

Special Issue

Advances in Microbial Polysaccharide Research: Bioactivity, Molecular Mechanisms and Food Applications

Message from the Guest Editor

Microbial polysaccharides (MPs) are biopolymers secreted by microorganisms such as bacteria fungi and algae during metabolic processes. Compared to polysaccharides derived from plants and animals, MPs have advantages such as a wide range of sources, high production efficiency, and less susceptibility to natural environmental influences. The most attractive feature of MPs is their diverse bioactivity such as antioxidative, immunomodulatory, anti-tumor and antibacterial activities, which have demonstrated enormous potential for applications in foods, cosmetics and biomedicine. These bioactivities are precisely regulated by their sophisticated molecular structure. However, the mechanisms underlying this precise regulation are not yet fully understood. Furthermore, MP synthesis processes involve a large number of genes. The key genes of MP synthesis need to be further explored, and the regulatory mechanism of MP synthesis has also not been elucidated. The aim of this Special Issue is to publish both recent innovative research results and review papers on the advances in microbial polysaccharide research: bioactivity, molecular mechanisms and food applications.

Guest Editor

Prof. Dr. Peipei Han

State Key Laboratory of Food Nutrition and Safety, Key Laboratory of Industrial Fermentation Microbiology, Ministry of Education, College of Biotechnology, Tianjin University of Science and Technology, Tianjin 300457, China

Deadline for manuscript submissions

closed (31 July 2025)



Foods

an Open Access Journal
by MDPI

Impact Factor 5.1
CiteScore 8.7
Indexed in PubMed



mdpi.com/si/205581

Foods
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
foods@mdpi.com

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





Foods

an Open Access Journal
by MDPI

Impact Factor 5.1
CiteScore 8.7
Indexed in PubMed



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



About the Journal

Message from the Editor-in-Chief

Foods (ISSN 2304-8158) is an open access and peer reviewed scientific journal that publishes original articles, critical reviews, case reports, and short communications on food science. Articles are released monthly online, with unlimited free access. Currently, *Foods* has been indexed by the Science Citation Index Expanded (SCIE - Web of Science), PubMed, and Scopus. Our aim is to encourage scientists, researchers, and other food professionals to publish their experimental and theoretical results as much detail as possible. We therefore invite you to be one of our authors, and in doing so share your important research findings with the global food science community.

Editor-in-Chief

Prof. Dr. Arun K. Bhunia

1. Department of Food Science, Purdue University, West Lafayette, IN 47907, USA

2. Department of Comparative Pathobiology, Purdue University, West Lafayette, IN 47907, USA

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, FSTA, AGRIS, PubAg, and other databases.

Journal Rank:

JCR - Q1 (Food Science and Technology) / CiteScore - Q1 (Health Professions (miscellaneous))

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 14.9 days after submission; acceptance to publication is undertaken in 2.6 days (median values for papers published in this journal in the first half of 2025).