

论著

## Manumycin通过诱导细胞凋亡抑制人胰腺导管癌细胞Panc-1活性

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**摘要** 目的: 观察manumycin对人胰腺导管癌细胞Panc-1的抑制效应, 并探讨其诱导细胞凋亡是否经p38MAPK介导。方法: 用MTT法检测manumycin对Panc-1细胞的抑癌作用。用caspase-3活性检测试剂盒定量检测manumycin诱导细胞凋亡的水平及评估特异性的p38MAPK抑制剂SB203580对它的影响。结果: 经manumycin(6  $\mu\text{mol/L}$ 、18  $\mu\text{mol/L}$ 、54  $\mu\text{mol/L}$ )处理Panc-1细胞24 h,对Panc-1细胞生长具有明显的抑制作用, 其抑制率分别为8.9%、21.9%和67.0%, 其中后二者的细胞活性与对照组相比有显著差异( $P<0.01$ ), 呈量效关系。用药24 h的IC<sub>50</sub>为34.7  $\mu\text{mol/L}$ 。同时, 此药物可明显增加caspase-3的活性, 且这一效应可部分地被p38抑制剂SB203580阻断。结论: Manumycin可通过诱导Panc-1细胞凋亡而产生抑癌作用, p38MAPK是manumycin诱导细胞凋亡的通路之一。

**关键词** [Manumycin](#); [胰腺导管癌](#); [细胞凋亡](#); [p38MAP激酶](#)

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## Manumycin inhibits activity of pancreatic duct cancer cell line Panc-1 via inducing apoptosis

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### Abstract

<FONT face=Verdana>AIM: In this study, we investigated the anticancer effect and mechanisms of manumycin on pancreatic cancer cell line-Panc-1 and the role of p38MAPK pathway in apoptosis. METHODS: The test of anticancer effect was performed by MTT assay. Apoptosis was induced in the cells by manumycin and then treated with SB203580, a specific p38MAPK inhibitor. A quantitative caspase-3 activity assay kit was used in this experiment. RESULTS: Manumycin (6  $\mu\text{mol/L}$ , 18  $\mu\text{mol/L}$ , 54  $\mu\text{mol/L}$ ) significantly inhibited cell growth of pancreatic cancer cell line Panc-1. The inhibition rates 24 h after treatment with 6  $\mu\text{mol/L}$ , 18  $\mu\text{mol/L}$  and 54  $\mu\text{mol/L}$  manumycin were 8.9%, 21.9% and 67.0%, respectively. Compared with the control group, the survival levels of the last two groups were of significant statistical difference ( $P<0.01$ ). The anticancer effects also showed dosage-effect relationship, the value of IC<sub>50</sub> 24 h after treatment was 34.7  $\mu\text{mol/L}$ . In addition, this reagent simultaneously activated caspase-3 protein, which was partly blocked by p38MAPK specific inhibitor, SB203580. CONCLUSION: Manumycin exerted anticancer effect on Panc-1 cell line via inducing cell apoptosis, which was partly regulated by p38MAPK.</FONT>

**Key words** [Manumycin](#) [Pancreatic neoplasms](#) [Apoptosis](#) [p38 MAP kinase](#)

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