

论著

转染肿瘤坏死因子- α 及MDR1反义RNA逆转乳腺癌多药耐药的研究

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摘要 目的: 转染肿瘤坏死因子- α (TNF- α)cDNA和多药耐药基因(MDR1)的反义RNA到乳腺癌耐药细胞株MCF-7/ADR中进行表达, 并观察它们在乳腺癌耐药逆转中的作用。方法: 应用RT-PCR和DNA重组技术构建反义绿色荧光蛋白pEGFP-MDR1融合蛋白表达载体和红色荧光蛋白pDsRed2-TNF- α 融合蛋白表达载体, 分别和同时导入乳腺癌耐药细胞株MCF-7/ADR中进行表达, 检测转染前后细胞的生长曲线、细胞凋亡程度、MDR1-mRNA和P糖蛋白(P-gp)表达情况及对ADR敏感性的变化。结果: 转染后的细胞生长明显减慢, 凋亡率显著增加, MDR1-mRNA和P糖蛋白(P-gp)表达明显降低, 对ADR的耐药性明显下降, 敏感性增加。结论: 联合运用不同的逆转耐药机制, 将TNF- α cDNA及MDR1反义RNA分别或同时导入乳腺癌耐药细胞中, 能有效达到逆转耐药的目的。

关键词 [基因,多药耐药](#); [肿瘤坏死因子](#); [乳腺肿瘤](#)

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Reversal of multidrug resistance by transfection of tumor necrosis factor α and MDR1 antisense RNA into multidrug resistant breast cancer cell line

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Abstract

AIM: To study the reversal effects of multidrug resistance by transfecting tumor necrosis factor α (TNF- α) cDNA and multidrug resistant 1 (MDR1) gene antisense RNA into multidrug resistant breast cancer cell line MCF-7/ADR.

METHODS: The recombinant vector of enhanced green fluorescent protein (EGFP) with MDR1 antisense RNA and recombinant vector of red fluorescent protein (DsRed2) with TNF- α cDNA were constructed by RT-PCR and DNA recombinant techniques. The recombinant vectors were transfected into multidrug resistant breast cancer cell line MCF-7/ADR. The cell growth curves, cell apoptosis rates, MDR1 gene expression at mRNA and P-gp levels, and the sensitivity to ADR were determined before and after the transfection.
RESULTS: After the transfection, cells showed lower growth rate, higher apoptosis rate, lower MDR1 expression at mRNA and P-gp levels, and the sensitivity to ADR increased significantly.

CONCLUSION: Transfection of TNF- α cDNA and MDR1 antisense RNA into multidrug resistant breast cancer cells may have good effects on reversal of multidrug resistance.

Key words [Genes](#) [multidrug resistance](#) [Tumor necrosis factor](#) [Breast neoplasms](#)

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