

## Special Issue on **Modulation of Oxidative Stress: Pharmaceutical and Pharmacological Aspects 2018**

# CALL FOR PAPERS

Reactive oxygen (ROS) and nitrogen (RNS) species are generated as byproducts of normal cellular metabolic activities and have been implicated in the pathogenesis of a variety of diseases. Disruption of normal cellular homeostasis by redox signaling may result in chronic infections, inflammatory disorders, cardiovascular and neurodegenerative diseases, and cancer.

Notwithstanding that the multiple roles of oxidative stress in human normal biology and pathology have been intensely discussed over the last half century, the problem is still far beyond our full comprehension. Thus, in a comparatively short history of oxidative medicine, the roles of free radicals and antioxidants have been entirely redefined. Some negative actions of free radicals and ROS in human biology and pathology, widely recognized two to three decades ago, have been subsequently transformed into positive ones, in the appreciation of their essential impact in the intracellular signaling on the organism's defense against biotic and abiotic stresses. On the other hand, the great hope that direct antioxidants could be the panacea resolving practically all health problems has vanished, due to the growing number of inconclusive or negative data from epidemiological and clinical studies.

The current state of uncertainty regarding feasibility of antioxidant therapy is partly due to methodological pitfalls in the drug development and delivery, the limited and often overlooked knowledge regarding the antioxidant metabolism and their interaction with physiologically important molecular/cellular processes in the organism, and the lack of correlations between biological markers of oxidative stress and clinical outcomes. Modulation of oxidative stress is important to develop new therapies to manage a variety of conditions for which current therapies are not effective.

The main aim of this special issue is to address different pharmaceutical and pharmacological aspects of research related to modulation of oxidative stress. In particular, contributions focused on the following issues will be particularly welcome.

Potential topics include but are not limited to the following:

- ▶ Synthesis and derivatization of antioxidant compounds with potential pharmacological applications to modulate their antioxidant properties and bioavailability
- ▶ Mechanism of action of antioxidant compounds with special attention to the Nrf2/ARE signaling pathway
- ▶ Pharmacokinetics, metabolic pathways, and antioxidant activity of metabolites
- ▶ Optimization of delivery systems
- ▶ In vitro and in vivo studies on the pharmacological activity of antioxidants
- ▶ Epidemiological and clinical studies on the efficacy of antioxidant therapies
- ▶ Relevant biological markers to assess in vivo antioxidant/prooxidant action and its correlation with clinical efficacy

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/omcl/mosc18/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

### Special Issue Editor in Chief

Luciano Saso, Sapienza University of Rome, Rome, Italy

*luciano.saso@uniroma1.it*

### Guest Editors

Tomris Ozben, Akdeniz University, Antalya, Turkey

*ozben@akdeniz.edu.tr*

Robert Smith, University of Missouri, Kansas City, USA

*robert.smith@fda.hhs.gov*

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