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PUMA基因对胰腺癌细胞BxPC-3的促凋亡作用及其可能机制 [点此下载全文](#)

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摘要:

目的: 研究P53正向凋亡调节因子基因(P53 up regulate modulator of apoptosis, PUMA)对胰腺癌细胞株BxPC 3凋亡的影响及其可能的作用机制。方法: 以100 MOI的携 PUMA 基因重组腺病毒(Ad PUMA)感染BxPC 3细胞0~96 h, 流式细胞术检测BxPC 3细胞凋亡率, Western blotting检测BxPC 3细胞中PUMA、Bcl 2、Bax、Cytochrome C和Caspase 3蛋白的表达, Western blotting检测BxPC 3细胞中细胞质和线粒体内Bax的表达及Bax寡聚体。结果: 随着Ad PUMA感染时间的延长, BxPC 3细胞凋亡率逐渐增加, 48 h时最高。Ad PUMA感染促进BxPC 3细胞中PUMA、Cytochrome C和Caspase 3蛋白的表达, 抑制BxPC 3细胞中Bcl 2蛋白的表达。Ad PUMA感染后BxPC 3细胞的凋亡率与BxPC 3细胞中PUMA蛋白的表达具有明显的相关性。Ad PUMA感染不影响BxPC 3细胞中Bax蛋白的总表达量, 但细胞质中的Bax几乎完全消失, 而线粒体中的Bax表达明显增加; Ad PUMA感染诱导BxPC 3细胞中Bax蛋白的寡聚化。结论: PUMA基因通过线粒体途径促进胰腺癌细胞凋亡。

关键词: [胰腺肿瘤](#) [P53正向凋亡调节因子基因\(PUMA\)](#) [凋亡](#) [线粒体](#)

PUMA promotes apoptosis of pancreatic carcinoma BxPC-3 cells and the possible mechanism [Download Fulltext](#)

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Abstract:

Objective: To investigate the effect of P53 up regulate modulator of apoptosis (PUMA) on the apoptosis of pancreatic carcinoma BxPC 3 cells and the possible mechanism. Methods: BxPC 3 cells were infected with recombinant adenovirus containing PUMA gene (Ad PUMA) at 100 MOI for 0-96 h. Apoptosis of BxPC 3 cells was examined by FCM. Expressions of PUMA, Bcl 2, Bax, Cytochrome C and Caspase 3 proteins in BxPC 3 cells were detected by Western blotting. Bax expression in the cytoplasm and mitochondrion and Bax oligomer expression in BxPC 3 cells were determined by Western blotting. Results: Apoptosis rates of BxPC 3 cells were significantly increased with the time of Ad PUMA infection, and peaked after 48 h. Ad PUMA infection increased the expressions of PUMA, Cytochrome C and Caspase 3 proteins in BxPC 3 cells, and decreased the expression of Bcl 2 protein. Apoptosis rate of BxPC 3 cells after Ad PUMA infection was correlated with PUMA expression. Ad PUMA did not affect the expression of total Bax protein in BxPC 3 cells, but Bax expression in cytoplasm was dramatically decreased after infection, and Bax expression in mitochondrion was markedly increased. Furthermore, Ad PUMA infection induced Bax oligomerization in BxPC 3 cells. Conclusion: PUMA can promote apoptosis of pancreatic carcinoma cells through mitochondrion pathway.

Keywords: [pancreatic neoplasms](#) [P53 up regulate modulator of apoptosis \(PUMA \)](#) [apoptosis](#) [mitochondrion](#)

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