



Superoxide Dismutase (SOD) Enzymes, Mimetics and Oxygen Radicals

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Message from the Guest Editors

Superoxide dismutases (SODs) are antioxidant enzymes that protect cells from toxic oxygen metabolites by converting superoxide into molecular oxygen and hydrogen peroxide via cyclic reduction and oxidation of an active site metal. SODs are highly conserved and ubiquitous amongst aerobic organisms and have been shown to be involved in maintaining cellular homeostasis by playing a role in cell cycle progression, maintaining normal cell metabolism and altering cell signaling. SOD activity levels are reduced in many human diseases, such as cancer, neurodegenerative disease, lung disease, and ischemia/reperfusion injury. Recently, SOD mimetics, have shown promise in enhancing the levels of SOD activity and protecting from or inhibiting the progression of these diseases.

We welcome papers concerning SOD and the role that SOD mimetics can play in boosting superoxide scavenging. This research include both in vitro and in vivo studies relating to topics: structure/function of SOD; regulation of SOD; post-translational modifications of SOD; and the role of SOD/SOD mimetics in signaling, cell metabolism, cell cycle, epigenetic regulation, cellular stress, and 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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