

## 论文

### 新靶点CDK2干扰RNA对人脑胶质瘤增殖影响

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#### 摘要:

**目的** 构建4个新靶点的人细胞周期蛋白依赖性激酶2(CDK2)干扰RNA真核表达载体,转染人脑胶质瘤细胞后,检测出干扰效果最好的载体及细胞增殖能力的变化。**方法** 构建4个新靶点CDK2干扰RNA真核表达载体并用双酶切和测序鉴定;分别转染上述4个载体到人脑胶质瘤细胞株SHG44;通过逆转录聚合酶链反应(RT-PCR)比较转染后CDK2 mRNA的表达量,选出干扰效果最好的一个,检测细胞增殖能力的变化。**结果** 成功构建4个新靶点的CDK2干扰RNA真核表达载体p<sup>CDK2-1</sup>、p<sup>CDK2-2</sup>、p<sup>CDK2-3</sup>、p<sup>CDK2-4</sup>;CDK2 mRNA表达和细胞增殖明显受到抑制,p<sup>CDK2-1</sup>的干扰效果为56%;p<sup>CDK2-1</sup>-SHG44细胞与对照组相比增殖能力减弱。**结论** 成功构建并筛选出效果最好的新靶点CDK2干扰RNA真核表达载体,并使SHG44细胞的增殖水平降低。

**关键词:** 干扰RNA 新靶点 细胞周期蛋白依赖性激酶2(CDK2) 胶质瘤 增殖

### Effects of new targets of CDK2 RNA interference on proliferation of SHG44 cells

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#### Abstract:

**Objective** To construct four new eukaryotic expression vectors of RNA interference specific for cyclin-dependent kinase-2 (CDK2) and transfect the vectors into SHG44 cells for the detection of vectors with strong interferential effect. **Methods** Four new eukaryotic expression vectors of RNA interference specific for CDK2 were constructed. The human glioma SHG44 cell line was transfected with the four new vectors. The mRNA contents of CDK2 were detected using reverse transcriptase-PCR (RT-PCR). The change in proliferation of SHG44 cells was assayed. **Results** The new vectors with new targets of eukaryotic expression of RNA interference specific for CDK2 were constructed (p<sup>CDK2-1</sup>, p<sup>CDK2-2</sup>, p<sup>CDK2-3</sup>, p<sup>CDK2-4</sup>). CDK2 small interfering RNA (siRNA) could suppress expression of mRNA and p<sup>CDK2-1</sup>. siRNA could inhibit the proliferation of SHG44 cell line. **Conclusion** The proliferation of human SHG44 cell line could be significantly inhibited after the transfection with new eukaryotic expression vectors of CDK2 siRNA.

**Keywords:** interference RNA new target CDK2 glioma proliferation

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