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论著

食管癌细胞ezrin基因启动子TPA反应性的研究

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摘要 背景与目的： 研究食管癌细胞ezrin基因启动子的TPA反应性以及TPA诱导ezrin基因转录的MAPK信号转导途径。 材料与方法： 应用转录因子数据库分析预测ezrin基因－87/＋134序列的潜在转录因子结合位点和TPA反应元件；采用双荧光素酶报告基因分析系统，检测ezrin基因－87/＋134序列的启动子活性和TPA反应性，TPA反应元件结合蛋白Sp1和AP-1对ezrin基因的转录激活作用，以及MAPK抑制剂对TPA诱导激活的ezrin基因转录的抑制作用。 结果： ezrin基因－87/＋134序列存在潜在TPA反应元件，具有启动子活性；5 ng/ml TPA显著增强ezrin基因启动子活性 (P<0.01)；Sp1和AP-1对ezrin基因具有转录激活作用；MEK1/2特异性抑制剂U0126和PD98059降低TPA诱导的ezrin基因转录激活作用。 结论： 食管癌细胞中，ezrin基因启动子具有TPA反应性；TPA可能通过MEK/ERK1/2磷酸化Sp1/AP-1途径调控ezrin基因转录。

关键词 TPA反应性 ezrin基因 食管癌细胞 启动子活性 双荧光素酶报告基因分析系统

TPA Responsiveness of ezrin Gene Promoter in Esophageal Carcinoma Cells

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Abstract BACKGROUND AND AIM: To identify the TPA responsiveness of ezrin gene promoter and the mitogen-activated protein kinase(MAPK) signal pathway of TPA-induced ezrin transcription in esophageal carcinoma cells. MATERIALS AND METHODS: The potential transcription factors and TPA-responsive elements(TRE) were analyzed and predicted using transcription factor database. Using dual-luciferase reporter assay system, we determined the promoter activity and TPA responsiveness of ezrin gene －87/＋134 sequence, the transactivation of TRE binding proteins Sp1 and AP-1 on ezrin, and the inhibition of MAPK inhibitors on TPA-induced ezrin transactivation. RESULTS: Ezrin gene －87/＋134 sequence had potential TPA-responsive elements and exhibited promoter activity. 5 ng/ml TPA increased ezrin promoter activity significantly(P<0.01). Sp1 and AP-1 transactivated ezrin gene. MEK1/2 specific inhibitors U0126 and PD98059 decreased the TPA-induced ezrin transactivation. CONCLUSION: Ezrin gene promoter demonstrated TPA responsiveness in esophageal carcinoma cells. TPA may regulate ezrin transcription via MEK/ERK1/2 phosphoryla- ting Sp1 and AP-1 pathways.

Keywords TPA responsiveness ezrin gene esophageal carcinoma cell promoter activity dual-luciferase reporter assay system

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