

基础研究

慢病毒介导的猪CD4启动子在白血病 Jurkat 细胞中的启动作用

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摘要:

目的:研究异种基因启动子在Jurkat细胞中调节外源基因表达的作用,为人类白血病动物模型的建立提供理论依据。方法:利用生物信息学手段预测并克隆出猪CD4基因启动子,然后利用克隆的猪CD4基因启动子构建和包装慢病毒载体。包装的病毒经过滴度检测和侵染293T细胞及Jurkat细胞后进行绿色荧光蛋白检测,比较猪CD4基因启动子与EF-1α启动子启动的外源基因表达情况。结果:成功预测出猪CD4基因启动子,成功构建慢病毒载体并包装出病毒。经过病毒滴度测定及侵染293T细胞和Jurkat细胞表明,2种启动子在细胞中的启动绿色荧光蛋白的效果相近。结论:猪CD4基因启动子在白血病 Jurkat 细胞中没有特异性启动外源基因,猪CD4基因启动子可以作为一种在Jurkat细胞中启动外源基因的不同选择。

关键词: CD4基因;慢病毒;Jurkat细胞;293T细胞;启动子

Start effect of lentiviral vector-mediated CD4 gene promoter in leukemia Jurkat cells

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Abstract:

Abstract: Objective

To study the effect of heterogeneous gene promoter on regulation of exogenous gene expression in Jurkat cells and provide the theoretical basis for establishment of leukemia animal model.Methods The pig CD4 gene promoter was focasted and cloned by bioinformatics means;then using the cloned CD4 genen promoter,the lentivirus package was performed and the lentiviral vector was constructed.Affter the packaged virus was obtained the titer of virus was detected and the 293 T cells and Jurkat cells were infected to perform green fluorescent protein detection.The expressions of exogenous genes of the pigs CD4 gene promoter and EF-1α promoter were compared.Results The pig CD4 gene promoter was successfully forecasted and the lentiviral vector was successfully constructed and the virus was packaged out.The dection of titer of virus and infection of 293 T cells and Jurkat cells showed that the start effect of GFP of two promoters in the cells were similar.Conclusion The pig CD4 gene promoter has not specific start of exogenous genes in leukemia Jurkat cells.The pig CD4 gene promoter can serve as a kind of different choice start of heterologous gene in leukemia Jurkat cells.

Keywords: CD4 gene;lentiviral;Jurkat cells;293T cells;promoter

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