Desmocollin-2〔DSC2〕Inhibit proliferation and migration ability in human lung cancer cells

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ABSTRACT

Lung cancer is the most common cause of cancer death in the world, and lung cancer patients death mainly due to metastasis. The process of metastasis have many complex mechanisms involved, consist of many different functional genes. The main purpose of this study is screening with lung cancer metastasis-related genes, and thus further explore the molecular mechanisms of cancer metastasis. Previously, using microarray assay and lung cancer metastasis model cell lines, screening with cancer metastasis-related genes. Additionally, we focus on cancer metastasis-related gene, Desmocollin-2. In this study, Desmocollin-2 expression in highly metastatic lung cancer cell lines (such as A549 and CL1-5) is fewer than low metastatic lung cancer cell (CL1-0), these result have proved that Desmocollin-2 gene expression levels in lung cancer cells were negatively correlation with the metastasis activity of a panel of lung cancer cell lines. Using shRNA-DSC2 transfection methods, we suggested that knockdown DSC2 gene expression can promote lung cancer cells proliferation and migration, at the same time inhibit Desmocollin-2 gene expression also promote lung cancer cells colonyforming. Finally found that stable suppression Desmocollin-2 gene in cells whose morphology similar Epithelial to mesenchymal transition (EMT) phenomenon, These result have proved that Desmocollin-2 may play a role in tumor suppressor.

Keywords : lung cancer、metastasis、Desmocollin-2、shRNA、Epithelial to mesenchymal transition

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