miR-944靶向调控 S100PBP基因促进宫颈癌细胞迁移和侵袭的机制探讨

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Title: **The mechanism miR-944 promotes migration and invasion of cervical cancer cells by targeting S100PBP gene**

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摘要: 目的：探讨微小RNA-944（microRNA-944，miR-944）对宫颈癌细胞迁移和侵袭的影响，并对其作用机制进行初步研究。方法：收集90例宫颈癌组织和40例正常宫颈组织，采用实时定量荧光PCR（Real-time PCR）试验检测宫颈组织样本和宫颈癌细胞中miR-944表达水平；在CaSki和HeLa细胞中，采用脂质体转染技术，抑制或者增加miR-944表达后，利用细胞增殖试验、细胞划痕试验和细胞侵袭试验分别检测细胞的增殖、迁移和侵袭能力的变化情况；采用双荧光素酶报告基因试验检测miR-944对S100PBP基因的调控作用。结果：在宫颈癌组织中，miR-944表达水平显著高于正常宫颈组织（P<0.05）；miR-944在不同宫颈癌细胞中的表达水平，存在显著差异（P<0.05）。在CaSki细胞中，降低miR-944表达显著抑制了细胞迁移和侵袭能力（P均<0.05）;在HeLa细胞中，增加miR-944表达显著增强了细胞迁移和侵袭能力（P均<0.05）;miR-944表达对宫颈癌细胞增殖无影响（P>0.05）。抑制miR-944表达能够显著增强含有S100PBP基因3'-非翻译区（3'-UTR）的报告质粒的荧光素酶活性（P<0.05），增加miR-944表达能够显著降低含有S100PBP基因3'-UTR的报告质粒的荧光素酶活性（P<0.05）。结论：在宫颈癌组织中，miR-944呈高表达状态；miR-944能够促进宫颈癌细胞的迁移和侵袭；miR-944可靶向调节S100PBP基因表达，这可能是miR-944促进宫颈癌细胞迁移和侵袭的内在机制。

Abstract: Objective：To explore the effects of microRNA-944（miR-944) on the invasion and migration of cervical cancer cells and to investigate the possible mechanism.Methods：90 cases of cervical cancer tissues and 40 cases of normal cervical tissues were collected.The Real-time PCR assay was applied to detect the expression of miR-944 in the tissue samples and cervical cancer cells.In the CaSki and HeLa cells，the proliferation，invasion and migration were analyzed by the cell proliferation assay，wound healing and transwell invasion assays after the miR-944 was inhibited or overexpressed by the liposome transfection assay，respectively.Moreover，the dual-luciferase reporter gene assay was used to detect the regulation of miR-944 on the S100PBP gene.Results：In the cervical cancer tissues，the expression level of miR-944 was much higher than that in the normal cervical tissues（P<0.05)，besides，there were significant difference in the cervical cancer cells.In the CaSki cells，downregulation of miR-944 could significantly inhibit the invasion and migration（P<0.05).In the HeLa cells，upregulation of miR-944 could significantly enhance the invasion and migration（P<0.05).miR-944 had no influence on the proliferation（P>0.05).Inhibition of miR-944 could increase the luciferase activity of the reporter plasmids containing the 3'-untranslated region（3'-UTR) of S100PBP gene（P<0.05).Overexpression of miR-944 could decrease the luciferase activity of the reporter plasmids containing the 3'-UTR of S100PBP gene（P<0.05).Conclusion：In the cervical cancer tissues，miR-944 was highly expressed.miR-944 could

promote the invasion and migration.miR-944 could regulate the expression of S100PBP gene，which maybe the mechanism of miR-944 promotes the migration and invasion of cervical cancer cells.

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