Special Issue

Therapeutic Potential of Molecular Hydrogen in Human Diseases

Message from the Guest Editors

Molecular hydrogen (H2) was identified as an antioxidant that directly reduces hydroxyl radicals (·OH) and peroxynitrite. H2 also exerts indirect antioxidant, anti-inflammatory, and antiapoptotic effects via the regulation of gene expression. Other indirect mechanisms through which H2 exerts its effects have been reported, such as nuclear factor erythroid-related factor 2 and various signaling pathways in cells. A target molecule of H2 was recently identified that indicates that an oxidized form of porphyrin catalyzes the reaction of H2 with ·OH to reduce oxidative stress; however, the details of the mechanistic actions of H2, including its target molecules, true clinical viability, and the appropriate doses as well as dosages for individual human diseases, are still in the initial stages.

This Special Issue is seeking contributions that will further elucidate the potential therapeutic use of H2 in human diseases. Both in vitro cellular and in vivo animal studies are of interest. Authors are invited to submit original research articles and reviews that advance our understanding of the therapeutic potential of H2 in the treatment of various human diseases.

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Biomedicines (ISSN 2227-9059) is an open access journal devoted to all aspects of research on human health and disease, the discovery and characterization of new therapeutic targets, therapeutic strategies, and research of naturally driven biomedicines, pharmaceuticals, and biopharmaceutical products. Topics include pathogenesis mechanisms of diseases, translational medical research, biomaterial in biomedical research, natural bioactive molecules, biologics, vaccines, gene therapies, cell-based therapies, targeted specific antibodies, recombinant therapeutic proteins, nanobiotechnology driven products, targeted therapy, bioimaging, biosensors, biomarkers, and biosimilars. The journal is open for publication of studies conducted at the basic science and preclinical research levels. We invite you to consider submitting your work to Biomedicines, be it original research, review articles, or developing Special Issues of current key topics.

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