



BioMed Research International

Special Issue on
**Genetic and Epigenetic Effects of Environmental
Mutagens and Carcinogens**

CALL FOR PAPERS

Epigenetic mechanisms are flexible genomic modifications that can change genome function under exogenous influence and also provide a mechanism that allows for the stable propagation of gene-activity states from one generation of cells to the next. Several epigenetic mechanisms, with particular reference to microRNA alterations, DNA methylation, and histone modifications, can change genome function under exogenous influence. Recent investigations have examined the relationship between exposure to environmental carcinogens and epigenetics and have identified toxicants that modify epigenetic states. MicroRNAs are posttranscriptional regulators of gene expression involved in carcinogenesis, metastasis, and invasion. Thus, microRNAs are potentially useful as diagnostic and prognostic biomarkers as well as anticancer therapeutic targets. Many microRNAs undergo altered expression as consequence of exposure to carcinogens and these changes may be useful in carcinogenesis prevention. MicroRNAs have been also implicated in transgenerational epigenetic inheritance via the gametes. Other epigenetic mechanisms, like DNA methylation, are susceptible to environmental influence in both somatic and germ cells.

We invite investigators to contribute original research articles as well as review articles that will stimulate the continuing efforts to understand the genetics and epigenetic mechanisms of environmental mutagens and carcinogens.

We are particularly interested in articles describing the interactions derived from their own metabolism and microbiota as well as external factors such as diet, pharmaceuticals, and environmental compounds in relation to epigenetics mechanisms.

Potential topics include, but are not limited to:

- ▶ Electromagnetic radiation from mobile and basic station as physical mutagens, further to chemical mutagens and epigenetic changes
- ▶ Synergistic interactions between environmental exposure and ageing or genetic predisposition and epigenetic effects in the cancer risk
- ▶ Environmental exposures to potentially aneugenic agents including therapeutic exposures and exposures associated with lifestyle habits and epigenetic modulation
- ▶ Mechanisms and risk of chemically induced genetic and epigenetic changes in mammalian germ cells

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

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First Round of Reviews

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