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shRNA下调 BAG-1 表达降低肺癌A549细胞对顺铂的耐药性 点此下载全文

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摘要：

目的：通过载体介导的shRNA下调 BAG-1 基因（Bcl-2 associated athanogene-1)表达，探讨其对肺癌A549细胞顺铂（cisplatin，DDP）耐药性的影响。方法：构建靶向 BAG-1 的shRNA干扰载体pGCsi-BAG-1，稳定转染A549细胞。实验组使用稳定转染pGCsi-BAG-1的细胞株（BAG-1-shRNA），阴性对照组使用无关序列质粒转染的细胞株（SC-shRNA），对照组使用未转染的亲本A549细胞株（Control）。Western blotting检测pGCsi-BAG-1转染对A549细胞BAG-1、Bcl-2表达的影响。MTT法、流式细胞术分别检测pGCsi-BAG-1转染对DDP处理后A549细胞的增殖和凋亡的影响。结果：成功构建稳定干扰 BAG-1 表达的A549细胞株，BAG-1-shRNA组细胞中BAG-1和Bcl-2蛋白表达显著低于SC-shRNA组和对照组（均 P <0.05）。随DDP(2 5~40 μg/ml)浓度增加，各组细胞增殖抑制率也随之升高，DDP浓度为2.5 μg/ml时，BAG-1-shRNA组A549细胞的增殖抑制率即显著高于SC-shRNA组和对照组\[（22.26±4.89）% vs （10.07±3.82）%，（8.12±4.09）%，均 P <0.05\]。与SC-shRNA组和对照组相比，DDP(2.5 μg/ml)处理24 h后，BAG-1-shRNA组凋亡率显著升高\[（37.84±3.62）% vs （16.80±2 81）%、（17.10±3.11）%， P <0.05\]。结论：下调 BAG-1 表达可抑制DDP作用下的A549细胞的增殖并促进其凋亡。

关键词：BAG-1 基因 肺癌 A549细胞 顺铂 耐药

Reduction of cisplatin resistance of lung cancer A549 cells through down-regulating the expression of BAG-1 mediated by shRNA Download Fulltext

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Abstract:

Objective : To detect down regulation of the expression of BAG-1 gene in lung cancer A549 by transfected a vector contained shRNA, and to investigate its effects on the cisplatin (DDP) resistance of A549 cells. Methods: Interference vector pGCsi-BAG-1 target BAG-1 was constructed and stable transferred into A549 cells. Cells stable transferred by pGCsi-BAG-1 were used as an experimental group (BAG-1-shRNA), cells transferred by non-sense vector were used as a negative control group (SC-shRNA), and the parent A549 cells were used as a control group. Western blotting was performed to detect the effect of pGCsi-BAG-1 transfection on the BCL-2 and BAG-1 expression of A549 cells. MTT method and flow cytometry was used to detect the influence on proliferation and apoptosis of A549 cells after DDP treatment. Results: An A549 cell line where BAG-1 was stably interfered was successfully constructed. And the expression of BCL-2 protein in cells of the BAG-1- shRNA group was significantly lower than that of SC-shRNA group and the control group (all P <0 05). With increasing of the concentration of DDP, the proliferation inhibition rate of each cell was increased. When DDP concentration was 2.5 μg/ml, the cell proliferation inhibition rate of the BAG-1-shRNA group was significantly higher than that of SC-shRNA group and the control group (\[8.12±4.09\] % vs \[10.07± 3.82\] %, \[22.26±4 89\]%; all P <0.05). Compared with the SC-shRNA group and the control group, the apoptosis rate of the BAG-1-shRNA group was significantly increased after 24 h treatment with DDP (\[37.84±3.62\]% vs \[16.80±2.81\]%, \[17 10±3 11\]%, P < 0.05). Conclusion: Down-regulation of BAG-1 expression can inhibit the proliferation of A549 cells after DDP treatment and promote its apoptosis.

Keywords:Bcl-2 associated athanogene-1（ BAG-1 ） lung cancer A549 cell cisplatin resistance

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