Oxidative Medicine and Cellular Longevity

Hindawi

Special Issue on

Oxidants and Redox Signaling: Perspectives in Cancer Therapy, Inflammation, and Plasma Medicine

CALL FOR PAPERS

Redox signaling is a key player in the regulation of physiological processes. Current concepts in redox biology and plasma medicine emphasize the significance of redox dysregulation in inflammation and different pathologies including cancer. The identification and characterization of specific protein thiol switches and redox regulated signaling pathways are one of the challenges in the fields. Tumor cells are often localized in a hypoxic environment which leads to a unique redox signaling environment affecting metabolism, proliferation, metastasis, apoptosis, and angiogenesis and the immune response. Deciphering and understanding the specific redox regulation of particular molecules and processes in a physiological and pathological context could allow the development of new therapeutic avenues. These strategies could comprise the therapeutic application of small molecules specifically targeting thiol switches and dysregulated redox signaling cascades, or, for example, cold physical plasma sources (such as plasma jets) which are able to generate reactive oxygen species in a spatially restricted manner without thermal damage to surrounding tissue.

We invite investigators to contribute original research articles as well as review articles that seek to address the mechanisms and significance of oxidant-induced redox signaling events in cancer, immunology, and inflammation. A particular interest will be given to papers exploring or discussing new concepts in cancer therapy using exogenously generated ROS/RNS via cold physical plasma sources with an emphasis on deepening the understanding of plasma-cell interactions.

Potential topics include but are not limited to the following:

- Redox homeostasis and protein thiol switches/ biochemical studies on redox reactions, redox regulated signaling cascades, and their cellular impact
- Metastatic potential and apoptosis of cancer cells
- Modulation of tumor microenvironment
- Cross-talk between cancer and immune cells
- Cold physical plasma sources for tumor therapy or for directing inflammation
- Mechanistic investigations on physical plasma derived oxidant and radical formation

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

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