[1]赖明广,姚君,王立生.HSP90抑制剂17-DMAG调控胰腺癌细胞PANC-1增殖及凋亡的初步研究[J].第三军医大学学报,2013,35(07):627-629.

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HSP90抑制剂17-DMAG调控胰腺癌细胞PAN初步研究(PDF)

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Title: Heat shock protein 90 inhibitor, 17-DMAG, suppresses proliferation and induces apoptosis in pancreatic cancer cells *in vitro*

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摘要: 目的 探讨热休克蛋白90(HSP90)功能特异性抑制剂17-DMAG对胰腺癌细胞PANC-1增殖与凋亡的影响。 方法 体外培养腺癌细胞PANC-1, 17-DMAG处理PANC-1细胞后，CCK8法测定细胞生长曲线，观察细胞增殖的抑制情况，流式细胞仪测定细胞凋亡率的变化，Jc-l染色检测线粒体膜电位变化，RT-PCR法测定17-DMAG处理PANC-1细胞前后Bcl-2、Bax表达变化。 结果 17-DMAG处理组24 h时*D*（490）值较对照组差异无统计学意义(*P*>0.05)， 48、72 h后较对照组*D*（490）值分别减少（18.3±2.4）%、（21.5±3.2）%，差异有统计学意义(*P*<0.05)。17-DMAG处理组48 h时较对照组能显著地抑制PANC-1细胞增殖(*P*<0.05)，细胞凋亡率[（22.4±2.4）%]较对照组[(4.2±1.7)%]显著增加(*P*<0.05)；线粒体电位显著降低(*P*<0.05)。RT-PCR结果显示，17-DMAG处理组抑制Bcl-2的表达，促进Bax的表达。 结论 17-

DMAG可抑制胰腺癌细胞PANC-1增殖并诱导其凋亡，该效应可能是通过调控凋亡相关蛋白Bcl-2家族成员的表达实现。

Abstract: Objective To determine the effect of 17-dimethylaminoethylamino-17-demethoxy geldanamycin (17-DMAG), a specific inhibitor of heat shock protein 90 (HSP90), on the proliferation and apoptosis in pancreatic cancer cell line PANC-1. Methods After PANC-1 cells were treated with 17-DMAG at the final dose of 500 nmol/mL, CCK8 assay was used to plot cell growth curve. Flow cytometry was used to detect the cell cycle and apoptosis. JC-1 mitochondrial membrane potential assay kit was applied to detect mitochondrial membrane potential. Reverse transcription polymerase chain reaction (RT-PCR) was applied to detect the mRNA expression of Bcl-2 and Bax. Results 17-DMAG treatment for 24 h resulted in no significant difference in cell growth in PANC-1 cells (P>0.05), but when the treatment was prolonged to 48 and 72 h, the growth was decreased by (18.3±2.4)% and (21.5±3.2)%, respectively (P<0.05). After 17-DMAG treatment for 48 h, the proliferation was obviously inhibited in 17-DMAG group than in control group (P<0.05), with its apoptotic rate significantly higher [(22.4±2.4)% *vs* (4.2±1.7)%, P<0.05], and the mitochondrial membrane potential significantly decreased (P<0.05). 17-DMAG down-regulated the mRNA level of Bcl-2, and consequently up-regulated that of Bax in PANC-1 cells. Conclusion 17-DMAG inhibits the proliferation and induces the apoptosis in PANC-1 cells by regulating apoptosis-related protein Bcl-2 family.

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