In Vitro Toxicology: Screening Tools for Risk Assessment

Guest Editors:

Dr. Diego Baderna
1. Department of Environmental Health Sciences, Istituto di Ricerche Farmacologiche Mario Negri IRCCS, 20156 Milano, Italy
2. CellTox Italian Association of in vitro toxicology, Italy

diego.baderna@marionegri.it

Dr. Nathalie Steimberg
1. Laboratory of Tissue Engineering, Department of Clinical and Experimental Sciences, School of Medicine , University of Brescia, 25123 Brescia⊠Italy
2. CellTox Italian Association of in vitro toxicology, Italy

nathalie.steimberg@unibs.it

Deadline for manuscript submissions:
31 December 2021

Message from the Guest Editors

In vitro bioassays play a key role in assessing the hazard and risk of substances and complex environmental or anthropic mixtures, allowing for faster screening of substances than when using tests conducted in vivo. Thanks to the strong technological development, many advances have been made in recent years in the field of biological assays applied to risk assessment, with the generation of increasingly complex models close to the tissues and organs to be studied and allowing the discovery of more precocious, precise, and specific responses. In parallel, the recognition of in vitro methods as reliable and effective screening tools has promoted the establishment of high-throughput screening programs for prioritization of chemicals based on in vitro bioactivity profiling, such as the ToxCast program. The huge amount of data generated by these programs has then allowed the integration of in vitro models with computational and machine learning techniques to generate integrated approaches to testing and assessment to address the limited testing efforts toward chemicals potentially representing the greatest hazard to human health and the environment.

mdpi.com/si/89341

Special Issue