FOR THE RECORD

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Allele Frequencies of 13 STR Loci and the D1S80 Locus in a Tamil Population from Madras, India

Population: Tamil population (Tamil Nadu, India, $n = 103$)

Keywords: forensic science, DNA typing, Tamil population, short tandem repeat, polymerase chain reaction population genetics, D3S1358, vWA, FGA, D8S1179, D21S11, D18S51, D5S818, D13S317, D7S820, D16S539, TH01, TPOX, CSF1PO, D1S80

Whole blood obtained by venipuncture was collected from unrelated individuals residing in Madras, Tamil Nadu, India. The DNA was extracted using standard phenol-chloroform method and purified by ethanol precipitation. The quantity of recovered DNA was estimated using a slot-blot procedure using commercial kits (PE-Biosystems, Foster City, CA and/or Gibco-BRL, Gaithersburg, MD). PCR amplification of the thirteen STR loci (D3S1358, vWA, FGA, D8S1179, D21S11, D18S51, D5S818, D13S317, D7S820, D16S539, TH01, TPOX, and CSF1PO) was performed using the AmpFℓSTR Profiler plus and AmpFℓSTR Cofiler kits (PE-Biosystems, Foster City, CA) following the manufacturer's protocol. The amplified products were separated and detected using the ABI Prism™ 377 DNA sequencer and/or ABI Prism™ 310 genetic analyzer (PE-Biosystems, Foster City, CA). The D1S80 locus was amplified using the D1S80 AmpliFLP™ kit following the manufacturer's protocol. Alleles were separated by a SA32 vertical gel electrophoresis unit (Gibco-BRL, Gaithersburg, MD) using GeneAmp™ detection gel (PE-Biosystems, Foster City, CA).

The data were analyzed using a program written by Chakraborty and Zhong. Allele frequencies and other pertinent information from analysis of the D1S80 locus and the thirteen STR loci are given in Tables 1 and 2.

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TABLE 1—*D1S80 allele frequencies in 103 unrelated Tamil individuals.*

Allele	Frequency
16	0.0388
18	0.3204
19	0.0097
21	0.0049
22	0.0340
23	0.0049
24	0.3398
25	0.0437
26	0.0243
27	0.0146
28	0.0340
29	0.0194
30	0.0049
31	0.0777
32	0.0049
38	0.0097
39	0.0049
41	0.0097
Total	1.00
$p*$	0.860
PD	0.925
PE	0.577
Observed Homozygosity (%)	23.3
Expected Homozygosity (%)	22.8

The complete data set is available upon request from corresponding author George Duncan, Ph.D., at: george_duncan@sheriff.org

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TABLE 2—STR allele frequencies of the 13 loci in the Tamil population.

Allele	D3S1358	VWA	FGA	D8S1179	D21S11	D18S51	D5S818	D13S317	D7S820	D16S539	TH01	TPOX	CSF1PO
6	...	...	...	...	...	...	...	...	...	...	0.2767	...	...
7	...	...	...	...	...	...	...	0.0097	0.0534	...	0.1990	...	0.0049
8	...	...	...	...	...	...	0.0049	0.2282	0.2476	0.0388	0.1456	0.2961	0.0049
9	...	...	...	...	...	...	0.0437	0.0534	0.0388	0.1505	0.2718	0.1359	0.0146
9.3	...	...	...	...	...	...	...	...	...	...	0.1019	...	...
10	...	...	...	0.1845	...	0.0097	0.1359	0.1117	0.1990	0.1165	0.0049	0.0777	0.1699
11	...	...	...	0.0631	...	0.0340	0.4126	0.2767	0.2379	0.2621	...	0.4369	0.3350
12	...	...	...	0.0728	...	0.0825	0.2573	0.2379	0.1748	0.2476	...	0.0437	0.3884
13	...	...	...	0.1553	...	0.0971	0.1359	0.0728	0.0485	0.1553	...	0.0049	0.0777
>13	...	...	...	...	...	...	...	...	...	...	...	0.0049	...
14	0.0146	0.1942	...	0.2330	...	0.2961	0.0097	0.0097	...	0.0291	...	...	0.0049
15	0.3981	0.0971	...	0.1651	...	0.1553	...	...	...	...	...	...	...
16	0.2961	0.1651	...	0.0922	...	0.0971	...	...	...	...	...	...	...
17	0.2087	0.2573	...	0.0340	...	0.0583	...	...	...	...	...	...	...
18	0.0825	0.1990	0.0049	...	...	0.0777	...	...	...	...	...	...	...
18.2	...	...	0.0049	...	...	0.0437	...	...	...	...	...	...	...
19	...	0.0680	0.0340	...	...	0.0437	...	...	...	...	...	...	...
20	·	0.0194	0.1651	...	...	0.0049	...	...	...	...	...	...	...
21	...	...	0.1262	...	...	...	...	...	...	...	...	...	...
22	...	...	0.1505	...	...	...	...	...	...	...	...	...	...
22.2	...	...	0.0146	...	...	...	...	...	...	...	...	...	...
23	...	...	0.1553	...	0.0049	...	...	...	...	...	...	...	...
23.2	...	...	0.0049	...	...	...	...	...	...	...	...	...	...
24	...	...	0.1942	...	...	...	...	...	...	...	...	...	...
25	...	...	0.1117	...	...	...	...	...	...	...	...	...	...
25.2	...	...	0.0049	...	...	...	...	...	...	...	...	...	...
26	...	...	0.0291	...	...	...	...	...	...	...	...	...	...

TABLE 2—Continued.

Allele	D3S1358	VWA	FGA	D8S1179	D21S11	D18S51	D5S818	D13S317	D7S820	D16S539	TH01	TPOX	CSF1PO
27	...	...	...	...	0.0097	...	...	...	...	...	...	...	...
28	...	...	...	...	0.1456	...	...	...	...	...	...	...	...
29	...	...	...	...	0.1893	...	...	...	...	...	...	...	...
29.2	...	...	...	...	0.0097	...	...	...	...	...	...	...	...
29.3	...	...	...	...	0.0049	...	...	...	...	...	...	...	...
30	...	...	...	...	0.1505	...	...	...	...	...	...	...	...
30.2	...	...	...	...	0.0194	...	...	...	...	...	...	...	...
31	...	...	...	...	0.0583	...	...	...	...	...	...	...	...
31.2	...	...	...	...	0.1262	...	...	...	...	...	...	...	...
32	...	...	...	...	0.0146	...	...	...	...	...	...	...	...
32.2	...	...	...	...	0.1893	...	...	...	...	...	...	...	...
33	...	...	...	...	...	...	...	...	...	...	...	...	...
33.2	...	...	...	...	0.0680	...	...	...	...	...	...	...	...
34	...	...	...	...	...	...	...	...	...	...	...	...	...
34.2	...	...	...	...	0.0049	...	...	...	...	...	...	...	...
35	...	...	...	...	...	...	...	...	...	...	...	...	...
35.2	...	...	...	...	0.0049	...	...	...	...	...	...	...	...
p*	0.530	0.952	0.412	0.638	0.433	0.224	0.077	0.062	0.993	0.699	0.407	0.916	0.761
Observed Homozygosity (%)	34.0	21.4	12.6	6.8	15.5	17.5	31.1	26.2	18.4	16.5	21.4	27.2	31.1
Expected Homozygosity (%)	29.3	18.1	13.8	15.5	13.6	14.8	27.2	20.2	19.1	18.9	21.8	30.2	29.5
PD	0.861	0.939	0.953	0.941	0.958	0.956	0.878	0.923	0.931	0.928	0.909	0.855	0.862
PE	0.448	0.631	0.712	0.682	0.718	0.708	0.495	0.596	0.614	0.619	0.563	0.453	0.451

* Exact test based on 2000 shufflings.
  Interclass correlations yielding $p < 0.05$ for pairwise comparisons: D3S1358/D8S1179, vWA/D5S818, FGA/D8S1179, FGA/TPOX, D8S1179/D21S11, D8S1179/D7S820, D21S11/D18S51, D21S11/TPOX, D13S317/D7S820, D7S820/TH01, D16S539/TPOX, CSF1PO/D1S80.
  ... allele not detected or not applicable; PD: Power of Discrimination; PE: Probability of Exclusion.