

实验研究报道

## 内皮素-1对紫杉醇诱导激素非依赖性前列腺癌细胞PC3凋亡的影响

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摘要

目的 观察内皮素-1 (endothelin-1, ET-1) 对紫杉醇诱导激素非依赖性前列腺癌细胞PC3凋亡的影响, 并研究其机制。方法 采用人激素非依赖性前列腺癌细胞株PC3, 设对照组、紫杉醇组、紫杉醇+ET-1组。流式细胞仪测定PC3细胞周期分布和凋亡细胞百分比。免疫沉淀(immunoprecipitation, IP)及Western blot检测PC3细胞Bcl-2、Bax和Bax/Bcl-2异二聚体的表达。结果 紫杉醇+ET-1组PC3细胞的G0-G1(%)高于紫杉醇组, G2-M(%)低于紫杉醇组, 凋亡细胞百分比低于紫杉醇组, 差异有统计学意义(P<0.05)。紫杉醇+ET-1组PC3细胞的Bcl-2磷酸化水平显著低于紫杉醇组, Bax/Bcl-2异二聚体水平显著高于紫杉醇组, 差异有统计学意义(P<0.05)。结论 ET-1能逆转紫杉醇对PC3细胞的G2/M期阻滞, 并能通过影响Bcl-2磷酸化作用于细胞凋亡通路, 减少细胞凋亡, 从而降低激素非依赖性前列腺癌细胞对紫杉醇的敏感性。

关键词 [内皮素-1](#); [激素非依赖性前列腺癌](#); [紫杉醇](#); [凋亡](#)

分类号

## Influence of endothelin-1 on apoptosis induced by paclitaxel in hormone refractory prostate cancer cell line PC3

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Abstract

Objective To investigate influence of endothelin-1(ET-1) on apoptosis induced by paclitaxel in hormone refractory prostate cancer line PC3, and further investigate its mechanism. Methods Hormone refractory prostate cancer cell PC3 were cultured in vitro and divided into control group, Paclitaxel group, Paclitaxel+ET-1 group. To detect distribution of cell cycles and percentage of apoptotic cells by flow cytometry and detect the level of Bcl-2, Bax and Bax/Bcl-2 heterodimer by immunoprecipitation and western blot. Results Compared with paclitaxel group, PC3 cells in paclitaxel + ET-1 group showed a increased G0-G1(%) and decreased G2-M(%) in cell cycle and a decreased percentage of apoptotic cells, and showed a decreased phosphorylation level of Bcl-2 and increased Bax/Bcl-2 heterodimer level. All results had significant difference, P<0.05. Conclusions ET-1 could reverse paclitaxel-induced G2/M phase blockade and protect PC3 cells from paclitaxel-induced apoptosis by decreasing Bcl-2 phosphorylation to influence apoptotic pathways, thereby reduced hormone refractory prostate cancer cell PC3's sensibility to paclitaxel.

Key words [Endothelin-1](#) [Hormone refractory prostate cancer](#) [Paclitaxel](#) [Apoptosis](#)

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