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论著

日本血吸虫线粒体相关蛋白的特性及抗原表位的分析

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摘要

目的 分析rSj338重组蛋白的氨基酸序列 ,了解该蛋白的特性 ,预测其抗原表位。方法 制备Sj338基因片段并重组入测序载体pGEM T ,对其核苷酸序列进行测定 ,分别以DNASIS和GOLDKEY软件对序列资料进行分析 ,并在BLAST网上进行同源性分析。结果 rSj338基因长 487bp ,含 1个由 45 9bp组成的开放阅读框 ,编码一由 15 3个氨基酸残基组成的多肽 ,分子量为 17 6kDa,氨基酸同源性分析发现 ,重组蛋白与人的线粒体传入受体亚单位氨基酸同源性为 46 % ,与褐鼠线粒体膜受体的前体氨基酸同源性为 44 % ,预测该蛋白的抗原表位位置为2 6～ 32、37～ 46、131～ 136和 147～ 15 1氨基酸肽段。结论 rSj338重组蛋白可能为日本血吸虫线粒体相关蛋白

关键词 日本血吸虫 线粒体 重组蛋白 序列分析 线粒体相关蛋白

分类号

Analysis of the Mitochondria Related Protein of Schistosoma japonicum and its Antigen Epitopes

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Abstract

Objective To sequence the cloned gene Sj338 and to identify the encoded protein and its antigen epitopes.Methods The Sj338 gene fragment obtained from adult S. japonicum cDNA library amplified by PCR method was subcloned into pGEM T vector for sequencing. The sequence of nucleotides and the characteristics of the encoded protein were analyzed by DNASIS Program and Goldkey DNA and Protein Analytical Program, and then the homology of the amino acid sequence was searched on the BLAST net.Results The cloned rSj338 gene was demonstrated to be 487 bp containing one 459bp ORF, encoding a protein consisted of 153 amino acids with a molecular weight of 17 6 kDa. The amino acid sequence of the recombinant protein rSj338 shared 46% identity with that of the corresponding part of human mitochondrial import receptor and 44% identity with that of the Rattus sp. mitochondrial precursor receptor. The possible antigen epitopes were predicted within the peptide fragments of 26-32 aa, 37-46 aa and 147-151 aa.Conclusion The protein encoded by rSj338 gene fragment might be the mitochondria related protein of Schistosoma japonicum .

Key words Schistosoma japonicum mitochondria recombinant protein sequence analysis mithochondria related protein

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