fractures, which represent a *growing economic burden* on global healthcare systems, impair quality of life and increase morbidity and mortality. In health, bone homeostasis encompasses coordinated dynamic equilibrium between bone-forming cells (osteoblasts) and bone-resorbing cells (osteoclasts). Mechanical stress is crucial for bone homeostasis and decreased mechanical loading is an established cause of bone loss and osteoporosis. Osteocytes, the most abundant and long-lived bone cells, are terminally differentiated osteoblasts that have a mechanosensory role and have emerged as a master regulator of bone homeostasis. Osteocytes produce endocrine and paracrine factors, and this activity is regulated by mechanical stress as well as osteotropic factors such as, oestrogen, vitamin D and parathyroid hormone. This Special Issue explores intricate intra- and intercellular molecular signalling in bone cells in health and osteoporosis.

### Guest Editor

Dr. Harish K. Datta

Blood Sciences, South Tees Hospitals NHS Foundation Trust,  
Middlesbrough TS4 3BW, UK

### Deadline for manuscript submissions

20 July 2025



## International Journal of Molecular Sciences

---

an Open Access Journal  
by MDPI

---

Impact Factor 4.9  
CiteScore 8.1  
Indexed in PubMed



[mdpi.com/si/186913](https://mdpi.com/si/186913)

*International Journal of  
Molecular Sciences*  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[ijms@mdpi.com](mailto:ijms@mdpi.com)

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

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





# International Journal of Molecular Sciences

---

an Open Access Journal  
by MDPI

---

Impact Factor 4.9  
CiteScore 8.1  
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 (Inorganic Chemistry)