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研究报告

利用Red同源重组系统进行牛β酪蛋白基因敲除

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摘要

利用EL350基因工程菌进行同源重组，成功进行基因敲除已有报道，但利用该系统进行乳腺生物反应器质粒构建的研究却未见报道。实验采用含有完整的牛b 酪蛋白基因的CSN2质粒作为基因打靶的载体，设计不同的同源臂，成功地敲除了b 酪蛋白基因的编码区。并且同时利用同源重组技术对敲除不同大小的DNA片段的效率进行了研究。为进一步利用CSN2质粒两端的调控序列，插入新的基因，研究其表达功能，或者进行乳腺生物反应器的研究奠定了基础。

关键词 同源重组 牛b酪蛋白基因 Cre-loxP重组系统 基因敲除

分类号

Knock out of bovine beta casein gene by homologous recombination

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Abstract

<P> It has been reported that homologous recombination with Red system has been successfully used for knock-out. We try to work on the construction of the expression vector of Mammary Gland with Red system. This study takes CSN2 as a vector for gene target, which contains the complete bovine beta casein gene. Different homologous arms were designed and the CDS region of the beta casein gene was successfully knocked out. The efficiency was also explored for knocking out different DNA fragment. Based on the study, it is very convenient for making a deep research of the foreign gene expression under the regulation of CSN2 flanking region.</P>

Key words homologous recombination bovine beta-casein Cre-loxP knock-out

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