Desmocollin-2 (DSC2) inhibit Slug-mediated Epithelial-mesenchymal transition in Lung Cancer

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ABSTRACT
Lung cancer is the most common cause of cancer death in the world, lung cancer patients died mainly due to metastasis. Recently, many studies have indicated that loss of DSC2 gene expression in colorectal cancer, stomach cancer, oral cancer, esophageal cancer, and proven DSC2 expression reducing cancer cell proliferation, metastasis, and invasion ability. However, the role of the DSC2 gene in lung cancer cells is still unclear. Therefore, this study examines the DSC2 whether affect in the lung cancer. Knockdown the Dsc2 expression in CL1-0 cells by shRNA approach. We found that loss of DSC2 expression could promote cell proliferation, migration and invasion capabilities, and also lead to cell epithelial to mesenchymal transition (EMT) phenomenon. In addition, we demonstrated that DSC2 inhibit EMT in lung cancer cells through regulated slug expression. By using ERK inhibitor U0126 and PI3K/AKT inhibitor LY294002, we found that DSC2 inhibit Slug-mediated EMT may through PI3K/AKT signaling pathway in lung cancer. This study explored DSC2 regulatory mechanisms in lung cancer. The results suggest that DSC2 may function as a tumor suppressor gene in lung cancer.

Keywords: DSC-2, EMT, CL1-0, CL-1-5, Lung cancer

REFERENCES