Abstract 5

THE X-CHROMOSOME STR LOCI DXS101, DXS6789, DXS7132, DXS981 AND THEIR HAPLOTYPES IN TAIWAN

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X-linked microsatellite markers are powerful tools for parentage testing, mainly in deficiency paternity cases when the disputed child is female. In this study, we investigated four X-chromosome short tandem repeats (STRs) loci in the Taiwanese population and analyzed their allele frequencies. A population study was carried out on the sample of two hundred unrelated donors (99 females and 101 males), using the X-chromosome STR loci DXS7132, DXS981, DXS101 and DXS6789. The P-values for DXS7132, DXS981, DXS101 and DXS6789 are 0.1471±0.0103, 0.0019±0.0011, 0.1427±0.0208 and 0.0025±0.0013, respectively. In addition to allele frequencies, we also present data on linkage haplotype frequencies of DXS7132-DXS981 and DXS101-DXS6789 in the Taiwanese population. Theoretically, the DXS7132-DXS981 and DXS101-DXS6789 clusters could give rise to 96 and 130 different haplotypes. In fact, genotyping of 101 males revealed the presence of only 34 and 33 different haplotypes in the Taiwan population. Hence, it is inadmissible to calculate haplotype frequencies of DXS7132-DXS981 and DXS101-DXS6789 using their single allele frequencies. In conclusion, DXS7132, DXS981, DXS101 and DXS6789 are highly useful X-chromosome STR loci for forensic identification and paternity tests in Taiwan, especially the haplotype information of DXS7132-DXS981 and DXS101-DXS6789.