

论著

ERK1/2 MAPK在赖氨匹林对MCF_7细胞增殖抑制中的作用

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收稿日期 2007-8-8 修回日期 2007-9-21 网络版发布日期:

摘要 背景与目的: 探讨赖氨匹林(Aspisol)在抑制人乳腺癌MCF-7细胞增殖过程中, 对ERK1/2 MAPK信号转导通路的影响。材料与方法: 采用免疫细胞化学方法测定MCF-7细胞中环氧化酶-2(COX-2)的表达。采用噻唑蓝(MTT)比色法检测Aspisol对MCF-7增殖的抑制作用; 采用流式细胞仪检测细胞凋亡情况; 应用Western blot分别检测ERK1/2、p-ERK1/2蛋白和凋亡相关蛋白Bcl-2、Bax的表达。结果: 在MCF-7细胞中未检测到COX-2的表达。Aspisol对MCF-7细胞增殖有明显的抑制作用, 且具有剂量和时间依赖性 (P<0.01)。Aspisol可诱导MCF-7细胞凋亡, 并随着剂量的增大细胞的凋亡率升高(P<0.05)。Aspisol抑制MCF-7细胞p-ERK蛋白的表达(P<0.05), 但不影响总ERK1/2蛋白的表达(P>0.05); Aspisol可促进Bax蛋白表达(P<0.05), 但抑制Bcl-2的表达(P<0.05)。结论: Aspisol影响ERK1/2 MAPK信号转导通路, 调节凋亡相关蛋白表达是其抑制MCF-7细胞增殖的作用之一。

关键词 [赖氨匹林](#); [ERK1/2](#); [细胞凋亡](#); [信号转导](#); [乳腺癌细胞](#)

Effects of ERK1/2 MAPK Signaling Transduction Pathway on the Inhibition of Breast Cancer Cells by Aspisol

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Abstract BACKGROUND AND AIM: To study the role of ERK1/2 MAPK signaling transduction pathway in the inhibition of MCF-7 breast cancer cells by Aspisol. MATERIALS AND METHODS: The expression of COX-2 in MCF-7 breast cancer cells was detected by immunohistochemistry. The inhibitive effects of Aspisol on MCF-7 cells were assessed with MTT assay. Apoptosis was evaluated by flow cytometry. The ERK1/2, p-ERK1/2, Bcl-2 and Bax protein expressions were measured by using Western blot method. RESULTS: The expression of COX-2 in MCF-7 cells was not found. Aspisol inhibited the proliferation of MCF-7 cells in a time- and dose-dependent manner. Aspisol also induced the apoptosis of MCF-7 cells. The protein expression of p-ERK1/2, Bcl-2 decreased and Bax increased with the dose of Aspisol but not affect total ERK1/2 expression. CONCLUSION: Aspisol could affect the ERK1/2 MAPK signaling transduction pathway and induce the expressions of apoptosis-related proteins to inhibit the proliferation of MCF-7 breast cancer cells.

Keywords [Aspisol](#) [ERK1/2](#) [apoptosis](#) [signaling transduction](#) [breast cancer cells](#)

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