

论著

雌激素对人脐静脉内皮细胞HSP27表达的影响

搜索

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摘要

目的: 观察人脐静脉内皮细胞(human umbilical vein endothelial cell, HUVEC)中热休克蛋白 27(HSP27)表达在雌激素(estrogen, E)诱导下的改变。方法: 分别用 10^{-9} M、 10^{-8} M、 10^{-7} M雌二醇 (estradiol, E2)以及 10^{-6} M雌激素受体拮抗剂他莫昔芬(tamoxifen)处理HUVEC后, 采用Western blot法和RT-PCR法检测HUVEC中HSP27蛋白和mRNA的表达水平。结果: 与对照组相比, 无论是蛋白水平还是mRNA水平, 10^{-9} mol/L E2对HUVEC中HSP27表达没有明显影响; 10^{-8} 、 10^{-7} mol/L E2诱导 HUVEC中HSP27表达逐渐增加($P < 0.05$); 而HUVEC与 10^{-6} M他莫昔芬、 10^{-7} M雌二醇共同孵育, 其HSP27水平和单纯 10^{-7} M雌二醇处理相比明显减少($P < 0.05$)。结论: 外源性E2能诱导HUVEC中HSP27的表达, 呈剂量依赖性。他莫昔芬能阻断E2的这种上调HSP27的作用, 提示雌激素诱导内皮细胞HSP27的表达依赖ER。

关键词: [雌激素](#) [人脐静脉内皮细胞](#) [热休克蛋白27](#)

Effects of estrogen on the expression of

HSP27 in human umbilical vein endothelial cells

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Abstract

Aim: To investigate the change of the expression of HSP27 in human umbilical vein endothelial cells (HUVECs) induced by estrogen. **Methods:** After incubated with different concentrations of estradiol (10^{-9} mol/L, 10^{-8} mol/L, 10^{-7} mol/L, respectively) and 10^{-6} mol/L tamoxifen (an antagonist of estrogen receptor), the expression of HSP27 protein and mRNA in HUVEC were detected by Western blot and RT-PCR, respectively. **Results:** Compared with the control group, the expression of HSP27 mRNA and protein in HUVEC were significantly up-regulated by E2 ($P < 0.05$) (10^{-8} , 10^{-7} mol/L E2); however, the effect that estradiol increase the expression of HSP27 were inhibited obviously by 10^{-6} mol/L tamoxifen ($P < 0.05$). **Conclusion:** The expression of HSP27 in HUVEC was increased significantly by E2 in a dose-dependent manner. Tamoxifen can inhibit these effects of E2. The data of the studies suggested that the expression of HSP27 in endothelial cells that induced by estrogen is dependent on estrogen receptors.

Keywords: [estrogen](#) [human umbilical vein endothelial cells](#) [heat shock protein 27](#)

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