MicroRNA127 Promote Lung Adenocarcinoma Cell Invasion

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ABSTRACT

Lung cancer is the most common cause of cancer death in the world. Non small cell lung carcinoma (NSCLC) is the predominant type of lung cancer. Similar to other malignant tumors, undesirable prognosis for patients with NSCLC has been attributed to the development of metastasis. Therefore, it is important to select and identify the molecular marker indicated patients with lung cancer, especially in terms of invasion and metastatic potential. MicroRNAs (miRNAs) are small noncoding RNAs, assumably 18-24 nucleotides in length that can downregulate various target gene products by translational repression or by directing mRNA degradation. There are many reports showed that miRNAs may be involved in several cellular processes, including metabolism, differentiation, proliferation, cell cycle and apoptosis. In this study, we check miR-127 play role in lung cancer. Real-time quantitative PCR（RT-PCR）identify the using lung cancer cell line model (normal human bronchial epithelial cell: BEAS-2B; lung cancer cell: CL1-0 and CL1-5). Result expression miR-127 in CL1-5 cell high than CL1-0 cell 4.9 folds. Use pSilencer 3.1 H1 puro vector construct high miR-127 expression system in CL1-0 cells（A6, A9, A31 and A36）low expression mock(C4, C7 and C10). Use MTT assay and colony formation analysis cell proliferation. Result expression miR-127 was not effect cell proliferation , to take migration and invasion assay , to discover increased 100% of the migration ability compared with mock C10, in invasion ability, miR-127 A6, A36 increase 100% of the invasion ability compared with mock C10. The result is the same as CL1-0 after inhibiting miR-127 in CL1-5 cells. To use(http://www.targetscan.org/) forecast miR-127 target gene CDX1 may with migration, and ayalysis RT-PCR miR-127 high expression cells (A6, A31 and A36) target gene CDX1 will be inhibited. On the other hand analyse a gene through two-dimentional electric swimming: TCP-1. miR-127 promotes the role that moved and invaded ability of cancer cell play in the lung cancer cell.

Keywords : Lung cancer ; microRNA(miRNA) ; miR-127 ; invasion ; migration ; target gene ; 2D-PAGE

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