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论文

甘糖酯对大鼠肝脏CuZn-SOD mRNA表达和酶活的诱导作用

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摘要:

目的探讨甘糖酯对大鼠肝脏CuZn-SOD的诱导作用。方法RT-PCR法检测甘糖酯po后的Wistar大鼠肝脏中CuZn-SOD mRNA的表达情况;亚硝酸盐法测定肝组织中CuZn-SOD酶活。结果po甘糖酯后,高剂量组大鼠肝组织的SOD mRNA水平与对照组相比有显著的差异(P<0.01);高剂量组大鼠肝组织CuZn-SOD活力与对照组相比有非常显著的差异(P<0.001),而中剂量组和低剂量组CuZn-SOD活力与对照组相比有显著的差异(P<0.01)。结论甘糖酯能够诱导大鼠肝组织中CuZn-SOD mRNA的表达,并提高其酶活,而且其作用随剂量的增加而提高。

关键词: 甘糖酯 超氧物歧化酶 反转录聚合酶链式反应

INDUCTION OF CuZn-SOD mRNA EXPRESSION AND ACTIVITY BY PGMS IN RAT LIVER

HU Xiao-ke; YU Wen-gong; LU Xin-zhi; HAN Feng; GONG Qian-hong; GAO Yan; GUAN Hua-shi

Abstract:

AIMTo study the effect of propylene glycol mannate sulfate (PGMS) on induction of CuZn-SOD. METHODSWistar rats were given PGMS po at different doses (0, 18.9, 37.8 and 75.6 mg·kg $^{-1}$ ·d) for ten days. Then the rats were sacrificed and the total RNA was extracted from the livers. The total RNA samples were loaded on a 1% agarose gel to detect the quality of total RNA. RT-PCR was applied to study the expression of CuZn-SOD mRNA in rat livers. The amplified products were detected by the 1.5% agarose gel electrophoresis. Simultaneously, the CuZn-SOD activities in rat liver were determined by nitrite method. RESULTSThe total RNA extracted from rat livers was integrated without being decomposed by RNase. The level of CuZn-SOD mRNA of the high-dosage group (75.6 mg·kg $^{-1}$ ·d) was higher than that of the control group (0 mg·kg $^{-1}$ ·d) (P<0.01); the CuZn-SOD activities of the high-dosage group were significantly higher than those of the control group (P<0.001) and the CuZn-SOD activities of the middle-(37.8 mg·kg $^{-1}$ ·d) and low-dosage groups (18.9 mg·kg $^{-1}$ ·d) were higher than those of the control group (P<0.01). CONCLUSIONPGMS can increase the CuZn-SOD activities as well as CuZn-SOD on mRNA level. Therefore, it is possible for PGMS to counteract Atherosclerosis (AS) by inducing the expression of CuZn-SOD.

Keywords: CuZn-SOD RT-PCR propylene glycol mannate sulfate (PGMS)

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