



Oxidative Stress and Reactive Oxygen Species in Cardiovascular Disease

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Message from the Guest Editors

Cardiovascular disease (CVD) is the leading cause of mortality and the most expensive health condition worldwide. Pre-clinical and clinical studies associated the imbalance of oxidative stress and antioxidant status with the pathogenesis of CVD. Thus, upregulation of reactive oxygen species (ROS)-producing enzymes such as NADPH oxidase, along with downregulation of antioxidant enzymes, such as superoxide dismutase and glutathione peroxidase, occurs during CVD development. This imbalance may predispose to athero-thrombosis by enhancing platelet and clotting activation and inducing endothelial dysfunction.

Reducing oxidative stress represents a promising approach to the prevention and treatment of CVD. Therefore, the identification of strategies targeted to modulate redox balance, by activation or inhibition of specific enzymatic sources of ROS, improvement of gut microbiota and permeability, or potentiating pro-autophagic effects, is necessary.

This Special Issue will focus on the causes and consequences of oxidative stress in CVD exploring cellular and molecular mechanisms involved and emerging treatment strategies.





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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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