Oxidative Medicine and Cellular Longevity

Hindawi

Special Issue on

Reactive Oxygen Species in Cancer Biology and Anticancer Therapy 2017

CALL FOR PAPERS

Our understanding of reactive oxygen species (ROS) has changed in the last few years from ROS as just harmful substances to crucial intra- and extracellular messengers as well as important regulators controlling a wide spectrum of signaling pathways. Nevertheless, there are many uninvestigated points and open questions regarding ROS, especially in pathophysiology.

ROS are a group of highly reactive chemicals containing oxygen. Due to their high reactivity, ROS can damage many intracellular macromolecules, such as nucleic acids, lipids, and proteins. Under normal conditions, the intracellular ROS level is under tight control by various antioxidants. As a result of increased ROS production and/or impaired ROS detoxification, cancer cells have higher oxidative level as compared with normal cells. ROS production in cancer cells may result from increased or aberrant metabolic activity, mitochondrial dysfunction, disturbed cellular signaling, oncogene activity, and interaction with infiltrated immune cells. Therefore a delicately controlled ROS homeostasis is critical for maintaining normal cell functions. Any disruption in the oxidation-antioxidation balance will lead to oxidative stress which is associated with a wide spectrum of human disorders such as chronic inflammation, age-related diseases, and cancers.

The ultimative purpose of the special issue is to publish high-quality research communications as well as review articles in the field of ROS in cancer biology and anticancer therapy. We invite investigators to disseminate their recent results in the topic of the special issue.

Potential topics include but are not limited to the following:

- Features of ROS and their functions with respect to cancer initiation, progression, and metastasis
- Molecular mechanisms of ROS acting in cancer cell signaling
- Cancer treatment strategies based on ROS-elevating and/or ROS-depleting approaches
- Antioxidants and cancer
- Roles of reactive oxygen species (ROS) in the immune system

Authors can submit their manuscripts through the Manuscript Tracking System at http://mts.hindawi.com/submit/journals/omcl/rosp17/.

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