569~574.沉默 ABCE1 基因对人食管癌EC109细胞凋亡、增殖、侵袭及迁移的影响[J].李小瑞,岳军艳,张清琴,崔艳慧,花勤亮,寇小格,李慧敏.中国肿瘤生物治疗杂志,2013,20(5)

沉默 ABCE1 基因对人食管癌EC109细胞凋亡、增殖、侵袭及迁移的影响

点此下载全文

李小瑞 岳军艳 张清琴 崔艳慧 花勤亮 寇小格 李慧敏

新乡医学院 第一附属医院 肿瘤科，河南 卫辉 453100;新乡医学院 第一附属医院 影像科，河南 卫辉 453100;新乡医学院 第一附属医院 肿瘤科，河南 卫辉 453100;新乡医学院 第一附属医院 肿瘤科，河南 卫辉 453100;新乡医学院 第一附属医院 肿瘤科，河南 卫辉 453100;新乡医学院 第一附属医院 肿瘤科，河南 卫辉 453100;徐水县人民医院 内科，河北 徐水 072550

基金项目：

DOI：10.3872/j.issn.1007-385X.2013.05.011

摘要：

目的：探讨电转法沉默ATP结合盒转运子E1（ATP-binding cassette protein E1, ABCE1 ）基因的表达对人食管癌EC109细胞凋亡、增殖、侵袭及迁移的影响。方法：合成靶向 ABCE1 的siRNA序列（ABCE1-siRNA）以及阴性对照序列（NC-siRNA），电转法转染至EC109细胞，分别形成ABCE1-EC109、NC-siRNA-EC109细胞。RT-PCR、Western blotting检测转染后EC109细胞中 ABCE1 mRNA与蛋白的表达情况，流式细胞术检测EC109细胞周期及凋亡，CCK-8法、划痕愈合实验、Transwell法分别检测EC109细胞的增殖、迁移以及侵袭的能力。结果： ABCE1-EC109细胞中 ABCE1 mRNA和蛋白表达较NC-siRNA-EC109细胞明显降低\[(0.47±0.04) vs (0.67±0.05)，(0.63±0.09) vs (0.86±0.11)；均P<0.05\]。与NC-siRNA-EC109细胞相比，ABCE1-EC109细胞的增殖速度明显减慢\[（2.20±0.10） vs （2.91±0.13），P<0.05\]，细胞周期阻滞在G 0/G 1期细胞数目明显增多\[（76.5±3.1)% vs (56.1±2.7)%，P<0.05）\]；细胞的凋亡率明显升高\[（15 .46±3.12）% vs (0.54±0 24）%，P<0 01\]，迁移、侵袭能力均显著下降\[迁移：（8.12±0.23） vs （1.91±0.11）μm，P<0.05；侵袭：（42.56±4.68） vs (68.78±6.98)个，P<0 01\]。结论：电转法沉默 ABCE1 基因的表达可促进食管癌EC109细胞的凋亡，抑制其体外增殖、侵袭及迁移。

关键词：ATP 结合盒转运子E1 食管癌 电转法 EC109细胞 凋亡 增殖 侵袭 迁移

Effect of ABCE1 gene silencing on apoptosis, proliferation, migration and invasion of human esophageal carcinoma EC-109 cells

Download Fulltext

Li Xiaorui Yue Junyan Zhang Qinggin Cui Yanhui Hua Qinliang Kou Xiaoge Li Huimin

Depatment of Oncology, First Affiliated Hospital of Xinxiang Medical College, Weihui 453100, He′ nan, China;Department of Radiology, First Affiliated Hospital of Xinxiang Medical College, Weihui 453100, He′ nan, China;Depatment of Oncology, First Affiliated Hospital of Xinxiang Medical College, Weihui 453100, He′ nan, China;Depatment of Oncology, First Affiliated Hospital of Xinxiang Medical College, Weihui 453100, He′ nan, China;Depatment of Oncology, First Affiliated Hospital of Xinxiang Medical College, Weihui 453100, He′ nan, China;Depatment of Oncology, First Affiliated Hospital of Xinxiang Medical College, Weihui 453100, He′ nan, China;Department of Internal Medicine, People’ s Hospital of Xushui Country, Xushui 072550, Hebei, China

Fund Project:

Abstract:

Objective: To investigate the effect of silencing ATP-binding cassette protein E1 (ABCE1) gene expression by electroporation on apoptosis, proliferation, migration and invasion of human esophageal squamous carcinoma EC-109 cells. Methods: The siRNA sequence (ABCE1-siRNA) targeting ABCE1 and the negative control sequence (NC-siRNA) were constructed and transfected into EC109 cells to obtain ABCE1-EC109 and NC-siRNA-EC109 cells, respectively. The expressions of ABCE1 mRNA and protein were detected by RT-PCR and Western blotting, respectively. Flow cytometry was used to detect the cell cycle and apoptosis of EC109 cells. The proliferation, migration and invasion of EC109 cells were evaluated by CCK-8 assay, wound closure assay and Transwell assay, respectively. Results: Compared with the NC-siRNA-EC109 cells, the expression levels of ABCE1 mRNA and protein were significantly decreased in the ABCE1-EC109 cells (\[0.47±0.04\] vs \[0.67±0.05\], \[0.63±0.09\] vs \[0.86±0.11\], both P<0.05). Compared with the NC-siRNA-EC109 cells, the proliferation of ABCE1-EC109 cells was significantly decreased (\[2.20±0.10\] vs \[2.91±0.13\], P<0.05), the number of ABCE1-EC109 cells arrested at G 0/G 1 phase was increased (\[76.5±3.1\] vs \[56.1±2.7\], P<0.05), the cell apoptotic rate was increased (\[15.46±3.12\] vs \[0.54±0.24 \], P<0.01), and the migration and invasion abilities were significantly decreased (migration: \[8.12±0.23\] vs \[1.91±0.11\], P<0 05; invasion: \[42.56±4.68\] vs \[68.78±6.98\], P<0.01). Conclusion: ABCE1 gene silencing by electroporation promotes the apoptosis of esophageal squamous carcinoma EC109 cells, and inhibits their proliferation, migration and invasion in vitro.

Keywords:ATP-binding cassette protein E 1 (ABCE1) esophageal carcinoma electroporation EC109 cell apoptosis proliferation migration invasion

查看全文 查看/发表评论 下载PDF阅读器