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Research of TGF-beta1 Inducing Lung Adencarcinoma PC9 Cells to Mesenchymal Cells Transition

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摘要

Background and objective It has been proven that epithelial-mesenchymal transition (EMT) not only correlated with embryonic development but also could promote tumor invasion and metastasis. Transforming growth factor beta-1 (TGF-β1) has been identified as the main inducer of tumor EMT. The aim of this study was to investigate the effects of TGF-β1 on EMT and PI3K/AKT signaling pathway in lung adencarcinoma PC9 cells. Methods Cultured PC9 cells were treated with different concentrations of TGF-β1 for 48 h. The morphological changes were observed under phase-contrast microscopy; EMT relative marker protein changes were assessed by Western blot and immunoflurescence staining. In addition, the expression of AKT and P-AKT were also measured by Western blot. Results The data showed that TGF-β1 could induce PC9 morphological alteration from epithelial to mesenchymal and upregulate the expression of mesenchymal maker protein Fibronectin. Obviously, the expression of P-AKT was downregulated by TGF-β1 treatment for 48 h. Conclusion TGF-β1 might induce EMT of PC9 cells , accompanied by the changes of PI3K/AKT signaling pathway.

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