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siRNA对人结肠癌细胞黏附力和侵袭性的抑制作用 [点此下载全文](#)

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摘要:

目的: 探讨VEGFR 3对人结肠癌细胞黏附力和侵袭性的影响。方法: 构建携靶向 VEGFR 3 基因siRNA(small interfering RNA)表达载体, 转染人结肠癌LoVo细胞, 半定量RT-PCR和Western blotting检测转染前后LoVo细胞 VEGFR 3 mRNA和蛋白表达的变化, 基质黏附实验检测细胞转染后的黏附能力, 细胞侵袭实验检测转染后肿瘤细胞侵袭性的改变。结果: 携靶向 VEGFR 3 基因siRNA的表达载体成功构建, RT-PCR检测转染siRNA后LoVo细胞 VEGFR 3 mRNA表达水平降低; Western blotting检测转染siRNA后72 h LoVo细胞VEGFR 3蛋白表达下降, 其表达相对值由(1.26±0.19)降至(0.39±0.12)(P <0.05)。转染siRNA 72 h后LoVo细胞的黏附能力显著下降[(0.626±0.047) vs (0.407±0.029), P <0.05]; LoVo细胞穿膜细胞数(6.38±3.25)明显低于空白对照组(24.82±3.44)、非特异性对照组(23.58±3.73)(P <0.05)。结论: siRNA能够在LoVo细胞中引发RNA干扰效应, 下调VEGFR 3 基因的表达, 进而抑制LoVo细胞的黏附能力和侵袭性。

关键词: [RNA干扰](#) [血管内皮生长因子受体 3\(VEGFR 3\)](#) [结肠癌细胞](#) [黏附能力](#) [侵袭能力](#)

targeted siRNA against adherence and invasion of human colon cancer cells [Download Fulltext](#)

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Abstract:

Objective: To construct a small interfering RNA (siRNA) expression vector (psiRNA VEGFR 3) targeting vascular endothelial growth factor receptor 3 (VEGFR 3) and to investigate the effects of VEGFR 3 siRNA on the adherence and invasion of human colon cancer cells. Methods: A siRNA expression vector (psiRNA VEGFR 3) targeting VEGFR 3 were constructed and was used to transfect LoVo cells via lipofectamine 2000. The mRNA and protein expression of VEGFR 3 were examined after transfection by reverse transcriptase polymerase chain reaction (RT-PCR) and Western blotting, respectively. The tumor adhesion ability was detected by cell matrix adhesion experiment and the invasion ability of tumor cells was evaluated by millicell chamber model. Results: The VEGFR 3 siRNA expression vector was successfully constructed. The expression of VEGFR 3 mRNA and protein was inhibited after psiRNA VEGFR 3 transfection. Seventy two hours after psiRNA VEGFR 3 transfection, Western blotting assay showed that the expression of VEGFR 3 protein was decreased from (1.26±0.19) to (0.39±0.12)(P <0.05), the adhesion ability of LoVo cells was also significantly decreased compared with the untransfected group and negative control group (0.407±0.029 vs 0.626±0.047, 0.621±0.068, P <0.01). The invasion assay demonstrated that the number of LoVo cells penetrating the membrane in the transfection group was significantly lower than those in the untransfected and negative control group (6.38±3.25 vs 24.82±3.44, 23.58±3.73, P <0.05). Conclusion: The siRNA of VEGFR 3 gene can effectively inhibit the mRNA and protein expression of VEGFR 3 in LoVo cells, therefore restraining the adhesion and invasion ability of LoVo cells.

Keywords: [RNA interference](#) [vascular endothelial growth factor receptor 3 \(VEGFR 3\)](#) [colon cancer cell](#) [adhesion ability](#) [invasion ability](#)

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