

论著

电离辐射调控脂质体介导的TNF α 基因在HeLa细胞中的表达

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摘要 背景与目的: 用脂质体LipofectaminTM2000介导重组质粒p-Egr-TNF α 转染人HeLa细胞, 研究该重组质粒在不同剂量 γ 射线作用下在细胞中的表达、细胞周期和细胞凋亡的变化。材料与方法: 用ELISA方法检测TNF α 的表达, 并探讨剂量效应关系, 用流式细胞术检测细胞周期的变化。结果: 不同剂量⁶⁰Co γ 射线照射后, p-Egr-TNF α 在HeLa细胞中表达量为(250~400) pg/ml, 明显高于对照组; 照射转染后的HeLa细胞周期出现明显的S期和G2 M期阻滞, 呈现剂量依赖性的增高, G0/G1比值则呈现剂量依赖性的下降。与之相对应, 细胞凋亡率也呈现剂量依赖性的增高。结论: ⁶⁰Co γ 射线可以调控脂质体介导的重组质粒p-Egr-TNF α , 在被转染的HeLa细胞中表达量明显增高, 对细胞周期和细胞凋亡的影响也呈现剂量依赖性的效应关系。

关键词 [⁶⁰Co \$\gamma\$ 射线](#); [TNF \$\alpha\$ 表达](#); [细胞周期](#); [剂量效应](#)

Ionizing Radiation Regulated Expression of HeLa Cells by Lipofectamin-Mediated TNF α Gene

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Abstract **BACKGROUND & AIM** : To investigate the expression of p-Egr-TNF α , cell cycle and apoptosis in HeLa cells, which were transfected by recombined plasmid p-Egr-TNF α , induced by ⁶⁰Co γ -rays irradiation in different doses. **MATERIAL AND METHODS**: The expression of TNF α was detected by ELISA. The cell cycle and apoptosis were detected by Flow Cytometry. **RESULTS**: After γ -rays irradiation in different doses, the expression of TNF α was(250~400)pg/ml,significantly higher than that of the control group. The percentages of S and G2 M phase were markedly higher than that of the control group,and showed a dose-dependent increase, the rate of G0/G1 showed a dose-dependent decrease. Cell apoptosis rate showed a dose-dependent increase. **CONCLUSION**: γ -rays can regulate expression of p-Egr-TNF α by Lipofectamin-mediated TNF α gene in HeLa cells. The expression level shows a significantly increase in transfected HeLa cells. The change of cell cycle and apoptosis shows a dose-dependent effect.

Keywords [⁶⁰Co \$\gamma\$ -rays](#) [TNF \$\alpha\$ expression](#) [cell cycle](#) [dose effect](#)

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