

论著

BRAF干扰对甲状腺癌SW579细胞系的影响

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摘要: 目的: 研究BRAF干扰对甲状腺癌SW579细胞系的影响。方法: 设计合成了2对siRNA干扰序列, 脂质体转染进入甲状腺癌SW579细胞, 采用RT-PCR检测干扰的效果。对干扰成功的细胞系, 检测细胞增殖、细胞周期和丝裂原活化蛋白/细胞外信号调节激酶(mitogen-activated protein signal-regulated kinase/extracellular signal-regulated kinase, MEK/ERK)信号通路相关蛋白的变化。结果: 2种siRNA转染甲状腺癌SW579细胞系后, 显著地抑制了BRAF mRNA及蛋白水平的表达($P<0.01$), SW579的生长增殖受到抑制, 细胞周期发生改变, G_1/S 期增加, 同时, MEK/ERK信号通路的激活受到抑制。结论: 干扰BRAF可能通过失活MEK/ERK信号通路而抑制SW579细胞系的生长和增殖。

关键词: BRAF RNA干扰 甲状腺癌 MEK/ERK

Influence of BRAF interference on SW579 cell lines in thyroid cancer

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Abstract: Objective: To determine the influence of v-raf murine sarcoma viral oncogene homolog B1 (BRAF) interference on SW579 cell lines in thyroid cancer.

Methods: We designed 2 pairs of siRNA interference sequences, transfected them into SW579 cell line with liposome, and detected the interference with RT-PCR method. For successfully interfered cell lines, the changes in cell proliferation, cell cycle, and the expression of related proteins in mitogen-activated protein signal-regulated kinase/extracellular signal-regulated kinase (MEK/ERK) signal pathway were detected.

Results: After 2 pairs of siRNA transfection, the expressions of BRAF mRNA and protein of SW579 cell lines were significantly inhibited ($P<0.01$). The proliferation was inhibited, the cell cycle was changed, G_1/S phase increased, and MEK/ERK signal pathway was inhibited.

Conclusion: Inhibition of growth and proliferation of SW579 cell lines by BRAF may be functioned by deactivating MEK/ERK signal pathway.

Keywords: BRAF RNA interference thyroid carcinoma MEK/ERK

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