207~211.KLK7 siRNA对胃癌AGS细胞的抑制作用[J].苏晓峰,王文苓,蔡洪培.中国肿瘤生物治疗杂志,2013,20(2)

KLK7 siRNA对胃癌AGS细胞的抑制作用

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基金项目：

DOI：10.3872/j.issn.1007-385X.2013.02.014

摘要：

目的： 体外合成4条靶向人组织激肽释放酶7（kallikrein-related peptidase 7， KLK7 ）基因的片段，并筛选最有效siRNA片段，观察沉默 KLK7 表达对胃癌AGS细胞增殖和凋亡的影响。 方法： 设计4条靶向 KLK7 的siRNA片段（KLK7-siRNA-416、KLK7-siRNA-596、KLK7-siRNA-474、KLK7-siRNA-795），瞬时转染AGS细胞，qRT-PCR检测各干扰组 KLK7 mRNA表达的变化，Western blotting检测AGS细胞中HK7蛋白（由 KLK7 基因编码）的表达，MTT法检测转染后AGS细胞的增殖，流式细胞术检测AGS细胞的细胞周期及凋亡。 结果： 4条KLK7-siRNA片段中以KLK7-siRNA-416的干扰效率最高，KLK7-siRNA-416组 KLK7 mRNA表达率显著低于NC组\[(0.32±0.049）% vs (0.93±0.071)%, P<0.01\]，KLK7-siRNA-416组转染48 h后AGS细胞HK7蛋白的表达水平显著降低\[（1.18±0.198） vs（0.52±0.096），P<0.01\]。KLK7-siRNA-416转染72 h后对AGS细胞增殖的抑制率达（37.70±0.12）%（P<0.05），该转染阻滞AGS细胞于G 0/G 1期但不影响AGS细胞的凋亡。 结论： KLK7-siRNA沉默 KLK7 的表达可抑制AGS细胞的增殖，可阻滞细胞于G 0/G 1期，对细胞凋亡的作用不明显。

关键词：胃癌 RNA干扰 KLK7 AGS细胞 增殖 细胞周期

KLK7 siRNA on gastric cancer AGS cell lines

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Abstract:

Objective: Four siRNA fragments targeting kallikrein-related peptidase 7 (KLK7) were synthesized in vitro. The most effective siRNA was selected, and the effect of silencing KLK7 expression on proliferation and apoptosis of gastric carcinoma AGS cells was observed. Methods: Four siRNA fragments targeting KLK7 (KLK7-siRNA-416, KLK7-siRNA-596, KLK7-siRNA-474 and KLK7-siRNA-795) were designed and transiently transfected into AGS cells. qRT-PCR was used to detect the expression of KLK7 mRNA in each interference group. Western blotting was used to detect the protein expression of HK7 (encoded by KLK7 gene). AGS cell proliferation, and the cells cycle and apoptosis after transfection were detected by MTT assay and flow cytometry, respectively. Results: Among four KLK7-siRNAs, KLK7-siRNA-416 showed the highest interference efficiency. The ratio of KLK7 mRNA expression in KLK7-siRNA-416 group was significantly lower than those in control group (\[0.32±0.049)% vs \[0.93±0.071\], P<0.01). The protein expression of HK7 in KLK7-siRNA-416 group after transfection for 48 h was significantly decreased (\[1.18±0.198\] vs \[0.52±0 096\], P<0.01). The cell proliferation of KLK7-siRNA-416 group was significantly inhibited after transfection for 48 h, with inhibition rate of (37.70±0.12)%, P<0.05. Cell cycles were blocked in G 0/G 1 phase by transfection. However, no impact was found in AGS cell apoptosis. Conclusion: The silencing expression of KLK7 by KLK7-siRNA inhibited the AGS cell proliferation and block cell cycels in G 0/G1 phase. However, no impact was found in AGS cell apoptosis.

Keywords:gastic carcinoma RNA interference KLK7 AGS cell proliferation cell cycle

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