

Special Issue

Molecular Insight into Oxidative Stress in Plants

Message from the Guest Editors

Under normal conditions, reactive oxygen species (ROS), such as superoxide radicals, singlet oxygen, hydrogen peroxide, and hydroxyl radicals, act as signaling molecules (oxidative signaling) in the regulation of physiological processes in plants. As a result of primary stresses, ROS can be overproduced and accumulated in plant cells, tissues and organs. This stress can have a destructive effect on many macromolecules within cells, including the oxidation of proteins, lipids, and nucleic acids, and can damage the structure and function of cell membranes and organelles.

The goal of this Special Issue is to provide a deeper insight into the molecular response of plants facing SOS. Plant survival and tolerance strategies require changes in physiological, biochemical and molecular mechanisms of cellular metabolism. Application of OMICS studies like transcriptomics, metabolomics and proteomics can provide information on overexpression of antioxidant enzymes and levels of small-molecule antioxidants.

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Deadline for manuscript submissions

closed (20 July 2025)



International Journal of Molecular Sciences

an Open Access Journal
by MDPI

Impact Factor 4.9
CiteScore 9.0
Indexed in PubMed



mdpi.com/si/198379

*International Journal of
Molecular Sciences*
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