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Haplotype Frequencies of Three Y-Chromosome STR Loci in Tibetan Ethnic Group of Chinese Population

POPULATION: Chinese

KEYWORDS: forensic science, Y chromosome, DYS434, DYS443, DYS456, STR, Chinese population, Tibetan ethnic group, haplotype

A total of 101 blood samples were collected from unrelated males of Tibetan ethnic group in Lasa of China. DNA was extracted using Chelex method (1). The allelic variation at the three Y-STR loci named as DYS434, DYS443, and DYS456, were analyzed by PCR amplification with multiplex system. Multiplex PCR amplifications were performed in a 37.5 μ L containing 2–4 ng human genome DNA, 7.5 μ L dNTP (1 mmol/mL), 3 μ Taq polymerase, 3.75 μ L 10 \times buffer (Mg²⁺ 1.5 mmol/l), 3.75 μ L BSA (1.6 μ g/mL), 0.3 μ L each primers (50 nmol/mL). Amplification reactions were carried out in a Perkin Elmer 9600 (Foster City, CA) with pre-denaturing for 2 min at 94°C, followed by 38 cycles of denaturing for 50 s at 94°C, annealing for 50 s at 56°C and extension for 25 s at 72°C. The PCR products were analyzed by horizontal

TABLE 2—The haplotypes of three Y-chromosome STR loci in a Tibetan ethnic group of Chinese population (H haplotype n number of individuals observed for each haplotype).

Haplotype	DYS434	DYS443	DYS456	n
H1	8	15	16	1
H2	8	16	16	1
H3	8	17	15	1
H4	8	17	19	1
H5	9	14	16	1
H6	9	14	19	1
H7	9	15	15	2
H8	9	15	16	7
H9	9	15	17	1
H10	9	16	14	1
H11	9	16	15	6
H12	9	16	16	10
H13	9	16	18	2
H14	9	17	15	5
H15	9	17	16	6
H16	10	14	15	7
H17	10	14	16	1
H18	10	14	17	1
H19	10	15	15	3
H20	10	15	16	6
H21	10	16	14	1
H22	10	16	15	7
H23	10	16	16	5
H24	10	16	17	3
H25	10	16	18	1
H26	10	17	15	13
H27	10	17	16	3
H28	10	17	19	1
H29	11	14	15	1
H30	11	15	16	1
H31	11	17	14	1

Haplotype diversity = 0.9481. SE = 0.0049

TABLE 1—Allele frequencies and gene diversities at three Y-chromosomes STR loci in the Tibetan ethnic group of Chinese population.

Allele	DYS434	DYS443	DYS456
8	0.0396		
9	0.4158		
10	0.5149		
11	0.0297		
12			
13			
14		0.1188	0.0297
15		0.2079	0.4456
16		0.3663	0.4158
17		0.3069	0.0495
18			0.0297
19			0.0297
Gene Diversity	0.5652	0.7214	0.6297
SE	0.01695	0.01185	0.01932

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non-denaturing polyacrylamide gel electrophoresis with discontinuous buffer system and visualized by silver staining (2). Data of population genetics and forensic science were analyzed according to Hou's method (3).

The complete data can be accessed at: <http://www.legalmed.org/dna/3 Y-STR.htm>.

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