人类与医学遗传学

3个X-STR基因座荧光标记复合扩增

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摘要

为研究DXS6803、DXS981和DXS6809 3个基因座多态性及其在法医学中的应用, 建立X染色体基因座 (DXS6803、DXS981和DXS6809)的荧光复合扩增体系。用荧光标记引物PCR技术复合扩增3个基因座,并用 ABI PRISM 3100毛细管电泳及其软件进行基因分型。结果在中国汉族340名无关男性个体及195名无关女性 个体中,DXS6803、DXS981和DXS6809三个基因座分别发现了13、12、11个等位基因,男性个体共检出183 种单倍型,单倍型多样性为0.9926。结果表明这3个基因座有较高的多态性信息,在个体识别和亲权鉴定 (特别是在缺失双亲的特殊检案)中有重要的应用价值。

关键词 <u>X-STR; 荧光复合扩增; 毛细管电泳; 多态性</u> 分类号

Fluorescent Multiplex Amplification of Three X-STR Loci

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Abstract

<P>This study was carried out to evaluate the value of three X-STR loci (DXS6803, DXS981and DXS6809) in forensic application and thereby investigate their polymorphism. The primer for each locus was labeled with fluorochrome 6-FAM. A fluorescent multiplex PCR for simultaneously amplifying three X-STR loci was set up. The PCR products that were obtained were analyzed using capillary electrophoresis and ABI PRISM 3100 Genetic Analyzer, with GENESCAN Analysis Software. When 340 male and 195 female individuals of Han population in China were tested, 13, 12, and 11 alleles were observed for DXS6803, DXS981 and DXS6809, respectively. One hundred and eighty three haplotypes were detected in the male individuals. The haplotype diversity reached 0.9926. The results show that the three loci of the multiplex system provide significant information on polymorphism for forensic identification and paternity testing, particularly for complicated paternity deficient cases.

Key words X-STR fluorescent multiplex PCR capillary electrophoresis polymorphism

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