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专栏

水飞蓟素的肝脏保护作用研究

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摘要:

目的:研究水飞蓟素对人正常肝细胞(Chang细胞株)的保护作用, 尤其是其抗氧化活性和对细胞抗凋亡的保护作用。**方法**:采用400 μmol/L H_2O_2处理Chang细胞20 min后, 通过二氯荧光黄(dichlorofluorescein, DCF)荧光强度检测细胞内自由基水平, 并检测了细胞活性及细胞内Bax表达水平和ATP水平。**结果**:水飞蓟素明显降低了DCF荧光信号, 显示细胞内自由基生成减少。MTT实验结果显示水飞蓟素可增强细胞活性, 增加细胞内ATP水平, 而减少促凋亡蛋白Bax的转录和表达水平。**结论**:水飞蓟素可抑制Bas表达, 具有保护细胞抗氧化应激所致自由基损伤的作用。水飞蓟素可作为治疗特异性肝脏疾病的有效辅助药物。

关键词: 水飞蓟素 肝脏疾病 肝脏保护作用 凋亡

Silymarin and hepatoprotection

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Abstract:

Objective: To determine the hepatoprotective effect of silymarin with Chang cell cultures. Specifically, to investigate the antioxidant properties of silymarin and its protective function in reducing pro-apoptotic markers. Methods: Intracellular free radical levels were assessed with dichlorofluorescein (DCF) fluorescence after exposing cells to an oxidative stress of 400 μmol/L H_2O_2 for 20 min. Levels of cellular ATP and bax expression were examined to evaluate the protective effects of silymarin. Results: Silymarin significantly reduced the DCF fluorescence signal. Cell viability, assessed by the MTT assay, showed that silymarin enhanced the cell growth. Drug treatment was also associated with enhanced ATP levels, and reduced Bax and protein mRNA levels. Conclusion: Silymarin can function as a hepatoprotectant against free radical damage due to oxidative stress. The protective nature extends to reducing levels of pro-apoptotic Bax protein. Silymarin may be a useful adjuvant for the treatment of specific liver diseases.

Keywords: silymarin liver disease hepatoprotection apoptosis

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