Special Issue

Molecular Mechanism of pH Regulation: From Physiology to Pathology

Message from the Guest Editor

The pH in the extracellular fluid is normally maintained at 7.4, equivalent to one H+ ion per 25 million water molecules. Despite such extremely low levels, H+ has profound effects on function as it binds to proteins and alters their structure and properties. A variety of proteins including receptors, signal transduction molecules, enzymes, and structural proteins can be altered in their function by H+, thereby interfering with their cellular and systemic roles. Maintaining normal pH is frequently challenged by both physiological and pathological conditions. Numerous proteins are inhibited by high H+ levels, and thus acidification inhibits cellular activity. Severe acidification is deleterious to normal cells, causing cell death. However, acidification can be adversely beneficial under some pathological conditions. The current special issue focuses on the progress towards understanding the molecular mechanism of pH regulation under physiological conditions and its involvement in pathogenesis. The topic is open to original studies, reviews, and new methodologies, ranging from molecular and cellular level to integrated organ system.

Guest Editor

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Deadline for manuscript submissions

closed (31 January 2022)

International Journal of Molecular Sciences

an Open Access Journal by MDPI

Impact Factor 4.9
CiteScore 9.0
Indexed in PubMed

mdpi.com/si/65397

International Journal of Molecular Sciences
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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.

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