Special Issue

Molecular Mechanisms of Responses to Low-Intensity Exposures 2.0

Message from the Guest Editor

Low-intensity exposures are the most unexplored field of modern molecular toxicology. A lack of knowledge on the mechanisms of low-intensive factors causes problems in (a) the prediction of biological effects, (b) overcoming negative consequences, and (c) application of positive results. Therefore, the analysis of low impacts is topical from both fundamental and applied standpoints, particularly for ecology, biology, and medicine. Modern toxicology uses three dose–response models: linear, threshold, and hormesis. The latter implies an activation of physiological functions at low-dose exposures and their inhibition at higher doses and describes these effects in terms of 'adaptive response' and 'toxicity', respectively. It is supposed that the hormesis model can be applied as a basic one, transforming to the other models under definite restrictions. Studies of biological responses to bioactive compounds, radiation of different types, etc. under the conditions of low-intensity exposures are encouraged. A chemical and biochemical basis for these responses is of interest.

Guest Editor

Prof. Dr. Nadezhda S. Kudryasheva

Institute of Biophysics, Federal Research Center, Siberian Branch of Russian Academy of Sciences, 660041 Krasnoyarsk, Russia

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

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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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