

论著

## 携带Lipocalin 2的溶瘤腺病毒抑制胰腺癌生长的实验研究

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摘要

目的 构建携带人Lipocalin 2基因且删除E1B55基因的溶瘤腺病毒,研究其体外对胰腺癌细胞生长的抑制作用。方法 利用RT-PCR技术获得Lipocalin 2基因并克隆至pCA13质粒,构建pCA13-lipocalin 2。用Bgl II从pCA13-lipocalin 2酶切出包含CMV启动子及Lipocalin 2的表达框,将该表达框亚克隆入质粒pZD55,获得pZD55-lipocalin 2。将pZD55-lipocalin 2与pBHGE3共转染293细胞,重组产生携带Lipocalin 2的溶瘤腺病毒ZD55-lipocalin 2。经PCR和Western blot鉴定正确后,体外采用结晶紫染色和MTT法,观察其对胰腺癌细胞生长的抑制作用。结果 ZD55-lipocalin 2能在PANC-1细胞中增殖复制并表达Lipocalin 2蛋白,结晶紫染色和MTT法观察到该溶瘤腺病毒能明显抑制PANC-1细胞生长。结论 成功构建了携带人Lipocalin 2的溶瘤腺病毒,其能明显抑制胰腺癌细胞生长,为胰腺癌治疗提供新策略。

关键词 [胰腺癌](#); [溶瘤腺病毒](#); [Lipocalin 2](#)

分类号

## Oncolytic adenovirus expressing lipocalin 2 suppresses pancreatic tumor growth in vitro

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Abstract

Objective To construct replication-selective oncolytic adenovirus expressing lipocalin 2 gene and investigate its antitumor activity in vitro. Methods Lipocalin 2 gene was cloned into pCA13 plasmid to construct pCA13-lipocalin 2. PCA13-lipocalin 2 was digested with Bgl II restriction enzyme to obtain the expression cassette including CMV promoter and Lipocalin 2' CDS. This cassette was subcloned into pZD55 plasmid to produce pZD55-lipocalin 2. PZD55-lipocalin 2 and pBHGE3 plasmids were cotransfected and recombined in 293 cells to obtain oncolytic adenovirus ZD55-lipocalin 2. After identifications for the novel oncolytic adenovirus by PCR and western blot, crystal violet staining and MTT were used to observe the inhibition of pancreatic cancer cell growth. Results The novel oncolytic adenovirus expressed Lipocalin 2 proteins in PANC-1 cells; crystal violet staining and MTT showed that the oncolytic adenovirus markedly inhibited the growth of PANC-1. Conclusions The therapeutic oncolytic adenovirus expressing lipocalin 2 is successfully constructed, which would be a promising candidate for investigation of targeting gene-virotherapy of pancreatic cancer.

Key words [Pancreatic Cancer](#); [Oncolytic Adenovirus](#); [Lipocalin 2](#)

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