

用寡核苷酸探针 (CAC)₅/(GTG)₅ 进行人的DNA指纹分析

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摘要 在人或动物的基因组中,存在着类似于小卫星DNA的简单衔接重复单位,如(GACA)₄、(GATA)₄、(TCC)₅、(CA)₆和(CAC)₅,等,由于这些重复单位在人或动物基因组中出现的数目和频率不同而表现出多态性。本文用人工合成的寡核苷酸探针(CAC)₅/(GTG)₅,调查了北京地区的50名无关个体,经过统计学处理,计算出无关个体的相关机率是 3.8×10^{-10} ;此外还对2个家系中的11名成员和1对双胞胎进行了检测,其结果显示子代中的杂交带分别来自父亲和母亲;双胞胎的DNA指纹图完全一致。研究表明,(CAC)₅/(GTG)₅探针检出的谱带具有高度的个体特异性(同卵双生子除外),并且谱带在亲代与子代间的传递符合孟德尔遗传规律。

关键词 [DNA指纹](#),[简单衔接重复单位](#),[寡核苷酸探针](#),[限制性片段长度多态性\(RFLPS\)](#) 20

分类号

The Analysis of Human DNA Fingerprints by the Synthetic Oligonucleotide Probe

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Abstract

In order to test the practical applicability of oligonucleotide fingerprinting we have investigated 50 unrelated individuals, 11 members in two families and one pair of twin using the probe (CAC)₅/(GTG)₅. Except the monozygotic twins highly variable patterns were demonstrated, even in a family. The probability of chance association between random individuals was calculated was 3.8×10^{-10} . It seems reasonable to conclude that (CAC)₅/(GTG)₅ fingerprints are completely individual-specific. The results of the pedigree study showed that the inheritance of alleles was in keeping with the Mendelian Law. This method is not so costly and labor^aintensive as the conventional Southern blotting. It increases the speed and lessen the complexity of RFLPs study.

Key words [DNA fingerprinting](#) [Simple tandem repeats](#) [Synthetic oligonucleotide probe](#) [Restriction fragment length polymorphisms \(RFLPs\)](#)

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