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五味子乙素诱导的HSP27和HSP70对Con A诱导小鼠肝损伤的保护作用 (PDF)

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Title: Protective effect of Schisandrin B against Con A-induced liver injury in mice through inducing heat shock protein 27/70

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关键词: [五味子乙素](#); [刀豆蛋白A](#); [肝损伤](#); [热休克蛋白](#)

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摘要: 目的 探讨五味子乙素(Sch B)对刀豆蛋白A(Concanavalin A, Con A)诱导小鼠肝损伤的保护作用与HSP27和HSP70的关系。方法 采用静脉注射Con A诱导小鼠免疫性肝损伤模型, Sch B和热休克蛋白抑制剂槲皮素(Quercetin)灌胃给药。取4周龄雄性ICR小鼠72只, 体质量18~22 g, 按体质量分为6组: 正常对照组、模型组(Con A)、Sch B+Con A组、Sch B+Con A+Quercetin组、Con A+Quercetin组和Quercetin组。Western blot法检测小鼠肝脏HSP27和HSP70蛋白的表达; 实时荧光定量PCR法检测小鼠肝脏HSP27和HSP70 mRNA的表达; 光镜下观察肝脏组织病理学改变; 试剂盒检测小鼠血清转氨酶水平。结果 与ConA组相比, Sch B+Con A组小鼠肝脏HSP27和HSP70在蛋白水平和mRNA水平的表达均显著增加, 同时肝细胞坏死程度明显减轻、小鼠血清转氨酶水平显著降低。与Sch B+Con A组相比, Sch B+Con A+Quercetin组小鼠肝脏HSP27和HSP70在蛋白水平和mRNA水平的表达均明显降低, 同时小鼠肝细胞坏死程度明显增加、血清转氨酶水平显著增高。而与正常对照组相比, Quercetin组小鼠的上述各项指标未见改变。结论 Sch B可通过诱导小鼠肝脏HSP27和HSP70的表达保护Con A所致的小鼠免疫性肝损伤。

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Abstract: **Objective** To determine the protective effect of Schisandrin B (Sch B) against Concanavalin A (Con A)-induced liver injury in mice and the roles of heat shock protein (HSP) 27/70 in the hepatic protection. **Methods** Seventy-two four-week-old male ICR mice were divided into 6 groups ($n=12$ for each group), that is, control group, model group, Sch B+Con A group, Sch B+Con A+Quercetin group, Con A+Quercetin group and Quercetin group. Sch B (200 mg/kg) and the heat shock protein inhibitor, Quercetin (200 mg/kg) were administered intragastrically, alone or at the same time for the corresponding mice. Mouse model of liver injury was induced by intravenous injection of 25 mg/kg Con A in 1 h after last intra gastrical administration. In 6 h after Con A injection, all mice were sacrificed, and their blood samples and liver tissues were collected. The expression of HSP27/70 at protein and mRNA levels in the liver was detected by Western blotting and real-time PCR, respectively. Hepatic histopathology was observed under light microscopy after HE staining. Serum alanine aminotransferase (ALT) and aspartate aminotransferase (AST) activity were determined by ELISA. **Results** Sch B resulted in a significantly increased expression of hepatic HSP27/70 at protein and mRNA levels in Con A-induced liver injury mice, and attenuated the liver injury, with pathological observation of ameliorated hepatic necrosis and reduced activity of ALT and AST. However, Quercetin suppressed all the above effects of Sch B. But there was no significant difference in the above indexes between the control and Quercetin group. **Conclusion** Sch B protects mice against Con A-induced liver injury through inducing hepatic HSP27/70 expression.

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