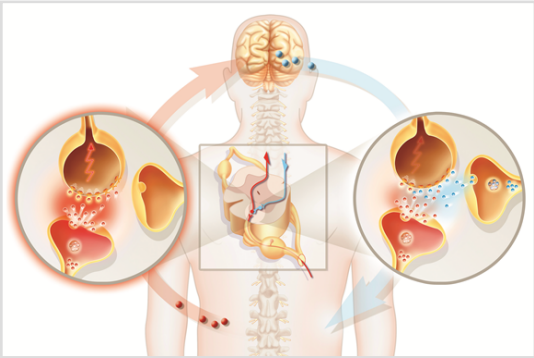
Molecular Hydrogen helps reduce neuropathic pain

KYK Hydrogen Water | 1,500 PPB of DH | KYK Co., Ltd. (South Korea)

Neuropathic pain is one of abnormal chronic pain that is produced after trauma or disease of the peripheral or the central nervous system. The common symptoms of neuropathic pain are mechanical allodynia, a painful response to innocuous tactile stimuli, and hyperalgesia, a decrease in nociceptive thresholds to the stimuli. Neuropathic pain remains intractable and many patients suffering from this disease exact a tremendous cost to the economy. Anti-inflammatories including non-steroidal anti-inflammatory drug and some narcotic analgesics are not effective for managing neuropathic pain and the need for higher dosages of these drugs leads to unsatisfactory side effects.



Reactive oxygen species (ROS) are reported to be involved in the pathomechanism of neuropathic pain. Although the mechanism by which excessive ROS produce pain is largely unclear, antioxidants have received attention as novel analgesics against neuropathic pain . Systemic administration of antioxidants produce an analgesic effect in patients of neuropathic pain.

Molecular hydrogen is a novel antioxidant with high efficacy and no known side effect. Because of its small size and electrically neutral properties, molecular hydrogen can reach target organs easily. Hydrogen does not accumulate in living cells nor produce noxious metabolites, which sometimes cause distress in other antioxidants.

ROS include hydroxyl radical, hydrogen peroxide, superoxide, nitric oxide, and nitroperoxide. Among them, hydroxyl radical is extremely toxic and has no known beneficial role. Hydrogen is a more attractive antioxidant, in that unlike other antioxidants it can selectively neutralize the hydroxyl radical, while having minimal effect on beneficial ROS. In conclusion, that hydrogen administration by the oral pathway may have potential benefits for the management of neuropathic pain.