

FOR THE RECORD

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Polymorphism Data at DYS385 Locus in Five Ethnic Groups from Kerala in Southern West India

POPULATION: We have studied the DNA polymorphism at DYS385, a Y-chromosomal tetranucleotide repeat locus among five anthropologically distinct ethnic groups of Kerala state in Southern West India. The ethnic groups were Ezhavas, Muslims, Nairs, Arayas and Thandans and they speak “Malayalam,” an Indo-Dravidian language. Peripheral blood samples were collected from 72 random, healthy and normal male volunteers for this study.

KEYWORDS: forensic science, DYS385 locus, allele frequency, Indian population

DNA was extracted using a salt precipitation method (1). Locus specific primers were used for PCR amplification (2), where the forward primer was labeled with fluorescent CY5TM dye amidite. The parameters for PCR amplification of DYS385 was as described by Caglia et al. (3). A total of 25 μ L reaction was set up and PCR amplification was performed on EppendorfTM Mastercycler. Amplimers were electrophoresed in 6% denaturing urea gel (7M) and analyzed by fragment manager using ALFTM Express DNA Sequencer (Amersham Pharmacia BioSciences Pvt. Ltd). Internal ladders were used in each lane for the accurate size determination. Allelic ladder was also used in addition to the external ladder.

The Allele frequency and gene diversities were calculated by using the software ARLEQUIN ver. 1.1 (4). The nomenclature of the allele sizes were as described by Kayser et al. (2).

The allele frequency distribution at DYS385 locus is shown in Table 1. A total of 31 allele combinations were observed among the five groups studied. However, only two of these (10–13 and 14–18) were shared among the five ethnic groups. The gene diversity at this locus ranged from 0.93 ± 0.12 to 0.99 ± 0.02 . This locus displayed highest gene diversity values compared with other Y-STRs studied among the Indian populations (5) and thus would be useful for forensic investigations in India.

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The complete dataset is available via electronic mail from communicating authors: birajalaxmi@yahoo.co.in and mshesh@apsara.barc.ernet.in.

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TABLE 1—Distribution of allele combinations at *DYS385* locus.

Allele Combination	Ezhavas (<i>N</i> = 23)		Muslims (<i>N</i> = 18)		Nairs (<i>N</i> = 14)		Arayas (<i>N</i> = 11)		Thandans (<i>N</i> = 6)	
	No. Obs.	Freq	No. Obs.	Freq	No. Obs.	Freq	No. Obs.	Freq	No. Obs.	Freq
9-12	...	...	1	0.056	...	...	...	...	...	...
10-10	...	...	...	...	1	0.071	...	...	...	...
10-13	1	0.044	1	0.056	2	0.143	2	0.182	1	0.0167
11-13	1	0.044	2	0.076	1	0.071	...	...	...	...
11-14	...	...	2	0.076	1	0.071	...	...	...	...
11-15	1	0.044	1	0.056	1	0.071	...	...	...	...
11-16	2	0.087	...	...	...	...	...	...	...	...
11-17	...	...	...	...	1	0.071	...	...	...	...
12-12	...	...	...	...	1	0.071	...	...	1	0.167
12-13	1	0.044	...	...	...	...	...	...	...	...
12-14	1	0.044	1	0.056	...	...	...	...	...	...
12-15	1	0.044	...	...	...	...	2	0.182	...	...
12-17	1	0.044	...	...	...	...	...	...	...	...
13-13	...	...	1	0.056	...	...	...	...	...	...
13-14	1	0.044	...	...	...	...	...	...	...	...
13-15	2	0.087	2	0.076	...	...	...	...	...	...
13-16	1	0.044	2	0.076	2	0.143	...	...	1	0.167
13-17	1	0.044	2	0.076	1	0.071	1	0.091	...	...
13-18	1	0.044	...	...	...	...	...	...	...	...
14-14	1	0.044	...	...	...	...	...	...	...	...
14-16	...	...	1	0.056	...	...	...	...	...	...
14-17	1	0.044	...	...	...	...	1	0.091	...	...
14-18	1	0.044	1	0.056	1	0.071	1	0.091	2	0.333
14-19	...	...	...	...	...	...	2	0.182	...	...
15-15	...	...	...	...	1	0.071	1	0.091	1	0.167
15-17	1	0.044	...	...	...	...	...	...	...	...
15-18	1	0.044	...	...	1	0.071	1	0.091	...	...
16-16	1	0.044	...	...	...	...	...	...	...	...
16-18	1	0.044	...	...	...	...	...	...	...	...
16-20	1	0.044	...	...	...	...	...	...	...	...
18-18	...	...	1	0.056	...	...	...	...	...	...
Gene Diversity	0.99 ± 0.02		0.97 ± 0.03		0.98 ± 0.04		0.95 ± 0.05		0.93 ± 0.12	

No. Obs. = Number of alleles observed, Freq = frequency.