



The Roles of Environmental Factors in Regulation of Oxidative Stress in Plants

Guest Editor:

Dr. Ky Young Park

Department of Biomedical
Sciences, Suncheon National
University, Suncheon, Republic of
Korea

Deadline for manuscript
submissions:

15 November 2024

Message from the Guest Editor

Chloroplasts play pivotal roles in biotic and abiotic stress responses, which involve changes in the cellular reduction–oxidation state. Levels of the nonexpressor of pathogenesis-related genes 1 (NPR1) protein are markedly elevated in chloroplasts under salinity stress. Chloroplast-targeted NPR1 overexpression enhances stress tolerance and photosynthetic capacity. These functions are related to chloroplast NPR1 acting not only as a scavenger of stress-damaged proteins such as RuBisCo large subunit (RbcL), but also as a chaperone for chloroplast proteostasis. Taken together, these findings indicate that chloroplast NPR1 translocates to the nucleus, realizing a retrograde signalling process that transmits chloroplast information to the nucleus to elicit an adaptive response to stress. ROS-sensitive NPR1 proteins that oxidize cysteine residues function as redox switches in response to abiotic and biotic stresses. Papers regarding environmental factors in the regulation of oxidative stress in plants are welcome in this Special Issue.





an Open Access Journal by MDPI

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.

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](#), [FSTA](#), [PubAg](#), [CAPlus / SciFinder](#), and [other databases](#).

Journal Rank: JCR - Q1 (*Food Science & Technology*) / CiteScore - Q1 (*Food Science*)

Contact Us

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

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

mdpi.com/journal/antioxidants
antioxidants@mdpi.com
[X@antioxidants_OA](#)