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Toxic Effects and Metabolic Regulations of Hazardous Chemicals in Animal-Derived Food

Guest Editors:

Prof. Dr. Chongshan Dai

Department of Veterinary
Pharmacology and Toxicology,
College of Veterinary Medicine,
China Agricultural University, No.
2 Yuanmingyuan West Road,
Beijing 100193, China

Prof. Dr. Haiyang Jiang

College of Veterinary Medicine,
China Agricultural University,
No.2 Yuanmingyuan West Road,
Beijing 100193, China

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Message from the Guest Editors

Dear Colleagues,

Chemical contaminants, including veterinary drugs, heavy metals, nanomaterials, environmental pollutants, feed additives, and natural toxins (such as mycotoxins and bacterial toxins) can occur in animal-derived food, and could cause various harmful effects to animals or humans, including hepatotoxicity, nephrotoxicity, reproductive toxicity, neurotoxicity, or cardiovascular toxicity. The toxic effects caused by chemical hazard contaminants are often complex and content-dependent. Recent studies showed that some chemical hazard contaminants could induce metabolism-dependent cell death by affecting multiple metabolic pathways in cell autophagy and ferroptosis, including glycolysis, pentose phosphate pathway, hexosamine biosynthetic pathway, and tricarboxylic acid (TCA) cycle. These evidences reveal that metabolism regulations may play a critical role in chemical contaminants-induced toxic effects or cell death.

In this Special Issue, we aim to collate innovative original research and review articles that reveal the toxic effects of chemical hazard contaminants, molecular mechanisms, and metabolic regulations by using in vitro and in vivo models.



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Special Issue



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Editor-in-Chief

Dr. Amedeo Lonardo

1. Formerly Director of the Simple Operating Unit "Metabolic Syndrome", Azienda Ospedaliero-Universitaria, 41126 Modena, Italy
2. Formerly Professor of Internal Medicine, School of Specialization of Allergology and Clinical Immunology, University of Modena and Reggio Emilia, 41121 Modena, Italy

Message from the Editor-in-Chief

The metabolome is the result of the combined effects of genetic and environmental influences on metabolic processes. Metabolomic studies can provide a global view of metabolism and thereby improve our understanding of the underlying biology. Advances in metabolomic technologies have shown utility for elucidating mechanisms which underlie fundamental biological processes including disease pathology. *Metabolites* is proud to be part of the development of metabolomics and we look forward to working with many of you to publish high quality metabolomic studies.

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Contact Us

Metabolites Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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