



Special Issue Reprint

Biomarkers of Environmental Toxicants

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Biomarkers of environmental toxicants are measures of exposures, some of which can serve to assess disease risk and inter-individual susceptibilities. Metabolites, protein and DNA adducts also serve to elucidate the mechanisms of the bioactivation and detoxication of reactive toxicant intermediates. Some environmental chemicals act as modulators of gene and protein activity, and induce the dysbiosis of the microbiome, which impacts the metabolome and overall health. In this Special Issue on “Biomarkers of Environmental Toxicants”, review articles and original research studies are featured, covering the latest bioanalytical, biochemical and mass spectrometry-based technologies, to monitor exposures through targeted and non-targeted methods, and mechanistic studies that examine the biological effects of environmental toxicants in cells and humans. Diverse topics, such as exposome, microbiome, DNA/protein adducts and t-RNA modifications, as well as important environment toxicants, including heavy metals, benzene, phthalates, aldehydes, glycidol, tobacco smoke and aristolochic acids, are covered. Novel analytical methods, such as protein adductomics, DNA adduct analysis in formalin-fixed paraffin-embedded tissues, site-specific mutagenesis assay and accelerator mass spectrometry, are also included. This collection provides a valuable update of the most recent biochemical and analytical tools that employ biomarkers in toxicology research, biomarker discovery, and exposure and risk assessment in population-based studies.



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