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论著

RNA干扰抑制胃癌SGC-7901细胞中Livin基因的表达

谯 敏1，向廷秀2，王丕龙1

1.重庆医科大学附属第一医院消化内科，重庆400016；2.重庆医科大学附属第一医院实验研究中心，重庆400016

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摘要 背景与目的： 利用RNA干扰(RNAi)技术在体外抑制Livin基因表达，探讨RNA干扰用于胃癌治疗的可行性。 材料与方法： 设计靶向Livin基因的小干扰RNA(small interference RNA,siRNA)，构建重组表达质粒pTZU6＋1-siRNA-Livin，并导入SGC-7901细胞，在体外诱导RNA干扰。并分别采用流式细胞术检测细胞周期变化，RT-PCR和免疫化学技术检测Livin基因表达，末端标记细胞凋亡法(TUNEL)检测细胞凋亡。 结果： 重组质粒pTZU6＋1-siRNA-Livin导入SGC-7901细胞株后，细胞S期比例由对照组的42.78％降低至19.15％(P<0.05)，G1/G0期细胞由对照组的52.68％增至72.98％(P<0.05)；pL1-siRNA质粒处理组细胞的Livin mRNA表达水平明显低于对照组(P<0.05)，并出现明显的诱导细胞凋亡。 结论： RNA干扰可抑制SGC-7901细胞靶基因Livin的表达及细胞增殖，并诱导细胞凋亡，为胃癌的基因治疗提供了新思路。

关键词 RNA 干扰； 胃癌； 细胞周期 凋亡

Inhibiting Expression of Livin Gene in SGC-7901 Cell Line by RNA Interference

QIAO Min1, XIANG Ting-xiu2, WANG Pi-long1

1.Department of Gastroenterology,The First Affiliated Hospital, Chongqing Medical University, Chongqing 400016; 2.Experimental Research Center, The First Affiliated Hospital, Chongqing Medical University, Chongqing 400016, China

Abstract BACKGROUND AND AIM: To investigate the feasibility of gastric carcinoma gene therapy by utilizing RNA interference(RNAi) to inhibit expression of Livin in vitro. MATERIALS AND METHODS: Small interference RNA(siRNA) homologous to Livin gene were designed, pTZU6＋1-siRNA-Livin vector was constructed and transfected into SGC-7901 cells to induce RNAi in vitro.The changes of tumor cell cycles were examined with flow cytometry, Livin gene expression were measured with RT-PCR and immunochemistry, tumor cell apoptosis was teseted by TUNEL in vitro. RESULTS: After transfected with pTZU6＋1-siRNA-Livin,the percentage of S phase was reduced from 42.78％ to 19.15％(P<0.05),G1/G0 phase increased from 52.68％ to 72.98％(P<0.05). The down-regulation of Livin mRNA in group transfected with pL1-siRNA was obvious compared with the control group,with marked apoptosis. CONCLUSION: RNA interference down-regulated Livin expression, inhibited gastric carcinoma SGC-7901 cell proliferation and induced apoptosis, and may become a potential method for gene therapy of gastric cancer.

Keywords RNA interference gastric carcinoma cell cycle apoptosis

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通讯作者 janjan0619@yahoo.com.cn