



Hydrogen Peroxide in Redox Signaling

Guest Editor:

Dr. Mikko O. Laukkanen

Center for Experimental
Endocrinology and Oncology
(IEOS), CNR, Via Pansini 5, 80131
Naples, Italy

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Message from the Guest Editor

Reactive oxygen species (ROS) are involved in the regulation of a vast number of physiological processes as a result of the aerobic metabolism of the organisms. Mechanistically, the effect of ROS is channeled through redox signaling networks consisting of the main signaling cascades downstream of tyrosine kinase receptors (RTKs), small GTPases, and large G protein-coupled receptors (GPCRs). Hydrogen peroxide (H_2O_2) is a well-characterized ROS produced by several redox enzymes. H_2O_2 can inactivate protein tyrosine phosphatases (PTPs) by reversibly oxidizing the reactive cysteine in the active site, thereby allowing the phosphorylation of the cellular kinases at tyrosine or serine residues with subsequent activation of e.g., mitogen, growth, survival, apoptosis, and angiogenesis signaling affecting cardiovascular and tissue damage, degenerative diseases, tumorigenesis, bacterial infections, and microbiota in general.

The Special Issue is focused on the production and function of H_2O_2 in redox signaling. The researchers are invited to submit review articles, original research articles, communications, and concept papers covering all aspects related to the topic of the Issue.





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Editor-in-Chief

**Prof. Dr. Alessandra
Napolitano**

Department of Chemical
Sciences, University of Naples
"Federico II", Via Cintia 4, I-80126
Naples, Italy

Message from the Editor-in-Chief

It has been recognized in medical sciences that in order to prevent adverse effects of "oxidative stress" a balance exists between prooxidants and antioxidants in living systems. Imbalances are found in a variety of diseases and chronic health situations. Our journal *Antioxidants* serves as an authoritative source of information on current topics of research in the area of oxidative stress and antioxidant defense systems. The future is bright for antioxidant research and since 2012, *Antioxidants* has become a key forum for researchers to bring their findings to the forefront.

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Antioxidants Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

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