[1]张勇,常淑芳,孙江川,等.过氧化氢联合低频超声波诱导卵巢癌A2780/DDP细胞凋亡的研究[J].第三军医大学学报,2012,34(04):290-293.

Zhang Yong,Chang Shufang,Sun Jiangchuan,et al.Combination of hydrogen peroxide and low-frequency ultrasound exposure induces apoptosis in human ovarian cancer A2780/DDP cells [J].Journal of Third Military Medical University,2012,34(04):290-293.

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过氧化氢联合低频超声波诱导卵巢癌A2780/DDP细胞凋亡的研究(PDF)

《第三军医大学学报》[ISSN:1000-5404/CN:51-1095/R] 卷: 34 期数: 2012年第04期 页码: 290-293 栏目: 论著 出版日期: 2012-02-28

Title: Combination of hydrogen peroxide and low-frequency ultrasound exposure induces apoptosis in human ovarian cancer A2780/DDP cells

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关键词: 过氧化氢; 超声学; 细胞凋亡; 肿瘤细胞; 培养的

Keywords: hydrogen peroxide; ultrasonics; apoptosis; tumor cells; cultured

分类号: R73-36;R730.5;R737.31

DOI: -

文献标识码: A

摘要: 目的 探讨过氧化氢联合超声波诱导人卵巢癌A2780/DDP细胞凋亡的效果。 方法 体外培养人卵巢癌A2780/DDP细胞，MTT法研究过氧化氢对卵巢癌A2780/DDP细胞生长抑制情况，选择过氧化氢对A2780/DDP细胞作用的合适作用参数；实验分为对照组,0.5 W/cm^2、30 s超声组，10 μmol/L过氧化氢组，10 μmol/L过氧化氢联合0.5 W/cm^2、30 s超声组；不同因素作用A2780/DDP细胞24 h后，Hoechst33258染色观察细胞形态变化；流式细胞仪检测各处理因素作用A2780/DDP细胞的凋亡率；Western blot检测各组细胞caspases-9蛋白表达量的改变。 结果 对照组，0.5 W/cm^2、30 s 超声组和10 μmol/L过氧化氢组无明显凋亡改变，而10 μmol/L过氧化氢联合0.5 W/cm^2、30 s超声组与对照组之间比较，差异具有显著性（P<0.05）。 结论 过氧化氢联合超声波能增强诱导人卵巢癌A2780/DDP细胞凋亡的作用。

Abstract: Objective To determine the effect of hydrogen peroxide combined with low-frequency ultrasound exposure on apoptosis in human ovarian cancer A2780/DDP cells. Methods The A2780/DDP cells were cultured under the exposure to 0.5 W/cm^2 30 s ultrasound wave in present or absent of 10 μmol/L hydrogen peroxide for 24 h. The MTT assay was used to detect the proliferation in A2780/DDP cells after different treatments. The apoptosis was investigated by using flow cytometry analysis, and the cell morphology was observed by Hoechst staining. Western blotting was used to detect the protein levels of caspase-9. Results Exposure to 0.5 W/cm^2, 30 s ultrasound wave or treatment of 10 μmol/L hydrogen peroxide did not induce obvious apoptosis in A2780/DDP cells, However, combination treatment of 10 μmol/L hydrogen peroxide and 0.5 W/cm^2, 30 s ultrasound exposure induced apoptosis distinctly（P<0.05）. Conclusion Combination treatment of hydrogen peroxide and ultrasound exposure strongly enhances apoptosis in human ovarian cancer A2780/DDP cells.

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备注/Memo: -

更新日期/Last Update: 2012-02-21