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Oxidative Stress and Vascular Disease

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Message from the Guest Editors

Oxidative stress is involved in vascular diseases such as hypertension, atherosclerosis, aortic aneurysm, and aortic dissection. Oxidative stress is a state in which reactive oxygen species (ROS) are more than their antioxidant activity. ROS are produced in blood vessels mainly by the mitochondrial electron transfer system, NAD(P)H oxidase, xanthine oxidase, and uncoupling of nitric oxide synthase. ROS act on various tissues, including vascular endothelial, smooth muscle, and perivascular tissues. Furthermore, physiological amounts of ROS act as messengers in the signal transduction pathway, and redox signaling regulates gene expression, cell proliferation, migration, and cell death, making the pathogenesis complex and therapeutic intervention difficult. This Special Issue aims to stimulate discussion and highlight the latest developments in how oxidative stress acts on vascular disease. A comprehensive understanding of the effects of ROS on blood vessels will assist in developing new therapeutic strategies and drugs for vascular disease.



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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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