

Special Issue

Molecular Research on Rhizobia

Message from the Guest Editors

Rhizobia, the main contributors to Biological nitrogen fixation (BNF), consist of a large group of α - and β -proteobacteria that can form symbiotic associations with leguminous plants, inducing the formation of plant nodules where nitrogen fixation takes place. During this symbiotic interaction, rhizobia must respond to a battery of signals and consequently undergo severe changes in their physiology, from free-living conditions in the soil to a symbiotic state within the highly specialized environment of a plant cell. Biotic and abiotic stresses also affect the fitness of symbiotic efficiency. Recent insights from multidisciplinary disciplines including microbiology, genetics, molecular biology, biochemistry, biodiversity, and omics sciences have improved our understanding of the molecular mechanisms underlying rhizobia-plant interactions, which serves as a basis for the development of biotechnological tools and sustainable agricultural practices. This Special Issue aims to bring together the latest developments and state-of-the-art molecular research in the field of rhizobia, with original articles and concise reviews by experts in the field.

Guest Editors

Dr. Socorro Mesa

Dr. María J. Delgado

Dr. Germán Tortosa

Deadline for manuscript submissions

20 December 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/202533

*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)