233~237.pGL3 hTERT tk/GCV对胃癌细胞的促凋亡作用[J].邓志华,杨长青,王桂琴,王晶晶.中国肿瘤生物治疗杂志,2008,15(3)

pGL3 hTERT tk/GCV对胃癌细胞的促凋亡作用 点此下载全文

邓志华 杨长青 王桂琴 王晶晶

1.山西医科大学 第二医院 消化科, 山西 太原 030001;1.山西医科大学 第二医院 消化科, 山西 太原 030001;2.山西医科大学基础医学院 微生物与免疫学教研室, 山西 太原 030001;2.山西医科大学基础医学院 微生物与免疫学教研室, 山西 太原 030001

基金项目：国家自然科学基金资助项目(No.30672405),山西省青年科技基金(No.20001028)

DOI：10.3872/j.issn.1007-385X.2008.3.007

摘要：

目的:探讨重组质粒pGL3 hTERT tk/GCV对胃癌细胞的促调亡作用。方法：以基因工程方法构建重组质粒pGL3 hTERT tk和相应的荧光报告质粒pGL3 hTERT tk Luc +；脂质体Lipofectamine TM 2000瞬时转染胃癌细胞系SGC 7901并用GCV干预，荧光显微镜观察细胞形态变化和转染效率，TUNEL标记和流式细胞术观察转染后胃癌细胞的凋亡；以上实验均以正常肝细胞L 02为对照。结果：经鉴定，重组质粒pGL3 hTERT tk中tk片段的长度为1 100 bp。荧光素酶标记的阳性、阴性对照及治疗报告质粒pGL3 hTERT tk Luc +均能有效转染高表达端粒酶活性的胃癌细胞SGC 7901，转染效率为(8.2±1 14)%。重组质粒转染胃癌细胞后与GCV共育4 d，细胞的凋亡率为(60.0±1.56)%；被pGL3 hTERT tk转染的肿瘤细胞细胞周期发生了变化，处于细胞周期早期的细胞大量凋亡，早期凋亡率为（47.1±1.35）%。〖HT5W〗结论：〖HT5"SS〗pGL3 hTERT tk/GCV对胃癌细胞有强烈的杀伤作用，但不影响正常细胞的生长，有潜在临床应用前景。

关键词：胃癌 基因治疗 hTERT启动子 自杀基因 单纯疱疹病毒胸苷激酶

Pro apoptosis effect of pGL3 hTERT TK/GCV on gastric cancer cells Download Fulltext

DENG Zhi hua YANG Chang qing WANG Gui qin WANG Jing jing

1.Department of Gastroenterology, Second Affiliated Hospital of Shanxi Medical University, Taiyuan 030001, China;1.Department of Gastroenterology, Second Affiliated Hospital of Shanxi Medical University, Taiyuan 030001, China;2.Department of Microbiology and Immunology, Preclinical Medical College, Shanxi Medical University, Taiyuan 030001, China;2.Department of Microbiology and Immunology, Preclinical Medical College, Shanxi Medical University, Taiyuan 030001, China

Fund Project:Surpported by the National Natural Science Foundation of China (No. 30672405); Young Scholar Science and Technology Foundation of Shanxi Province (No. 20001028)

Abstract:

Abstract Objective: To investigate the pro apoptosis effect of pGL3 hTERT tk/GCV on human gastric cancer cells in vitro . Methods: Recombinant plasmid pGL3 hTERT tk and the corresponding reporter plasmid pGL3 hTERT tk Luc + were constructed by gene engineering. The recombinant plasmids were then used to transiently transfect gastric cancer cells SGC 7901 via Lipofectamine TM 2000 and was intervened by GCV. Fluorescence microscope was used to observe the changes of cell morphology and the transfection efficiency. Cell apoptosis was examined by TUNEL labeling and the apoptosis rate was determined by flow cytomtry. Normal hepatic cells L02 were used as control in all experiments. Results: The length of tk of therapeutic plasmid pGL3 hTERT tk was 1 100 bp. pGL3 control tk Luc +, pGL3 basic tk Luc + and pGL3 hTERT tk Luc + all could effectively transfect SGC 7901 cells with high telomerase activity, with the transfection rate being (8.2±1.14)%. After SGC 7901 was transfected with therapeutic pGL3 hTERT tk and cultured with GCV for 4 d, the apoptosis rate was (60.0±1.56)% and cell cycle also significantly changed; more cells at the early stage of cell cycle became apoptotic, with an apoptosis rate of (47.1±1.35)%. Conclusion:pGL3 hTERT tk has strong killing effect against gastric cancer cells and has no influence on the growth of normal cells, showing a potential in future clinical application.

Keywords:gastri cancer gene therapy h TERT promoter suicide gene herpes simplex virvs thymidine kinase

查看全文 查看/发表评论 下载PDF阅读器