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变铅青链霉菌启动子的克隆和表达*

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摘要 利用启动子探测质粒pIJ486(Tsr r Neo s)将变铅青链霉菌(Streptomyces lividans)TK24染 色体DNA的BamHI酶切片段插入pIJ486的BamHI位点。获得4个硫链丝菌肽抗性、新霉素抗性的 重组质粒。它们分别命名为pMG1(10.6kb)、pMG40(7.6kb)、pMG50(10.8kb)和pMG88(7.92kb) 。BamHI酶切分析及再转化试验表明，新霉素抗性的恢复确实来自载体的外源插入序列。用B gl Ⅱ酶切已将pMG40的插入序列缩小到0.78kb的pMG40-2,pMG50的插入序列缩小到2.2kb的pMG 50-25，仍保留启动子活性。重组质粒pMG50-25的新霉素抗性水平高达90μg/ml(卡那霉素抗 性水平为500μg/ml)，表明这是一个活性很强的启动子。

关键词 启动子,新霉素抗性,变铅青链霉菌

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Cloning and Expression of Streptomyces lividans Promoters

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Abstract

BamHI restriction fragments from Streptomyces lividans TK24 chromosome DNA have been cloned into BamHI site of promoter probe plasmid pIJ486.Transformants were selected on the medium containing 5μg/ml of neomycin.Four recombinant plasmids pMG1(10.6kb),pMG40(7.6kb),pMG50(10.8kb) and pMG88(7.92kb),were found and designa ted respectively.The inserted fragments in pMG40 and pMG50 were reduced to 0.78k b and 2.2kb by BglII digestion and rejoining.The different levels of neomycin an d kanamycin resistance of these recombinant plasmids were determined.The results revealed that pMG50-25 showed a high level of neomycin resistance (90μg/ml) and kanamycin resistance (500μg/ml).

Key words Promoters Neomycin resistance Streptomyces lividans

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