



Oxidative Medicine and Cellular Longevity

Special Issue on

Mitochondrial Biology, Toxicology, and Medicine

CALL FOR PAPERS

It has been firmly established that mitochondria play a central role in cellular energy metabolism and redox biology since it is the main site where electrons from nutrients are coupled to ATP and reactive oxygen species production. However, the basic tenets of mitochondrial bioenergetics are still being investigated to this day since it has been shown that the efficacy of nutrient metabolism in mitochondria plays an essential role in the modulation of various cellular functions through the manipulation of a number of proteins and signaling cascades. Knowledge and assessment of mitochondrial bioenergetics patterns have also established that the mitochondrion is a chief site for the accumulation of various environmental contaminants which disrupt mitochondrial ATP and reactive oxygen species production leading to the development of various pathologies related to acute or chronic exposure to a variety of toxins. In addition, recent advances in medicine have also introduced novel pharmacological approaches aimed at rescuing mitochondrial bioenergetics in different disease states including neurological disorders and cardiovascular disease.

We invite investigators to contribute original research articles as well as review articles that advance our understanding of mitochondrial bioenergetics and the function of mitochondria in cell communication, pathogenesis of disease, as a target for pharmacological intervention, and a site for the accumulation of environmental contaminants. We are also interested in articles that provide in depth analysis of the function of redox signaling cascades and other posttranslational modifications in the modulation of mitochondrial functions.

Potential topics include, but are not limited to:

- ▶ Recent developments in mitochondrial energy metabolism and reactive oxygen species homeostasis
- ▶ Advances in mitochondrial antioxidant defense systems
- ▶ Impact of mitochondrial bioenergetics on mitochondrial biogenesis
- ▶ Role of mitochondria in cell differentiation and cell signaling
- ▶ Latest advances in mitochondrial redox signaling cascades
- ▶ Recent developments on posttranslational modifications in control of mitochondrial function
- ▶ Mitochondria as a target for heavy metal or organic contaminant toxicity
- ▶ Role of mitochondria dysfunction in pathogenesis of neurological diseases, cancer, obesity, diabetes, and other disorders
- ▶ Recent advances in mitochondrial pharmacology
- ▶ Studies that utilized novel methodologies to investigate mitochondrial biology

Authors can submit their manuscripts via the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/omcl/mbt/>.

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