Special Issue

Modulation of Oxidative Stress: A Global Perspective for Climate Change Adaptation

Message from the Guest Editors

Oxidative stress is caused by an imbalance between the production and accumulation of reactive oxygen species (ROS) in biological systems whose ability to detoxify ROS is limited. The metabolic pathways in such systems, where ROS are signaling molecules under homeostatic conditions, are often strongly negatively regulated by environmental factors such as temperature, precipitation, CO2, and a broad spectrum of biotic and abiotic environmental stressors. Continuous monitoring of their effects is required to minimize the negative effects of ROS on health and food safety caused by climate change-induced modulation of the activity of environmental stressors. Such processes can be assessed at the molecular and genetic levels, but they aim to create mechanisms that can control the ROS imbalance and the resulting negative effects. Therefore, this Special Issue on “Modulation of Oxidative Stress: A Global Perspective for Climate Change Adaptation” covers all important topics at the molecular and genetic level related to ROS in biological systems during the vicious cycle of their production and elimination.

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