

## Special Issue

# Bioactive Peptides: Microbial Fermentation-Driven Synthesis and Multifunctional Applications in Health and Industry

### Message from the Guest Editor

Bioactive peptides, short protein fragments composed of 2–50 amino acids, play essential roles in human physiology, influencing hormone secretion, neural transmission, and immune regulation. Their bioactivity is often amplified through post-translational modifications including phosphorylation and glycosylation. While naturally present in various sources—such as dairy, soy, and marine organisms—modern advancements now leverage microbial fermentation to efficiently synthesize these peptides. During fermentation, probiotics and other microorganisms enzymatically hydrolyze large proteins into bioactive oligopeptides (2–20 residues), enhancing both their yield and bioavailability.

Additionally, the use of microbial fermentation to synthesize specific oligopeptides has emerged as a sustainable and scalable approach, enabling the production of tailored peptide sequences with enhanced stability and bioactivity. Coupled with targeted enzymatic hydrolysis and synthetic biology, these methods unlock novel peptide-based products for functional foods, cosmetics, and pharmaceuticals, showcasing transformative potential across health and industrial sectors.

### Guest Editor

Dr. Yongjun Wei

School of Pharmaceutical Sciences, Zhengzhou University, Zhengzhou 450001, China

### Deadline for manuscript submissions

30 August 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/235240](https://mdpi.com/si/235240)

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