Special Issue

Therapeutic Significance of Heme Oxygenase Induction or Inhibition

Message from the Guest Editors

Dear colleagues, A heme oxygenase (HO) system consists of two different isoforms, HO-1, the inducible form, and HO-2, the constitutive form. Both isozymes catalyze the rate-limiting step in heme degradation, resulting in the formation of biliverdin with the concurrent release of carbon monoxide (CO) and iron. HO-1 induction by drugs, polyphenols, and a variety of stimuli, such as low-grade inflammation and oxidative stress, is mediated by the nuclear factor erythroid 2-related factor 2 (Nrf2). HO plays a key role as a cytoprotective system and as an endogenous antioxidant system by scavenging reactive oxygen species (ROS) and preventing apoptosis during stress conditions. However, recently, it has been shown that a HO system may possess important biological functions beyond its enzymatic activity. The up-regulation of HO-1 and its cellular localization could presumably reduce the efficacy of chemotherapeutic agents in the treatment of several cancers.

Guest Editors

Prof. Dr. Luca Vanella

Department of Drug and Health Sciences, Section of Biochemistry, University of Catania, Catania, Italy

Dr. Marco Raffaele

Department of Drug Sciences, University of Catania, Catania, Italy

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Biomolecules
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
biomolecules@mdpi.com

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Biomolecules is a multidisciplinary open-access journal that reports on all aspects of research related to biogenic substances, from small molecules to complex polymers. We invite manuscripts of high scientific quality that pertain to the diverse aspects relevant to organic molecules, irrespective of the biological question or methodology. We aim for a competent, fair peer review and rapid publication. Please look at some of the exciting work that has been published in *Biomolecules* so far. We would be delighted to welcome you as one of our authors.

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Prof. Dr. Peter E. Nielsen
Department of Cellular and Molecular Medicine, Faculty of Health and Medical Sciences, University of Copenhagen, Blegdamsvej 3C, DK-2200 Copenhagen, Denmark

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Department of Computer Science, Virginia Commonwealth University, Richmond, VA 23284, USA

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