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摘要:

目的: 构建组织蛋白酶L基因(cathepsin L, CTSL)RNAi的真核表达载体, 探讨干扰CTSL基因表达对卵巢癌细胞侵袭和转移的影响。方法: 设计并合成4对CTSL小干扰RNA(small interfering RNA, siRNA), 转染卵巢癌A2780细胞, RT-PCR检测各转染细胞CTSL的表达, 筛选沉默效果最好的siRNA序列。设计并合成CTSL-shRNA序列, 与psilence4.1-CMV-neo载体连接, 构建psilence4.1-CTSL表达载体。psilence4.1-CTSL转染A2780细胞, 获得稳定转染克隆A2780-CTSL。RT-PCR和Western blotting验证CTSL基因干扰效果, MTT法和集落形成实验检测A2780细胞的增殖, 流式细胞术检测A2780细胞周期, Transwell侵袭小室实验检测A2780细胞体外侵袭和迁移能力。结果: 筛选出干扰效果最好的siRNA-CTSL-1202序列, 并成功构建相应的CTSL-shRNA表达载体psilence4.1-CTSL。稳定转染psilence4.1-CTSL能沉默A2780细胞中CTSL的表达。沉默CTSL基因后可抑制A2780细胞的侵袭和转移, 但不影响A2780细胞的增殖、细胞周期和黏附活性。结论: 成功构建CTSL基因siRNA的真核表达载体, RNA干扰CTSL基因表达可抑制卵巢癌细胞的侵袭和转移。

关键词: [组织蛋白酶L基因\(CTSL\)](#) [siRNA](#) [卵巢癌](#) [侵袭](#) [转移](#)

RNA interfering of CTSL expression inhibits invasion and migration of ovarian cancer cells [Download Fulltext](#)

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Abstract:

Objective: To construct a cathepsin L (CTSL)-siRNA eukaryotic expression plasmid and investigate its influence on the invasion and migration of ovarian cancer cells. Methods: Four pairs of small interfering RNA sequences targeting CTSL were designed and synthesized, and were transfected into ovarian cancer A2780 cells. CTSL expressions were analyzed by RT-PCR in different CTSL-siRNA transfected-A2780 cells, and the siRNA pair with the best interfering effect was chosen; the corresponding CTSL-shRNA was synthesized and inserted into psilence4.1-CMV-neo plasmid to construct psilence4.1-CTSL plasmid. Psilence4.1-CTSL was then transfected into A2780 cells and the stable transfectant A2780-CTSL was obtained. The interfering effect of psilence4.1-CTSL was detected by RT-PCR and Western blotting analysis; the proliferation of A2780 cells was examined by MTT and colony formation assay; the cell cycle of A2780 cells was measured by flow cytometry; and the invasion and migration of A2780 cells were detected by Transwell chamber assay. Results: The siRNA-CTSL-1202 sequence with the best interfering effect was selected and the corresponding CTSL-shRNA expression plasmid psilence4.1-CTSL was successfully constructed. CTSL expression in psilence4.1-CTSL-stably transfected A2780 cells was significantly decreased. The invasion and migration of A2780 cells were inhibited by CTSL silence, while their proliferation, cell cycle and adhesion were not significantly influenced. Conclusion: The siRNA eukaryotic expression plasmid targeting CTSL gene is successfully constructed, and interfering CTSL expression can suppress invasion and migration of ovarian cancer cells.

Keywords: [cathepsin L gene \(CTSL\)](#) [siRNA](#) [varian neoplasmas](#) [invasion](#) [migration](#)

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