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Y-Specific Polymorphisms of the Alu (YAP) Element and the Microsatellite Locus DYS19 in Korean Populations

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The Y Alu polymorphic (YAP) element and the Y-linked tetranucleotide repeat (GATA)n of microsatellite locus DYS19 have been examined in Korean populations to raise the possibility of tracing paternal lineages and male-mediated gene flow between Korea and Japan. The frequency of YAP element was found to be 1% (3/301). This result is consistent with previous reports that showed the YAP element to be absent in most Asian populations and the high frequency of the YAP element in Japanese. The YAP chromosomes detected in this study appeared to be YAP haplotype 3, which is frequently found in the Japanese population. On the basis of the result for the locus DYS19 (n = 252), Korean populations appear to have the most similar allelic frequency (C>D>B>E>A) to Mongolian populations among Asian populations. Although the DYS19 locus distinguishes the Japanese population (C>D>E>A>B) from most Asian populations, they tend to be somewhat closer to the result of the Korean population, with regard to the frequency of D allele. Finally, all of these results support the hybridization theory that modern Japanese populations have resulted from the ancient Jomon people (YAP+) and Yayoi immigrants (YAP-) from Korea.

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Familial Transmission of Translocation 11q; 22q

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The constitutional translocation between chromosomes 11 and 22, t(11;22)(q23;q11), is the most frequent chromosomal rearrangement in humans. The risk of having an imbalanced child is greatly increased for the women carrier as compared to men carrier. We found 3 cases with familial translocation t(11q;22q). In these families fetal chromosomal rearrangements were detected by amniocenteses which were ordered because of the advanced maternal age, the abuse of drugs or previous fetal loss. We perform chromosome analysis of parents to identify the origin of fetus’ karyotype retrospectively using G-banding. Two fetuses were balanced translocation with 46, XX and XY, t(11;22)(q23;q11)pat. Their fathers were detected later to be a balanced translocation carrier. The remaining fetus was examined as an unbalanced karyotype, 47, XX, +der(22). The derivative chromosome 22 has inherited from mother with balanced translocation 46, XX, t(11;22)(q23;q11).