

论著

ERK1/2_Sp1信号通路对肺癌细胞VEGF的调控作用

梁璇 丁新民 霍艳英 潘兴斌 隋建丽 白贝 徐勤枝 周平坤

军事医学科学院放射与辐射医学研究所, 北京

收稿日期 2006-9-13 修回日期 2006-12-1 网络版发布日期:

摘要 背景与目的: 了解ERK1/2_Sp1信号通路对肺癌细胞血管内皮生长因子(VEGF)基因的调控作用。材料与方法: 采用激酶特异抑制剂PD98059抑制ERK1/2的活性, Western blot 检测ERK1/2的表达。RNA干扰技术沉默Sp1基因, Mercury 信号通路系统检测Sp1的转录活性。RT-PCR检测VEGF和Sp1基因的变化。结果: ERK1/2激酶的活性几乎可被150 μmol/L PD98059完全抑制, ERK1/2激酶活性下调伴随VEGF的表达下降。PD98059下调Sp1转录因子的活性。Sp1基因沉默后VEGF的表达量下调。结论: 在肺癌细胞中存在ERK1/2_Sp1_VEGF信号通路, ERK1/2激酶调控VEGF的表达可能部分依赖于转录因子Sp1的活性。

关键词 [肺癌](#) [VEGF](#) [ERK1/2激酶](#) [Sp1](#)

Role of ERK1/2_Sp1 in Regulation of VEGF Expression in Lung Cancer Cells

LIANG Xuan, DING Xin_min, HUO Yan_ying, PAN Xing_bin, SUI Jian_li, BAI Bei, XU Qin_zhi, ZHOU Pin_kun

Beijing Institute of Radiation Medicine, Beijing

Abstract **BACKGROUND & AIM:** To study the underlying molecular mechanisms by which ERK1/2 kinase modulated the expression of vascular endothelial cells growth factor (VEGF) in lung cancer cells. **MATERIALS AND METHODS:** PD98059, the special inhibitor of ERK1/2, was used to inhibit the phosphorylation of ERK1/2. Western blot was used to evaluate the expression of ERK1/2. Transcription factor Sp1 gene was silenced by small interfering RNA technology. SEAP assay was used to detect the transcription activity of Sp1. RT-PCR was applied to examine the expression status of VEGF and Sp1. **RESULTS:** Western blot and RT-PCR results proved that PD98059 inhibited the phosphorylation of ERK1/2. The expression of VEGF gene was decreased associated with the inhibition of ERK1/2 kinase. The transcription activity of Sp1 was down-regulated by PD98059. SiRNA targeting Sp1 effectively decreased the expression of itself and VEGF. **CONCLUSION:** In lung cancer cells the expression of VEGF might be regulated by ERK1/2 signal pathway, and partly depended on the activity of transcription factor Sp1.

Keywords [lung cancer](#) [VEGF](#) [ERK1/2](#) [Sp1](#)

DOI

扩展功能

本文信息

▶ [Supporting info](#)

▶ [\[PDF全文\]\(324k\)](#)

▶ [\[HTML全文\]\(50k\)](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [Email Alert](#)

相关信息

▶ [本刊中 包含“肺癌”的 相关文章](#)

▶ [本文作者相关文章](#)

· [梁璇](#) [丁新民](#) [霍艳英](#) [潘兴斌](#) [隋建丽](#) [白贝](#) [徐勤枝](#) [周平坤](#)

通讯作者