Oxidative Medicine and Cellular Longevity

Hindawi

Special Issue on

Alternative Experimental Models: Implication for Oxidative Stress-Related Disease

CALL FOR PAPERS

Oxidative stress is the result of an imbalance in prooxidant/antioxidant homeostasis that leads to the generation of reactive oxygen species and free radicals, which can cause severe damage to the normal cells of the body. This damage can be to the DNA, proteins, or other macromolecules. Oxidative damage of tissue and cellular components can be a primary or secondary causative factor in many different human diseases and aging processes. There are numerous studies that prove that since these diseases are mediated by oxidative stress and imbalance between prooxidant and antioxidant factors, antioxidants may play a pivotal role in preventing or slowing the progression of these conditions.

Mammalian models are used for drug testing and toxicological screening for the development of new treatments for human diseases. They serve as tools to understand effects of medical procedures and surgical experiments. Moreover, mammals are used to obtain products like vaccines, antibiotics, and so forth, which are used in diagnostics as well as treatments. However, experimental mammals are costly and time-intensive, and their use has ethical issue concerns. Therefore, alternative nonmammalian and *in vitro* experimental models are needed.

This special issue aims to highlight and discuss research using alternative non-mammalian and *in vitro* disease models in fields ranging from molecular biology to pathology, toxicology, and pharmacology. We invite original research as well as review articles that address recent developments in oxidative stress-related disease in alternative experimental models such as zebrafish, *Drosophila*, or 3D cell culture systems. The model should provide a better understanding of the efficacy of dietary supplements, nutraceuticals, phytochemicals, or functional foods in oxidative stress-related disease *in vivo*. This special issue will provide an important reference for clinicians, lab researchers, and pharmaceutical developers.

All topics should involve an alternative experimental model.

Potential topics include but are not limited to the following:

- 5~7 topics can be covered
- Functional material screening systems
- *In vivo* discovery of oxidative stress phenomenon
- Alternative medicine
- Functional food and its application
- Research and development of *in vivo* antioxidant treatments
- *In vivo* toxicity of foods, drugs, or pollutants

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

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

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