



Oxidative Medicine and Cellular Longevity

Special Issue on **Oxidant Toxicology and Its Prevention by Natural Products**

CALL FOR PAPERS

Assessing the levels of free radicals and reactive oxygen species is an important tool in the evaluation of free radicals and oxidants associated toxicology. The deleterious effects of these oxidants such as superoxide anion radicals, singlet oxygen, hydroxyl radicals, and hydrogen peroxides are largely counteracted by endogenous antioxidant systems (catalase, superoxide dismutase, glutathione reductase, glutathione peroxidase, etc.). However, the antioxidant defense systems are overwhelmed by excessive production/generation of these radicals during exposures to toxins or toxic chemicals leading to oxidative stress and invariably cell death (apoptosis).

Over the past decades there has been enormous progress in the development of tools/equipment in assessing the levels of free radicals and oxidants in cells owing to exposure to xenobiotics (largely drugs and environmental toxins). In addition, natural products of plant origin with proven antioxidant activity have also been documented to protect cell against oxidant induced cell death. However, there are still controversies as regards the results produced by some of these tools (e.g., electron spin resonance) and the mechanism of action of antioxidants from plant (free radical scavenging, nucleophilic tone, and parahormesis). This special issue is designed towards providing the current state of research in free radicals and oxidants in toxicological evaluations of chemicals of both plant and synthetic origins, development of tools used in their assessment, and its protection by natural products.

We welcome contributions in form of original research and review articles on oxidant toxicology and its prevention by natural products, free radicals, and oxidants in toxicological assessment of drugs and chemicals as well as medicinal plants in various *in vitro* and *in vivo* models.

Potential topics include, but are not limited to:

- ▶ Development of chemical assays in the assessment of free radicals and oxidants toxicology
- ▶ Identification and mechanism of free radicals and oxidants involved in chemicals/drugs/medicinal plants toxicity
- ▶ Mechanism of free radicals and oxidants mediated cell and organ damage
- ▶ Prevention of oxidant mediated cell damage by natural products
- ▶ Influence of redox transcription factors on natural products protection and drug toxicity
- ▶ DNA radical detection in chemicals/drugs and medicinal plant toxicity
- ▶ Recent advancement in free radicals and oxidant toxicology

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

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