

Special Issue

Physiology and Molecular Medicine of Molecular Hydrogen

Message from the Guest Editors

Molecular hydrogen (H₂ gas) has emerged as a fascinating molecule with the ability to penetrate biomembranes and access subcellular compartments. Recent research has unveiled its diverse therapeutic effects, spanning its antioxidant, anti-inflammatory, and antiapoptotic activities. Moreover, H₂ has been shown to influence microRNA expression, protein phosphorylation cascades, and various signal transduction pathways. Demonstrating its versatility, hydrogen's therapeutic potential has been explored in over 170 different animal/human disease models, encompassing a wide array of human physiological systems. In light of this, our Special Issue aims to gather contributions that advance the exploration of molecular hydrogen's therapeutic utility. We welcome submissions encompassing both in vitro cellular mechanistic studies and in vivo investigations in animal models and human clinical settings. Original research articles, reviews, perspectives, and short communications are all encouraged, provided they contribute to our understanding of the pharmacokinetics, pharmacodynamics, and therapeutic applications of molecular hydrogen.

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