

## ALLELE FREQUENCIES OF EIGHT X-STR IN THE JAPANESE POPULATION

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Short tandem repeat (STR) loci are useful for personal identification and paternity testing because the number of repeats within STRs tends to be highly variable and these STR polymorphisms can be rapidly analyzed using PCR. Autosomal STR makers are widely applied to personal identification and paternity testing. However, in some kinship or deficiency paternity cases typing of sex chromosomal STRs may be more informative than autosomal STRs. Typing of X chromosomal STRs (X-STRs) could be of great usefulness to the paternity where the child is female because fathers transmit their X-STRs to all their daughters. We studied eight X-STRs (DXS7132, DXS7423, DXS8378, DXS 10074, DXS 10101, DXS 10134, DXS 10135, HPRTB) polymorphism in 413 unrelated Japanese individuals (135 males, 65 females), by using Mentype Argus X-8 PCR Amplification Kit (Biotype AG, Dresden, German).

Power of discrimination (PD) of the 8 X-STRs ranged from 0.734 to 1.000 (female). High PD values were observed at DXS 10135 ( 1.000 female), DXS 10101 (0.965 female), DXS 10134 (0.907 female), DXS 10074 (0.891 female). DXS 10135 showed the highest PD value among them. Allele frequencies and Polymorphism information content (PIC) were calculated from the combined data of males and females. Allele frequencies, number of alleles, and PIC were 0.004-0.600, 3-18, and 0.467-0.896 respectively. DXS 10135 proved to be the highest PIC (0.896), DXS7423 showed the lowest PIC value(0.467).