

论文

Wnt/ $\beta$ -catenin信号传导途径在肺癌细胞 A549中的作用

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摘要:

目的 研究Wnt/ $\beta$ -catenin信号传导途径在肺腺癌细胞系A549中的激活及其作用。方法 用不同浓度的GSK-3 $\beta$ 抑制剂LiCl作用A549细胞, 采用免疫组化法对 $\beta$ -catenin的细胞内表达定位, 采用MTT细胞增殖实验观察细胞增殖活性, 用克隆形成实验观察克隆形成能力, 用Western blot检测 $\beta$ -catenin和干细胞分子标志OCT-4的表达。结果 10mmol/L LiCl作用24h, A549细胞中的 $\beta$ -catenin表达增加并出现核转移, 同时增殖能力与克隆形成能力增强, 干细胞标记蛋白OCT-4的表达增加。结论 Wnt/ $\beta$ -catenin信号通路在维持A549细胞增殖和克隆形成能力及增强OCT-4的表达方面有着重要作用, 可为肺癌治疗提供新的靶点。

关键词: 信号传导; 肺肿瘤; 干细胞

Effect the of Wnt/ $\beta$ -catenin signal transduction pathway in A549 lung cancer cells

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Abstract:

Objective To study the effects of activation of Wnt/ $\beta$ -catenin signaltransduction pathway and the potential mechanism in lung cancer A549 cell line.Methods A549 cells were stimulated with LiCl in different concentrations. The position of  $\beta$ -catenin was realized by immunochemistry, and cell proliferation and clone formation ability were detected by MTT assay and clone formation experiment. Western-blot was used to measure expression of the stem cell marker OCT-4.Results Stimulating A549 cells with 10<sup>2</sup>mmol/L LiCl for 24<sup>h</sup> resulted in the accumulation of  $\beta$ -catenin and its translocation into the nucleus. Moreover, this stimuli significantly enhanced A549 proliferation by 32.24%, and increased theability of clone formation by 100%. In addition, an up-regulation of stem cell marker OCT-4 was observed through Western-blot. Conclusion The Wnt/ $\beta$ -catenin signal transduction pathway plays an important role in cell proliferation, clone formation and expression of OCT-4, and may become a new target of lung cancer therapy.

Keywords: Signal transduction; Lung neoplasms; Stem cells

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