

For the Record

Allele Frequencies and Haplotypes of Ten Y-Specific STRs in the Japanese Population

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Population: Japanese male individuals, mainly inhabitants of Honshu, the central island of Japan (91% of the total samples). $N = 144$.

Keywords: forensic science, DNA typing, population genetics. DYS19, DYS385, DYS388, DYS389I, DYS389II, DYS390, DYS391, DYS392, DYS393, DXYS156Y, haplotype, short tandem repeats, Y-chromosome, Japan

Blood samples were obtained from 144 unrelated Japanese male individuals. Genomic DNA was obtained using standard phenol/chloroform procedure (1). Each locus was amplified by individual or multiplex PCR using 10 ng of DNA. PCR primers used were identical to those described elsewhere (2) or were newly constructed in the original sequences. PCR products were separated in

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polyacrylamide denaturing gels and visualized by silver staining. Alleles were designated according to the number of repeat. The haplotype diversity of ten Y-specific STRs was calculated to be 98.94%. Comparison of allelic frequencies of the nine loci except the DYS385 locus between the previous data for the Japanese populations (3,4) using the X^2 -test showed significant differences in their distributions except DYS393. In addition, comparison of the patterns of haplotypes of our data with the previous Japanese data resulted in only two matches in the eight-locus systems (3). Thus amalgamation with the present and the previous Japanese data (3,4) was impossible either for an individual locus or for the haplotypes. The complete data set is available upon request.

References

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TABLE 1—Allelic frequencies and genetic diversities of the ten Y-STR systems.

DSY19			D6S390		
Allele		Frequency/%	Allele		Frequency/%
13	3	(2.1)	22	42	(29.2)
14	13	(9.0)	23	38	(26.4)
15	71	(49.3)	24	23	(16.0)
16	34	(23.6)	25	35	(24.3)
17	23	(16.0)	26	5	(3.5)
	Gene diversity 66.71%		27	1	(0.7)
			Gene diversity 75.95%		
DYS388			DYS391		
Allele		Frequency/%	Allele		Frequency/%
10	8	(5.5)	8	1	(0.7)
12	118	(81.9)	10	130	(90.3)
13	13	(9.0)	11	13	(9.0)
14	5	(3.5)		Gene diversity 17.68%	
	Gene diversity 31.61%				
DYS3891			DYS392		
Allele		Frequency/%	Allele		Frequency/%
8	6	(4.2)	11	52	(36.1)
9	17	(11.8)	12	11	(7.6)
10	46	(31.9)	13	63	(43.8)
11	69	(47.9)	14	16	(11.1)
12	6	(4.2)	15	1	(0.7)
	Gene diversity 65.09%		16	1	(0.7)
			Gene diversity 65.99%		
DYS3892			DYS393		
Allele		Frequency/%	Allele		Frequency/%
24	10	(6.9)	11	2	(1.4)
25	16	(11.1)	12	28	(19.4)
26	38	(26.4)	13	96	(66.7)
27	45	(31.2)	14	16	(11.1)
28	26	(18.1)	15	2	(1.4)
29	9	(6.3)		Gene diversity 50.50%	
	Gene diversity 77.90%				

TABLE 1—Continued.

DYS385					
Allele		Frequency/%	Allele		Frequency/%
9-19	1	(0.7)	13-14	2	(1.4)
10-12	2	(1.4)	13-15	3	(2.1)
10-17	2	(1.4)	13-16	2	(1.4)
10-18	16	(11.1)	13-17	16	(11.1)
10-19	15	(10.4)	13-18	6	(4.2)
10-20	12	(8.3)	13-19	2	(1.4)
10-21	4	(2.8)	13-20	1	(0.7)
11-12	3	(2.1)	13-25	1	(0.7)
11-16	1	(0.7)	14-14	1	(0.7)
11-17	1	(0.7)	14-16	2	(1.4)
11-18	1	(0.7)	14-17	8	(5.5)
11-20	2	(1.4)	14-18	2	(1.4)
11-21	1	(0.7)	14-19	5	(3.4)
12-13	4	(2.8)	14-20	1	(0.7)
12-16	1	(0.7)	14-22	1	(0.7)
12-17	7	(4.8)	15-15	1	(0.7)
12-18	1	(0.7)	15-17	5	(3.4)
12-19	3	(2.1)	15-18	2	(1.4)
12-20	2	(1.4)	16-16	1	(0.7)
13-13	2	(1.4)	16-19	1	(0.7)
Gene diversity 94.22%					
DXYS156Y					
Allele		Frequency/%			
11	58	(40.3)			
12	62	(43.0)			
13	17	(11.8)			
14	7	(4.9)			
Gene diversity 63.61%					

