



## Current Trends of Natural Bioactive Molecules in Regulation of Cell Signaling Pathways in Different Diseases

Guest Editors:

**Prof. Dr. Baojun Xu**

Food Science and Technology  
Program, Department of Life  
Sciences, Beijing Normal  
University-Hong Kong Baptist  
University United International  
College, Zhuhai 519087, China

**Prof. Dr. Seppo Vainio**

Biocenter Oulu, Laboratory of  
Developmental Biology, Faculty  
of Biochemistry and Molecular  
Medicine, Borealis Biobank of  
Northern Finland, InfoTech,  
University of Oulu, Oulu, Finland

Deadline for manuscript  
submissions:

**closed (31 January 2023)**

### Message from the Guest Editors

It is widely accepted that a high intake of natural bioactive molecules is associated with a decreased risk of chronic disease. According to in vitro and in vivo studies, bioactive molecules possess therapeutic potential in chronic diseases by modulating different signaling pathways. However, the molecular mechanisms behind these activities are not quite clear yet.

In this Special Issue, the latest findings on the health-promoting effects of bioactive molecules, such as anti-oxidative stress, anti-cancer activity, anti-inflammatory activity, and neuroprotective activity, will be summarized. Furthermore, the cell signaling pathways (such as PI3K/Akt/mTOR, JAK/STAT, STAT3, MAPK, TNF, Notch, AMPK, Wnt/ $\beta$ -Catenin, mTOR, TRAIL, Fas, NF- $\kappa$ B, etc.) of bioactive molecules in exerting health-promoting effects will be discussed. Lastly, the underlying molecular mechanisms of how these bioactive molecules regulate their health-promoting effects will be elucidated.





an Open Access Journal by MDPI

## 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

## 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.

## 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 & Molecular Biology*) / CiteScore - Q1 (*Inorganic Chemistry*)

## Contact Us

*International Journal of Molecular  
Sciences* Editorial Office  
MDPI, St. Alban-Anlage 66  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
www.mdpi.com

mdpi.com/journal/ijms  
ijms@mdpi.com  
X@IJMS\_MDPI