

Special Issue on  
**The Role of Herbal Medicine in the Protection and Treatment of Chemotherapy-Induced Toxicity**

# CALL FOR PAPERS

Cancer includes a large group of diseases characterized by the growth of abnormal cells beyond their usual boundaries, which can then invade adjoining tissues or organs and/or spread to distant organs. The World Health Organization has estimated that cancer is the second leading cause of death worldwide, accounting for 8.8 million deaths in 2015. Therefore, cancer prevention, modifying or avoiding key risk factors, and adequate management programs are crucial. In this sense, a great challenge of cancer therapies is to eradicate cancer cells, but maintaining a reasonable quality of life for cancer patients. Current treatments for cancer, besides surgery, are heavily based on cytotoxic regimens of chemotherapeutics and radiation that demonstrate a multitude of side effects. In addition, repeated use of nonspecific therapeutics leads to significantly toxic side effects that badly affect patient's quality of life. Furthermore, it may induce chemoresistance, creating a situation of either further increasing chemotherapy dosage implying more severe toxicity or making patients intolerable for treatment.

Therefore, a promising approach for reducing or treating the side effects induced by chemotherapeutics is to find natural alternatives that lack or have a low toxicity profile. These alternatives could be used as protective or treatment measures. Plants are a renewable source of novel chemical compounds. Although a great number of studies have focused on discovering drugs from herbal medicines, most still remain unidentified and need to be explored, studied, and characterized. Herbal medicines or their derived compounds can be used for the protection and/or treatment of toxicity induced by chemotherapy. Moreover, other modality is the combination therapies of anticancer natural compounds and drugs to reduce chemotherapy dosing and toxicity.

Therefore, this special issue aims at creating a multidisciplinary forum of discussion to present innovative research about the role of herbal medicines in the protection and treatment of toxicity induced by chemotherapy. We invite investigators to contribute review and original research articles dealing with the beneficial role of plants and/or their natural active compounds (e.g., alkaloids, phenolic compounds, terpenes, and peptides) in the protection and treatment of toxicity induced by chemotherapy *in vitro* and *in vivo*, as well as their molecular and biochemical mechanisms.

Potential topics include but are not limited to the following:

- ▶ Search for new plant sources as anticancer chemotherapy as well as for the protection and treatment of toxicity induced by chemotherapy
- ▶ Isolation and characterization of novel plant active compounds as potential anticancer chemotherapy with low toxicity
- ▶ Screening of combinatory therapy based on the use of anticancer drugs compounds and plant active compounds to decrease chemotherapy dosing and toxicity
- ▶ The advances in the development of imaging methods to monitor chemotherapy-induced toxicity and its early diagnosis
- ▶ Identification of new molecular target enzymes and mechanisms involved in the protection against chemotherapy-induced toxicity
- ▶ Involved mechanisms in the oxidative stress induced by chemotherapy agents
- ▶ The role of food supplements as natural antioxidants in the treatment and/or protection against chemotherapy-induced cardiotoxicity, neurotoxicity, or nephrotoxicity
- ▶ Stimulation of the innate mechanisms involved in the protection against chemotherapy-induced toxicity
- ▶ Synthesis of chemotherapeutics based on natural related compounds with augmented efficacy and low toxicity
- ▶ Molecular basis underlying natural drugs utilization for protection and treatment of chemotherapy-induced toxicity

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/scientifica/toxicology/rhmp/>.

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

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