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hsa-miR-125a-5p Enhances Invasion in Non-small Cell Lung Carcinoma Cell Lines by Upregulating Rock-1

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摘要

Background and objective MicroRNAs (miRNAs) are endogenous, non-coding small RNA in eukaryotes. They recognize their target sites by incomplete base pairing and posttranscriptionally regulate gene expression, and function on a lot of complex vital processes of organisms. The objective of this work is to study how hsa-miR-125a-5p enhances the invasive ability of lung cancer cells. Methods The target gene and its target sites of hsa-miR-125a-5p were predicted by microRNA.org. We investigated Rock-1 mRNA and protein expressions by RT-PCR and Western blot according to the result of prediction further. The invasive ability of A549 cells, which were transfected with sense hsa-miR-125a-5p 2'-O-methyl oligonucleotide after being blocked by anti-Rock-1, was observed by Transwell. Results With RT-PCR and Western blot, Rock-1 mRNA and protein were both increased in A549 cells transfected with sense hsa-miR-125a-5p 2'-O-methyl oligonucleotide and were both decreased in the cells which transfected with antisense vs control groups. The invasive ability of A549 cells transfected with sense hsa-miR-125a-5p 2'-O-methyl oligonucleotide were weakened after being blocked by anti-Rock-1, vs non-blocking group by Transwell test. Conclusion hsa-miR-125a-5p could up-regulate Rock-1 and enhance invasion in lung cancer cells.

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