

论著

外源性神经生长因子对人胰腺癌MIA PaCa-2细胞增殖能力的影响

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摘要 背景与目的: 观察外源性神经生长因子(β -NGF)对人胰腺癌MIA PaCa-2细胞增殖及细胞周期的影响,为深入探讨胰腺癌侵袭转移及调控机制提供实验依据。材料与方法: 将不同浓度的 β -NGF和酪氨酸激酶特异性抑制剂K252a作用于体外培养的MIA PaCa-2细胞不同时间,应用克隆平板实验、MTT实验和流式细胞术检测外源性 β -NGF对MIA PaCa-2细胞增殖及细胞周期的影响。结果: 经 β -NGF处理的MIA PaCa-2细胞平均克隆形成率均明显高于对照组($P<0.05$), 100 ng/ml β -NGF克隆形成率最高。随着 β -NGF浓度的增加和培养时间的延长,吸光度OD值逐渐增加, 100 ng/ml浓度组培养72 h时OD值达最高,增殖率达48.68%。而随着K252a浓度的增加,MIA PaCa-2细胞在24、48、72 h和96 h时细胞OD值与对照组相比逐渐降低($P<0.05$), 100 ng/ml作用72 h组细胞OD值抑制率最大,为18.05%。 β -NGF诱导MIA PaCa-2细胞G0/G1期百分比升高,而S期、G2/M期百分比降低,其诱导作用的最佳质量浓度是100 ng/ml,最佳时间为72 h。结论: β -NGF具有促进胰腺癌MIA PaCa-2细胞增殖的作用。

关键词 [胰腺癌](#) [神经生长因子](#) [细胞培养](#) [流式细胞仪](#) [增殖](#)

Nerve Growth Factor on the Proliferation of Human Pancreatic Carcinoma Cells

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Abstract BACKGROUND AND AIM: To investigate the effect of nerve growth factor(β -NGF) on the proliferative ability and cell cycle of human pancreatic carcinoma cells MIA PaCa-2. MATERIALS AND METHODS: Colony forming efficiency of MIA PaCa-2 cells treated with β -NGF was higher than normal group($P<0.05$), especially with the 100 ng/ml β -NGF group. Absorbance gradually increased, along with β -NGF concentration enhancement and culture time prolongation. Proliferation rate reached 48.68% when cultured 72 hours in 100 ng/ml β -NGF group. However, absorbance gradually decreased in K252a group at 24, 48, 72 h and 96 h. Inhibition rate was reduced to 18.05% in 100 ng/ml K252a group. Effect of different concentrations of β -NGF and K252a on MIA PaCa-2 cells proliferation was evaluated by MTT and Flow Cytometry. RESULTS: β -NGF promoted MIA PaCa-2 proliferation and growth which were markedly inhibited by K252a($P<0.05$). CONCLUSION: β -NGF could enhance the proliferation of MIA PaCa-2 pancreatic carcinoma cells.

Keywords [pancreatic carcinoma](#); [nerve growth factor\(\$\beta\$ -NGF\)](#); [cell culture](#); [flow cytometry](#); [proliferation](#)

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