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Raf激酶抑制蛋白增强卵巢癌细胞的化疗敏感性 [点此下载全文](#)

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摘要:

摘要 目的: 探讨Raf激酶抑制蛋白(Raf kinase inhibitor protein, RKIP)对卵巢癌SKOV-3细胞化疗敏感性的影响。方法: 以脂质体法将含有人全长RKIP基因的真核表达质粒pcDNA3.1-ssRKIP转染入SKOV-3细胞中, Western blotting检测SKOV-3细胞中RKIP蛋白的表达。不同浓度顺铂作用转染后的SKOV-3细胞, MTS法观察RKIP基因转染对顺铂处理后SKOV-3细胞增殖的影响, 流式细胞仪检测RKIP基因转染对顺铂诱导SKOV-3细胞凋亡及细胞周期的影响。结果: pcDNA3.1-ssRKIP转染的SKOV-3细胞RKIP表达明显升高。不同浓度顺铂处理细胞24、48、72 h后, RKIP基因转染细胞增殖抑制率显著高于对照细胞($P < 0.05$)。用2.5 $\mu\text{g/ml}$ 顺铂作用SKOV-3细胞24 h后, RKIP转染细胞的凋亡率为 $(10.86 \pm 0.73)\%$, 明显高于未转染细胞的 $(4.27 \pm 0.67)\%$ 和空质粒转染细胞的 $(4.02 \pm 0.43)\%$ ($P < 0.01$); 在无顺铂作用情况下, RKIP转染细胞的凋亡率为 $(3.11 \pm 0.78)\%$, 仍然高于未转染细胞的 $(1.51 \pm 0.13)\%$ 和转染空质粒细胞的 $(1.97 \pm 0.46)\%$ ($P < 0.01$)。细胞周期检测结果显示, RKIP转染细胞G₀/G₁期的比例下降, S期的比例增加, 转染的SKOV-3细胞发生S期阻滞。结论: RKIP基因的转染可以增加卵巢癌SKOV-3细胞对化疗药物顺铂的敏感性。

关键词: [Raf激酶抑制蛋白](#) [卵巢癌](#) [顺铂](#) [化疗敏感性](#)

Raf kinase inhibitor protein enhances chemosensitivity of ovarian cancer cells [Download Fulltext](#)

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Abstract:

Abstract Objective: To explore the effect of Raf kinase inhibitor protein (RKIP) on the chemosensitivity of ovarian cancer SKOV-3 cells. Methods: Eukaryotic expression plasmid pcDNA3.1-ssRKIP containing full-length human RKIP cDNA was transfected into ovarian cancer cell line SKOV-3 by lipofect assay. Expression of RKIP in SKOV-3 cells was determined by Western blotting analysis. pcDNA3.1-ssRKIP-transfected SKOV-3 cells were treated with different concentrations of cisplatin, and the effect of RKIP on the proliferation of SKOV-3 cells treated with cisplatin was measured by MTS assay. Flow cytometry was used to detect the effect of RKIP on changes of apoptosis and cell cycle of SKOV-3 cells after cisplatin treatment. Results: The expression of RKIP in SKOV-3 cells was significantly increased after transfection with pcDNA3.1-ssRKIP. The growth inhibitory rate of SKOV-3 cells in pcDNA3.1-ssRKIP transfection group was significantly higher than that in the control group after treatment with different concentrations of cisplatin for 24 h, 48 h or 72 h ($P < 0.05$). After treatment with cisplatin at 2.5 $\mu\text{g/ml}$ for 24 hours, pcDNA3.1-ssRKIP-transfected SKOV-3 cells showed a significantly higher percentage of apoptosis ($10.86 \pm 0.73\%$) than non-transfected cells ($4.27 \pm 0.67\%$) and empty vector-transfected cells ($4.02 \pm 0.43\%$). Without cisplatin treatment, the percentage of apoptosis for SKOV-3 cells transfected with pcDNA3.1-ssRKIP was $(3.11 \pm 0.78)\%$, which was significantly higher than those of the non-transfected cells ($1.51 \pm 0.13\%$) and empty vector-transfected cells ($1.97 \pm 0.46\%$). After cisplatin treatment, there were fewer cells in G₀/G₁ phase and more cells in S phase in pcDNA3.1-ssRKIP-transfected cells compared with the control cells, suggesting that cisplatin caused more S phase arrest in transfected cells. Conclusions: Over-expression of RKIP gene can increase chemosensitivity of ovarian cancer SKOV-3 cells to cisplatin.

Keywords: [Raf kinase inhibitory protein\(RKIP\)](#) [ovarian cancer](#) [cisplatin](#) [chemosensitivity](#)

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