Nan Fang Yi Ke Da Xue Xue Bao. 2012 Aug;32(8):1211-3.

[Effect of hydrogen inhalation on p38 MAPK activation in rats with lipopolysaccharide- induced acute lung injury]

[Article in Chinese]

Canxin Liang [1], Xinwei Liu, Ling Liu, Dongwei He

Affiliations

PMID: 22931625

Abstract

Objective: To investigate the effect of hydrogen inhalation on lipopolysaccharide (LPS)-induced acute lung injury (ALI) and the underlying molecular mechanisms.

Methods: Thirty-two male SD rats were randomly divided into 4 groups (n=8), namely the normal saline group (SA), saline with 2% hydrogen gas inhalation group (SH group), ALI group, and ALI with hydrogen inhalation group (LH group). In the two ALI groups, ALI was induced by intraperitoneal injection of 15 mg/kg LPS. Treatments with inhalation of 2% hydrogen gas for 6 h was administered after the injection of LPS or saline. The concentrations of tumor necrosis factor-α (TNF-α) in the lung tissue and serum were examined with ELISA. The expression of p38 MAPK in the lung tissue was detected by Western blotting..

Results: Hydrogen inhalation decreased the expression of p-p38 MAPK in the lung tissue, and significantly reduced TNF-α content in the lung tissue and serum of rats with ALI.

Conclusion: Hydrogen inhalation can decrease the expression of TNF-α in the lung tissue and serum, and this effect may be related with reduced p38 MAPK expression and inhibition of p38 MAPK activation.

Related information

GEO Profiles
Gene
Gene (GeneRIF)
HomoloGene
MedGen
Nucleotide (RefSeq)
Nucleotide (RefSeq)
Nucleotide (Weighted)
Protein (RefSeq)
Protein (Weighted)
PubChem Compound (MeSH Keyword)
Taxonomy via GenBank
UniGene