

论著

RAR β 基因转染对胃癌细胞株MKN-45凋亡和存活素及半胱氨酸酶的影响

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摘要 目的: 研究RAR β 受体基因转染后, 全反式维甲酸 (ATRA) 对低维甲酸反应性胃癌细胞系MKN-45细胞凋亡的影响和可能机制。方法: 脂质体介导真核表达载体pCMV-script-RAR β 转染MKN-45细胞株, 筛选得到阳性克隆, Western blotting鉴定转染成功后给予RAR β 受体相应配体ATRA, MTT法测定细胞增殖水平, 分别采用Northern blotting、Western blotting检测存活素(survivin)mRNA和蛋白水平, 用酶标仪比色法检测半胱氨酸酶(caspase)活性, 采用TUNEL法检测细胞凋亡。结果: ATRA可使RAR β 受体高表达的MKN-45细胞株增殖减慢, 能下调survivin mRNA和蛋白水平, 增强caspase酶活性, 并诱导胃癌细胞凋亡, 效果呈浓度和作用时间依赖性。结论: RAR β 受体转染并结合使用相应配体ATRA可诱导MKN-45胃癌细胞凋亡, 可能与下调survivin表达与增强caspase酶活性有关。

关键词 [基因转染](#); [受体](#); [维甲酸](#); [细胞凋亡](#); [存活素](#); [半胱氨酸天冬氨酸蛋白酶](#); [胃肿瘤](#)

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Effect of RAR β gene transfection on apoptosis and survivin and caspase activities in gastric carcinoma cell line MKN-45

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Abstract

AIM: To study the effect of ATRA on apoptosis and mechanism in low-RA-responsive gastric carcinoma cell line MKN-45 transfected with RAR β gene. METHODS: Eukaryotic expression vector pCMV-script-RAR β was transfected into MKN-45 cell line mediated by lipofectin AMINE. Positive cell clone was screened and verified by Western blotting. The proliferation of transfected MKN-45 was assayed by MTT. The protein and mRNA levels of survivin were detected by Western blotting as well as Northern blotting, respectively. Caspase activity was evaluated by microplate reader. Apoptosis were studied by TUNEL. RESULTS: ATRA inhibited the proliferation of MKN-45 cell line with high expression of RAR β . ATRA also induced cell apoptosis and down-regulated the level of protein and mRNA of survivin, elevated the caspase activity, and induced gastric cancer MKN-45 cell apoptosis. The effects were related to the time and dose of RAR β gene. CONCLUSION: Transfection of RAR β gene as well as using corresponding ligand ATRA induces gastric carcinoma cell line MKN-45 apoptosis by down-regulating the expression of survivin and up-regulating the caspase activity.

Key words [Gene transfection](#) [Receptors](#) [retinoic acid](#) [Apoptosis](#); [Survivin](#); [Caspases](#) [Stomach neoplasms](#)

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