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295~300.miRNA-126真核表达载体的构建及其对乳腺癌细胞增殖和迁移的抑制作用[J].廖珍媛,秦娜琳,李永菊,陈超,田丹,罗军敏,徐林.中国肿瘤生物治疗杂志,2013,20(3)

miRNA-126真核表达载体的构建及其对乳腺癌细胞增殖和迁移的抑制作用 点此下载全文

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基金项目：国家自然科学基金资助项目（No. 81260398）；贵州省国际合作项目（No.10C315）；贵州省联合基金资助项目（No. 2011-51）

DOI：10.3872/j.issn.1007-385X.2013.03.007

摘要：

目的： 构建miRNA-126的重组真核表达载体，研究其对小鼠乳腺癌4T1细胞增殖和迁移的影响。 方法: 设计合成miRNA-126的正义和反义寡核苷酸，构建真核表达载体pcDNA6.2-miR-126，体外瞬时转染至4T1细胞，荧光显微镜下观测转染效率。Real-time PCR检测4T1细胞中miRNA-126的表达，MTT法和克隆形成实验检测4T1细胞的增殖和克隆形成能力，划痕法观察4T1细胞的体外迁移。 结果： 成功构建pcDNA6.2-miR-126真核表达载体，其可在4T1细胞中有效表达miR-126。与转染空质粒组（pcDNA6.2-Ctrl）相比，瞬时转染72 h后，pcDNA6.2-miR-126转染组4T1细胞的体外增殖能力受到明显抑制\[(0 30±0.03) vs (0.51±0.04), P <0.05\]；瞬时转染48 h后，pcDNA6.2-miR-126组4T1细胞迁移能力也受到明显抑制\[(8 17±2.30) vs (28.33±2.16)个, P <0.05 \]。 结论： miRNA-126过表达可抑制乳腺癌4T1细胞的增殖及迁移。

关键词：miR-126 真核表达 乳腺癌 4T1细胞 增殖 迁移

Construction of miRNA-126 eukaryotic expression vector and its inhibitory effect on proliferation and migration of breast cancer cells Download Fulltext

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Fund Project:Project supported by the National Natural Science Foundation of China (No. 81260398), the International Cooperation Foundation of Guizhou Province (No.10C315), and the Collaborative Foundation of Guizhou Province (No. 2011-51)

Abstract:

Objective:To construct a recombinant eukaryotic expression vector encoding miRNA-126 and to explore its effect on proliferation and migration of mouse breast cancer 4T1 cells. Methods: Sense and antisense oligonucleotides of miRNA-126 were designed and synthesized respectively. The eukaryotic expression vector pcDNA6.2-miR-126 was constructed and transiently transfected into 4T1 cells in vitro. The transfection efficiency was observed under a fluorescent microscope . The expression level of miRNA-126 in 4T1 cells was determined by real-time PCR. The proliferation and colony formation ability of 4T1 cells were detected by MTT assay and colony formation assay. The migration of 4T1 cells in vitro was determined by scratch assay. Results: pcDNA6 2 -miR-126 eukaryotic expression vector was successfully constructed and miRNA-126 was effectively expressed in 4T1 cells. Compared with that in empty plasmid transfected group (pcDNA6.2-Ctrl) , the proliferation capacity of 4T1 cells in vitro was obviously decreased in pcDNA6.2-miR-126 transfected group after transient transfection for 72 hours（\[0.30±0.03\] vs \[0.51±0.04\], P <0.05). The migration capacity of 4T1 cells in pcDNA6.2-miR-126 transfected group was also significantly inhibited after transfection for 48 hours (\[8.17±2.30\] vs \[28.33±2.16\], P <0.05). Conclusion:Overexpression of miRNA-126 may inhibit the proliferation and migration of breast cancer 4T1 cells.

Keywords:miRNA-126 eukaryotic expression breast cancer 4T1 cell proliferation migration

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