

30~36. siRNA沉默 CCL18 的表达抑制卵巢上皮癌SKOV3细胞的侵袭和迁移[J]. 张玮, 杨莹珠, 李力, 王琪. 中国肿瘤生物治疗杂志, 2013, 20(1)

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基金项目: 广西科技厅重点研究项目资助 (No. 2010GXNSFD013053), 广西科技厅攻关研究项目资助 (No. 1140003A-34)

DOI: 10.3872/j.issn.1007-385X.2013.1.005

摘要:

目的: 探讨体外沉默 CCL18 基因的表达对卵巢上皮癌SKOV3细胞侵袭和迁移的影响。方法: 化学合成3对靶向 CCL18 的siRNA (CCL18-siRNA61、CCL18-siRNA127、CCL18-siRNA224), 体外转染至CCL18阳性的SKOV3细胞, RT-PCR检测SKOV3细胞中 CCL18 mRNA的表达, 选取其中干扰效率最好的序列, 构建靶向 CCL18 的干扰质粒pSilencer4.1-CCL18-siRNA61。pSilencer4.1-CCL18-siRNA61质粒转染 SKOV3细胞后, MTT法测定SKOV3细胞的增殖, 流式细胞术检测细胞的细胞周期, 采用Transwell法、Migration法以及Fibronectin黏附法分别测定细胞的体外侵袭、迁移、黏附能力。结果: 3对靶向 CCL18 的siRNA中CCL18-siRNA61干扰效果最好, 进而成功构建靶向 CCL18 的pSilencer4.1-CCL18-siRNA61干扰质粒, pSilencer4.1-CCL18-siRNA61质粒转染可显著下调SKOV3细胞中 CCL18 mRNA 的表达。pSilencer4.1-CCL18-siRNA61质粒转染不影响SKOV3细胞的增殖, 但pSilencer4.1-CCL18-siRNA61质粒转染组SKOV3细胞中 (S+G₂+M) 期细胞比例明显低于对照质粒pSilencer4.1-Ctrl-siRNA转染组[(19.71±4.4)% vs (26.45±7.91)%, P<0.05]; 且与pSilencer4.1-Ctrl-siRNA质粒转染相比, pSilencer4.1-CCL18-siRNA61质粒转染可有效抑制SKOV3细胞的侵袭、迁移和黏附能力[(9.91±3.41)% vs (23.75±6.81)%, (16.80±8.71)% vs (31.74±11.23)%, (6.73±4.33)% vs (17.53±6.54)%; 均P<0.05]。结论: siRNA沉默 CCL18 的表达可抑制卵巢上皮癌细胞株SKOV3的侵袭、迁移和黏附能力。

关键词: [卵巢上皮癌](#) [SKOV3细胞](#) [CCL18基因](#) [siRNA](#) [侵袭](#) [迁移](#) [黏附](#)

siRNA silencing CCL18 expression inhibits invasion and migration of ovarian epithelial carcinoma SKOV3 cells [Download Fulltext](#)

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Fund Project: Project supported by the Key Research Project of Science and Technology Bureau of Guangxi Zhuang Autonomous Region (No. 2010GXNSFD013053), and the Key Research Program of Science and Technology Bureau of Guangxi Zhuang Autonomous Region (No. 1140003A-34)

Abstract:

Objective: To investigate the effect of in vitro silencing CCL18 gene expression on invasion and metastasis of ovarian epithelial carcinoma SKOV3 cells. Methods: Three pairs of siRNAs targeting CCL18 (CCL18-siRNA61, CCL18-siRNA127, CCL18-siRNA224) were chemically synthesized, and were transfected into CCL18-positive SKOV3 cells in vitro. RT-PCR was used to detect the expression of CCL18 mRNA in SKOV3 cells. The siRNA sequence with the best interference efficiency was selected to construct interference plasmid targeting CCL18, named pSilencer4.1-CCL18-siRNA61. After transfection of pSilencer4.1-CCL18-siRNA61 plasmid, the proliferation of SKOV3 cells was detected by MTT assay, the cell cycle was detected by flow cytometry, and the cell invasion, migration and adhesion capacity in vitro was determined by Transwell assay, Migration assay and Fibronectin adhesion method, respectively. Results: CCL18-siRNA61 showed the best interference efficiency in the three CCL18-siRNAs. The interference plasmid pSilencer4.1-CCL18-siRNA61 was then successfully constructed. The expression of CCL18 mRNA was significantly decreased after pSilencer4.1-CCL18-siRNA61 transfection. The proliferation of SKOV3 cells was not affected by pSilencer4.1-CCL18-siRNA61 transfection. However, the proportion of SKOV3 cells in phase (S+G₂+M) in the pSilencer4.1-CCL18-siRNA61 transfection group was significantly lower than that in the pSilencer4.1-Ctrl-siRNA transfection group [(19.71±4.4)% vs (26.45±7.91)%, P<0.05]. The invasion, migration and adhesion capacity of SKOV3 cells was effectively inhibited in the pSilencer4.1-CCL18-siRNA61 transfection group compared with that in the pSilencer4.1-Ctrl-siRNA transfection group [(9.91±3.41)% vs (23.75±6.81)%, (16.80±8.71)% vs (31.74±11.23)%, (6.73±4.33)% vs (17.53±6.54)%, respectively, P<0.05]. Conclusion: siRNA silencing CCL18 expression can inhibit the invasion, adhesion and migration capacity of ovarian epithelial cancer cell line SKOV3.

Keywords: [epithelial ovarian carcinoma](#) [SKOV3 cell](#) [CCL18 gene](#) [siRNA](#) [invasion](#) [migration](#) [adhesion](#)

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