125~128.靶向survivin的siRNA对骨肉瘤细胞MG63的抑制作用[J].杨彤涛,李存孝,高　杰,等.中国肿瘤生物治疗杂志,2008,15(2)

靶向survivin的siRNA对骨肉瘤细胞MG63的抑制作用　点此下载全文

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基金项目：国家自然科学基金资助项目（No.30471988）

DOI：10.3872/j.issn.1007-385X.2008.2.20085636962673

摘要：

目的：探讨针对人survivin基因的siRNA对骨肉瘤细胞MG63的体内外抑制作用。方法：合成survivin基因的RNA干涉（RNA interferance,RNAi）特异性片段，构建survivin特异性的RNA干涉载体pSiS，转染MG63细胞，G418筛选稳定转染的细胞系。细胞计数检测细胞生长情况；Western blotting检测细胞中survivin蛋白表达的变化；通过Annexin V法染色和流式细胞术检测细胞凋亡；观察裸鼠皮下MG63移植瘤的形成。结果：　成功构建了survivin基因siRNA真核表达载体pSiS，获得了稳定转染的细胞MG63/pSiS。与MG63、MG63/pSi（空质粒对照细胞）相比，MG63/pSiS细胞生长曲线十分平缓，差异有统计学意义（　P　<0.01）；Western blotting显示，MG63/pSiS细胞中survivin蛋白表达减少，细胞凋亡率增加（　P　<0.01）。　MG63/pSiS　移植瘤形成明显受到抑制。结论：Survivin特异性siRNA可明显促进骨肉瘤细胞MG63的凋亡，抑制该肿瘤细胞体外生长和体内移植成瘤。

关键词：骨肉瘤 survivin RNA干涉 凋亡 抗肿瘤

Survivin targeted siRNA inhibits proliferation of human osteosarcoma cell line MG63　in vitro　and　in vivo　Download Fulltext

Fund Project:Supported by the National Natural Science Foundation of China (No. 30471988)

Abstract:

Abstract Objective: To explore the inhibitory effect of survivin targeted siRNA on human osteosarcoma cell line MG63　in vivo　and　in vitro.　Methods: According to the survivin cDNA sequence, the specific RNA interference (RNAi) fragments were designed and synthesized, which were then cloned into pSilencer 3.0 H1 neo plasmid vector to construct pSiS vector. MG63 cells were transfected with RNAi vectors and negative control vector separately; the stably transfected cell strains were selected by G418; and cell growth was assessed by cell counting. Expression of survivin protein was investigated by Western blotting. Apoptosis analysis was examined by Annexin Ⅴ method. Tumorigenesis assay was conducted in nude mice. Results: The specific survivin targeted siRNA eukaryotic vector pSiS was successfully constructed, and transfectants were obtained. Compared with blank vector transfected cells and un transfected cells, MG63/pSiS cells had a slow growth (P <0.01). Expression of survivin protein was significantly inhibited in MG63/pSiS cells, which had an increased apoptotic rate (P <0.01). The tumorigenesis of transplanted MG63/pSiS was greatly inhibited. Conclusion: Survivin targeted siRNA can promote the apoptosis of MG63 cells, and inhibit the　in vitro　growth and　in vivo　tumor formation in nude mice.

Keywords:osteosarcoma survivin RNA interference apoptosis antitumor

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