中国肿瘤临床 2012, Vol. 39 Issue (19): 1397-1400 DOI: doi:10.3969/j.issn. 1000-8179.2012.19.002

紫杉醇顺铂对HCC1937人乳腺癌细胞MAPK信号通路影响*

查全斌①,张 华②,唐金海②,吴建中③,季明华④

①徐州医学院肿瘤学教研室（江苏省徐州市221004）；②江苏省肿瘤医院乳腺外科；③科研科；④放疗科

Role of the MAPK Signal Pathway in Paclitaxel- and Cisplatin-induced Apoptosis in HCC 1937 Breast Cancer C

Quanbin ZHA1, Hua ZHANG2, Jinhai TANG2,Jianzhong WU3, Minghua JI4

1Department of Oncology, Xuzhou Medical College, Xuzhou221004, China
2Department of Breast Surgery, Jiangsu Cancer Hospital, Nanjing 210009, China
3Department of Scientific Research, Jiangsu Cancer Hospital, Nanjing 210009, China
4Department of Radiation Oncology, Jiangsu Cancer Hospital, Nanjing210009, China

摘要

参考文献

相关文章

全文: PDF (995 KB) HTML (1 KB) 输出: BibTeX | EndNote (RIS) 背景资料

摘要 目的：研究紫杉醇、顺铂对BRCA1 基因缺陷型三阴性乳腺癌细胞HCC 1937的增殖抑制作用及与MAPK 信号通路的关系。方法：采用CCK-8 试剂盒检测紫杉醇顺铂分别对HCC 1937细胞、MCF-7 细胞的50% 抑制浓度（IC 50）；采用流式细胞仪和Westernblot分别检测两药作用HCC 1937细胞 48h 后的细胞周期和MAPK路蛋白表达状况。结果：HCC 1937细胞（IC 50 6～9 μg/mL）对顺铂敏感性显著高于MCF-7 细胞（IC 50 18～20μg/mL）（P<0.01）；而HCC 1937细胞（IC 50～4.6 μg/mL）对紫杉醇的敏感性则明显低于MCF-7 细胞（IC 50 0.12～0.3 μg/mL）（P<0.01）。 紫杉醇使HCC 1937细胞阻断在G2～M 期，呈剂量- 效应趋势，顺铂使其阻断在G0/G1 期；紫杉醇、顺铂作用HCC 1937细胞48h 后，P-JNK 和P-P 38蛋白表达显著增加，顺铂组P-ERK蛋白表达较对照组明显降低。结论：1）三阴性乳腺癌细胞HCC 1937对顺铂的敏感性明显优于紫杉醇；2）紫杉醇、顺铂皆可激活HCC 1937细胞JNK/SAPK 、P38通路，同时不同浓度的顺铂可以制ERK 通路激活。

关键词： 紫杉醇 顺铂 HCC 1937细胞 MAPK 信号通路

Abstract: Objective:This study aimed to investigate the inhibitory effects of paclitaxel and cisplatin against the triple-negativebreast cancer cell line HCC1937in vitro,and to explore the underlying mechanisms in relation to the MAPK signaling pathway. Meth-ods: A Cell Counting Kit-8 assay was used to detect the 50% inhibitory concentration (IC50) of paclitaxel and cisplatin on HCC 1937and MCF-7 cells. Flow cytometry and Western blot analysis were used to determine the cell cycle distribution and MAPK signaling path-way protein expression after incubating the HCC 1937cells with paclitaxel or cisplatin for 48h. Results: The HCC 1937cells were sig -nificantly more sensitive to cisplatin (IC50 = 6-9 μ g/ml) than MCF-7 cells (IC 50 = 18-20μ g/ml) (P < 0.01), whereas the HCC1937cells were less sensitive to paclitaxel (IC 50 = 3-4.6 μ g/ml) than the MCF-7 cells (IC 50 = 0.12-0.3 μ g/ml) (P < 0.01). Paclitaxel caused the MCF-7 cells to arrest at the G2/M phase in a concentration-dependent manner, whereas cisplatin acted by arresting cells at the G0/G1phase. P-JNK and P-P38protein expression significantly increased after the cells were treated with the two drugs for 48h comparedwith the control group. However, P-ERK protein expression in the cisplatin group was significantly lower than in the control group forthe HCC 1937cells.Conclusion:HCC1937cells have higher chemosensitivity to cisplatin than to paclitaxel. Paclitaxel and cisplatin canboth activate the JNK/SAPK and P38signaling pathways in HCC1937cells, whereas different cisplatin concentrations can inhibit theactivation of the ERK signaling pathway.

Key words: Paclitaxel Cisplatin HCC 1937cells MAPK signal pathway

收稿日期: 2011-09-27; 出版日期: 2012-10-15

基金资助:

服务

把本文推荐给朋友

加入我的书架

加入引用管理器

E-mail Alert

RSS

作者相关文章

本文课题受国家自然科学基金（编号：30840093）资助

通讯作者：唐金海　**E-mail:** zgzlwkzz@139.com

引用本文：

. 紫杉醇顺铂对HCC1937人乳腺癌细胞MAPK信号通路影响*[J]. 中国肿瘤临床, 2012, 39(19): 1397-1400.

. Role of the MAPK Signal Pathway in Paclitaxel- and Cisplatin-induced Apoptosis in HCC 1937 Breast Cancer Cells[J]. Chinese Journal of Clinical Oncology, 2012, 39(19): 1
1400.

链接本文：

http://118.145.16.228:8081/Jweb_zgzllc/CN/doi:10.3969/j.issn. 1000-8179.2012.19.002　或　http://118.145.16.228:8081/Jweb_zgzllc/CN/Y2012/V39/I19/1397

没有本文参考文献

[1] 赵　丽,张　姣,付　丽,马勇杰,谷　峰. 乳腺癌细胞**Notch1**蛋白表达及其与紫杉醇敏感性的关系[J]. 中国肿瘤临床, 2012, 39(9): 547-550.

[2] 袁犁,周琦, 徐发良,李少林,甘霖,邹冬玲. **PI3K** 特异性抑制剂**LY294002** 对卵巢癌紫杉醇耐药细胞株逆转作用的研究[J]. 中国肿瘤临床, 2012, 39(6): 301-30

[3] 洪熠,陈心华,李娜妮,林琳,李重颖,刘健. 白蛋白结合型紫杉醇治疗转移性乳腺癌的临床疗效与安全性观察[J]. 中国肿瘤临床, 2012, 39(6): 352-354.

[4] 凌　扬，徐建忠，杨全良，盛桂凤，周　彤. 白蛋白结合型紫杉醇治疗晚期恶性肿瘤的疗效与安全性研究[J]. 中国肿瘤临床, 2012, 39(2): 107-109.

[5] 何义富①，季楚舒①，胡冰①，胡长路①，徐腾云①，范平生②,陈曼萍①. 紫杉醇联合奈达铂治疗晚期食管鳞癌 II 期临床试验结果分析[J]. 中国肿瘤临床, 20
39(18): 1379-1381.

[6] 李　伟，丁　静，陈余清. 晚期非小细胞肺癌中**Survivin**表达对顺铂敏感性和预后的预测价值[J]. 中国肿瘤临床, 2012, 39(16): 1216-1221.

[7] 肖　莉，任建林，王　馨，张秋华，吕　霞. 不同**HER-2**状态的进展期胃癌行紫杉醇联合希罗达的疗效分析[J]. 中国肿瘤临床, 2012, 39(15): 1108-1110.

[8] 陈凌翔，孙小峰，石　林，陈　嘉. 白蛋白结合型紫杉醇（**Abraxane**）联合替吉奥（**S-1**）一线治疗晚期胃癌的临床观察[J]. 中国肿瘤临床, 2012, 39(1
936-938.

[9] 蔡辉，陈桂明，彭云武，朱江，文津明，彭冰. 微管引流灌注顺铂及白介素**-2**联合热疗治疗恶性胸腔积液的临床观察[J]. 中国肿瘤临床, 2011, 38(7): 409-

[10] 李维,马艳红,董运鹏,张心丽,谭国林. 人鼻咽癌紫杉醇耐药细胞系与其亲代细胞系比较基因组杂交研究[J]. 中国肿瘤临床, 2011, 38(5): 241-245 .

[11] 聂建云,陈杨萍,黄云超. 组蛋白去乙酰化酶抑制剂联合化疗对乳腺癌细胞增殖影响的动物实验研究[J]. 中国肿瘤临床, 2011, 38(4): 189-192 .

[12] 韩丽萍,刘娟芳,赵国强,董子明. **RNA**干扰靶向沉默**pol**β基因对人卵巢癌细胞增殖活性及对化疗药物敏感性的影响[J]. 中国肿瘤临床, 2011, 38(4): 197-199