



Innovative Molecular Methodologies and Models in Assessing the Toxicity Potential of Natural Products

Guest Editors:

Dr. Igor Koturbash

1. Department of Environmental and Occupational Health, College of Public Health, University of Arkansas for Medical Sciences, Little Rock, AR 72205, USA

2. Center for Dietary Supplements Research, University of Arkansas for Medical Sciences, Little Rock, AR 72205, USA

Dr. Bill J. Gurley

National Center for Natural Products Research, University of Mississippi, Oxford, MS, USA

Deadline for manuscript submissions:

closed (30 November 2021)

Message from the Guest Editors

Natural products have gained widespread acceptance among consumers worldwide. Unlike conventional medications, natural products sold in the form of dietary supplements are not required to undergo pre-market approval testing for safety; thus, the toxicity potential of such products is not realized until after their ingestion by the consuming public. This regulatory shortcoming is especially concerning with regard to unusual and heretofore untested combinations of exotic botanical extracts or purified phytochemicals. Of particular concern are hepato- and cardiotoxicity, as well as herb–herb and herb–drug interactions, which become especially concerning in lieu of the continuously growing number of natural products on the market.

Therefore, the development of novel molecular toxicology approaches and models that can effectively address these deficiencies is urgently required. In these regards, *in silico* approaches, microphysiological systems that mimic the complexity of human physiology and pathophysiology in an organ-specific context, and specialized animal models are of particular interest.





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Editor-in-Chief

Prof. Dr. Maurizio Battino

Department of
Odontostomatologic and
Specialized Clinical Sciences,
Sez-Biochimica, Faculty of
Medicine, Università Politecnica
delle Marche, Via Ranieri 65,
60100 Ancona, Italy

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