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论文

AG490对喉癌细胞STAT3信号传导通路的抑制作用

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摘要：

目的 探讨JAK激酶抑制剂AG490对人喉鳞癌细胞株Hep-2的增殖及凋亡的影响，揭示AG490对STAT3信号传导通路的抑制作用，探讨AG490在喉癌治疗中的意义。方法 应用AG490作用于Hep-2细胞，MTT法检测细胞增殖状态，流式细胞术检测细胞周期与凋亡，固定化蛋白质印迹法（Western blot）检测STAT3和p-STAT3蛋白的表达。结果 AG490能有效抑制体外培养的Hep-2细胞的增殖，该抑制作用具有时间与浓度依赖性的特点。AG490诱导喉癌细胞凋亡，且随作用时间延长，凋亡率增加。AG490能抑制STAT3和p-STAT3蛋白在Hep-2细胞的表达。结论 AG490可以下调Hep-2细胞中STAT3和p-STAT3蛋白的表达，抑制喉癌细胞增殖，促进喉癌细胞凋亡。

关键词： 喉癌；信号传导与转录激活因子3；细胞增殖；凋亡；JAK激酶抑制剂

Inhibitory effect of JAK inhibitor AG490 on the STAT3 signaling pathway in laryngeal carcinoma

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Abstract:

Objective To investigate the influence of JAK inhibitor AG490 on proliferation and apoptosis of human laryngeal cancer Hep-2 cells, reveal the inhibitory effect of AG490 on the JAK/STAT3 signaling pathway, and further explore the potential mechanism so as to study the role of AG490 in the treatment of laryngeal carcinoma. Methods Hep-2 cells cultured in RPMI 1640 medium were treated with JAK inhibitor AG490 at different time. The state of cell proliferation was detected by MTT assay, and the apoptosis and cell cycle of Hep-2 were analyzed by flow cytometry(FCW). Expressions of STAT3 and p STAT3 proteins were detected by Western blot. Results AG490 inhibited cell proliferation in a dose-and time-dependent manner. The apoptosis cells increased with the increase of action time. AG490 resulted in a significant down-regulation in STAT3 and p STAT3 expressions in the Hep 2 cell line. Conclusion AG490 can significantly inhibit proliferation and induce apoptosis of laryngeal cancer Hep-2 cells through decreasing expressions of STAT3 and p-STAT3.

Keywords: Laryngeal neoplasms; Signal transducers and activators of transcription 3; Proliferation; Apoptosis; JAK inhibitor

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