



## Protein Kinases and Neurodegenerative Diseases

Guest Editors:

**Prof. Dr. Kohji Fukunaga**

Department of Pharmacology,  
Graduate School of  
Pharmaceutical Sciences,  
Tohoku University, Sendai 980-  
8578, Japan

**Dr. Ichiro Kawahata**

Department of CNS Drug  
Innovation, Graduate School of  
Pharmaceutical Sciences,  
Tohoku University, Sendai 980-  
8578, Japan

Deadline for manuscript  
submissions:

**closed (30 April 2022)**

### Message from the Guest Editors

Dear Colleagues,

Protein kinases have pivotal or detrimental functions in brain aging and neurodegenerative disorders. For example, PI3K/AKT/mTOR and AMPK pathways are essential for brain longevity through the regulation of protein synthesis and mitochondrial energy production, respectively. Mitogen-activated protein kinase pathways including JNK, p38, and ERK mediate neuronal damages via oxidative stress induced by brain ischemia and neurodegenerative disorders. Likewise, ASK-1/p38 signaling with CaMKII accounts for oxidative neuronal death. In addition, neuroinflammation and upregulation of death receptor family ligands such as TNF $\alpha$  promotes necrotic cell death, named necroptosis, which is mediated by receptor interacting protein kinase 1, RIPJ3, and mixed lineage kinase domain-like protein (MLKL). Our aim is to establish, with this Special Issue, a strong research network to share the pathological mechanisms mediated by protein kinases in human neurodegenerative disorders.





an Open Access Journal by MDPI

## Editor-in-Chief

### Prof. Dr. José L. Quiles

Department of Physiology,  
Institute of Nutrition and Food  
Technology “Jose Mataix”,  
Biomedical Research Center,  
University of Granada, Avda.  
Conocimiento s/n, 18100 Armilla,  
Granada, Spain

## Message from the Editor-in-Chief

The *International Journal of Molecular Sciences (IJMS)* 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, and molecular biophysics. *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 and Molecular Biology) / CiteScore - Q1 (Organic Chemistry)

## Contact Us

---

*International Journal of Molecular  
Sciences* Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

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

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