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SHORT COMMUNICATION

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D1S80 (pMCT118) allele frequencies in a Malay population sample from Malaysia

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Abstract The D1S80 allele frequencies in 124 unrelated Malays from the Malaysian population were determined and 51 genotypes and 19 alleles were encountered. The D1S80 frequency distribution met Hardy-Weinberg expectations. The observed heterozygosity was 0.80 and the power of discrimination was 0.96.

Key words D1S80 (pMCT118) · PCR · Malays · Allele frequencies

Introduction

The D1S80 (pMCT118) locus, a very useful marker system for forensic DNA analysis, displays a variable number of tandem repeats (VNTR) [1]. We report here the allele frequencies for the D1S80 VNTR locus in a Malay population sample from Malaysia.

Materials and methods

DNA was extracted by a phenol-chloroform method from blood samples from 124 unrelated Malays living in Malaysia. Amplification was carried out in a GeneAmp PCR System 9600 (Perkin Elmer) and typed with the AmpliFLP D1S80 PCR amplification and typing kit (Perkin Elmer). The recommended DNA amplification, gel electrophoresis, and silver staining protocols of the manufacturer were followed. Statistical analyses were performed as described previously [2–4].

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Results and discussion

A total of 19 D1S80 alleles (Table 1) derived from 51 genotypes were encountered. As reported for Malays in

Table 1 Observed numbers (*n*) and frequencies (%) of D1S80 alleles in Malays from Malaysia. The observed heterozygosity was 0.80, expected heterozygosity 0.86, power of discrimination 0.96, and the polymorphism information content 0.84

Allele	*n*	%
16	1	0.4
18	42	16.9
19	1	0.4
20	3	1.2
21	9	3.6
22	6	2.4
23	2	0.8
24	66	26.6
25	7	2.8
26	1	0.4
27	10	4.0
28	18	7.3
29	11	4.4
30	37	14.9
31	30	12.1
32	1	0.4
33	1	0.4
34	1	0.4
35	1	0.4
Total	248	99.8

Table 2 Test for Hardy-Weinberg equilibrium with a 5-allele model

Binned allele group	Alleles	Frequency
I	14–18	0.173
II	19–23	0.085
III	24	0.266
IV	25–28	0.145
V	29–35	0.331
χ^2	11.42	
P	0.3–0.5 d.f. = 10	

Singapore [5], allele 24 is the most common, followed by allele 18. There was no significant difference in the distribution of D1S80 alleles between these two Malay population samples ($G_H = 17.3$ based on the heterogeneity G-test [2], d.f. = 18, $0.7 > P > 0.5$). There was no significant deviation from Hardy-Weinberg equilibrium expectations for this locus based on the allele-binning strategy [3] (Table 2). Our data are comparable with those for other Oriental population samples [5–7].

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