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基础研究

当归红芪超滤物对心肌细胞Hsp70表达的影响

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摘要：

目的：探讨当归红芪超滤物对凋亡心肌细胞热休克蛋白70（Hsp70）表达的影响，阐明当归红芪超滤物对心肌细胞的抗氧化作用。方法：原代培养的Wistar乳鼠心肌细胞用高浓度的H_2O_2（400 μmol•L^{-1} ）建立细胞凋亡模型，用不同浓度（3.75、7.50和15.00 g•L^{-1} ）的当归红芪超滤物进行干预，倒置显微镜下观察各实验组心肌细胞搏动频率，流式细胞仪检测心肌细胞凋亡率，分别用RT-PCR技术和Western blotting技术检测心肌细胞中Hsp70基因及蛋白的表达情况。结果：与对照组比较，H2O2损伤组心肌细胞搏动频率显著降低(P<0.01)，细胞凋亡率显著增加(P<0.01)，Hsp70 mRNA及蛋白表达量升高 (P<0.05，P<0.01)；与H_2O_2损伤组比较，当归红芪超滤物高、中、低剂量组心肌细胞搏动频率显著增加，但低于对照组(P<0.01)，凋亡率显著降低(P<0.01)，Hsp70 mRNA及蛋白表达量显著升高（P<0.05，P<0.01）。结论：当归红芪超滤物具有抗氧化损伤心肌细胞凋亡的作用，且可上调心肌细胞Hsp70的表达。

关键词： 当归红芪超滤物；细胞凋亡；肌细胞 心脏;HSP热休克蛋白质类

Effect of ultra-filtration extract mixture from Angelica Sinensis and Hedysarum Polybotrys on expression of Hsp70 in cardiomyocytes

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Abstract:

Abstract:Objective
To investigate the effect of the ultra-filtration extract mixture from Angelica Sinensis and Hedysarum Polybotrys on heat shock protein 70(Hsp70)expression in cardiomyocytes,and clarify its antioxidation on cardiomyocytes. Methods Myocardial cells from 1-3 d neonatal rats were cultivated in DF medium and the cellular injury was induced by H_2O_2（400 μmol•L^{-1} ）. The ultra-filtration extract mixtures were given in three doses of 3.75，7.50， and 15.00 g•L^{-1} . The beating rates of cardiomyocytes were observed by phase-contrast microscope.The apoptotic rates of cardiomyocytes were measured by flow cytometry. The expressions of Hsp70 mRNA and protein in cardiomyocytes were measured by RT-PCR and Western blotting. Results Compared with normal control group,the beating rates of cardiomyocytes were significantly decreased (P<0.01) and the apoptotic rates of cardiomyocytes were significantly increased(P<0.01) in model group,and the expressions of Hsp70 mRNA and protein in cardiomyocytes were increased(P<0.05，P<0.01).Compared with model group,the beating rates of cardiomyocytes were significantly increased(P<0.01) and the apoptotic rates were significantly decreased (P<0.01) in each treatment group,and the expressions of Hsp70 mRNA and protein in cardiomyocytes were significantly increased（P<0.01，P<0.05）.Conclusion The ultra-filtration extract mixture has the protective effects on cardiomyocytes injured by H_2O_2 and can up-regulate the Hsp70 expression in cardiomyocytes.

Keywords: ultra-filtration extract mixture from Angelica Sinensis and Hedysarum Polybotrys; apoptosis; myocytes,cardiac; HSP70 heat-shock proteins

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