

论著

## 去甲斑蝥素降低人胃癌细胞程序性细胞死亡因子4的表达

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**摘要** 目的 研究去甲斑蝥素(NCTD)降低程序性细胞死亡因子4(PDCD4)表达的机制。方法MTT法测定NCTD  $5 \sim 640 \mu\text{mol} \cdot \text{L}^{-1}$ 与人胃癌BGC-823细胞作用24, 48和72 h细胞存活率;Western蛋白质印迹法测定NCTD 0, 6, 30和60  $\mu\text{mol} \cdot \text{L}^{-1}$ 作用BGC-823细胞24 h PDCD4蛋白表达水平;NCTD 60  $\mu\text{mol} \cdot \text{L}^{-1}$ 作用20 h后加入MG132 10  $\mu\text{mol} \cdot \text{L}^{-1}$ 作用4 h对PDCD4蛋白表达的影响;逆转录PCR法测定NCTD 60  $\mu\text{mol} \cdot \text{L}^{-1}$ 作用BGC-823细胞24 h后PDCD4 mRNA表达的变化;实时荧光定量PCR(qRT-PCR)测定NCTD 60  $\mu\text{mol} \cdot \text{L}^{-1}$ 作用BGC-823细胞6, 12和24 h后microRNA-21(miR-21)的表达。Western蛋白质印迹法测定细胞转染miR-21抑制剂对PDCD4蛋白表达的影响。结果 NCTD作用后BGC-823细胞存活率明显下降,NCTD作用BGC-823细胞24, 48和72 h  $\text{IC}_{50}$ 分别为74.5, 35.0和10.3  $\mu\text{mol} \cdot \text{L}^{-1}$ 。NCTD 6, 30和60  $\mu\text{mol} \cdot \text{L}^{-1}$ 作用于BGC-823细胞24 h, PDCD4蛋白分别降低9%, 47%和62%。NCTD对PDCD4 mRNA表达无影响。与NCTD处理组相比, MG132和NCTD共处理对PDCD4蛋白表达无明显影响。NCTD 60  $\mu\text{mol} \cdot \text{L}^{-1}$ 作用BGC-823细胞12和24 h后, 细胞中miR-21的表达显著升高( $P < 0.01$ )。细胞转染miR-21抑制剂后, 可抑制NCTD降低PDCD4蛋白表达的作用。结论 NCTD通过调控miR-21降低PDCD4蛋白的表达。

**关键词** [甲斑蝥素](#) [程序性细胞死亡因子4](#) [microRNA-21](#) [人胃癌细胞, BGC-823](#)

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## Norcantharidin downregulates programmed cell death 4 expression in human gastric cancer cells

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### Abstract

**OBJECTIVE** To investigate the mechanisms by which programmed cell death 4 (PDCD4) is down-regulated by norcantharidin(NCTD) in human gastric cancer cells. **METHODS** Cell viability was detected by MTT assay in human gastric cancer BGC-823 cells treated with NCTD 5, 10, 20, 40, 80, 160, 320 and 640  $\mu\text{molL}^{-1}$  down-regulated PDCD4 protein by 9%, 47%, and 62%, respectively. The level of PDCD4 mRNA did not change in NCTD-treated BGC-823 cells. Compared with the cells treated with NCTD alone, the level of PDCD4 protein did not change in cells treated with both MG132 and NCTD. The miR-21 expression in NCTD-treated cells increased dramatically compared to that in control cells. The expression of PDCD4 protein was up-regulated dramatically by miR-21 inhibitor in NCTD-treated cells. **CONCLUSION** NCTD downregulates PDCD4 expression in BGC-823 cells

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