

FOR THE RECORD

Luis J. Martínez-Gonzalez,¹ M.S.; Esther Martínez-Espin,¹ M.S.; Francisco Fernández-Rosado,¹ M.S.; Mayra A. Moguel,² M.S.; Carmen Entrala,¹ Ph.D.; J. Carlos Alvarez,¹ Ph.D.; Jose A. Lorente,¹ M.D., Ph.D.; and Bruce Budowle,³ Ph.D.

Mexican Population Data on Fifteen STR Loci (Identifiler[®] Kit) in a Chihuahua (North Central Mexico) Sample

POPULATION: Chihuahua, Northern Mexico, Mexico

KEYWORDS: forensic science, DNA typing, population genetics, Mexico, Identifiler

Sample preparation—Blood samples were obtained by venipuncture from unrelated individuals ($n = 161$) living in the State of Chihuahua, North Central Mexico, and spotted on FTA paper (Whatman, Clifton, NJ).

PCR—Approximately 1 ng of DNA were used in each amplification. The samples were amplified using the AmpF/STR[®] Identifiler[®] kit (Applied Biosystems, Foster City, CA) and the alleles were separated and detected using an Applied Biosystems ABI310 genetic analyzer.

Analysis of data—The frequency of each allele for each locus was calculated from the numbers of each genotype in the sample set (i.e., the gene count method). Unbiased estimates of expected heterozygosity were computed as described by Edwards et al. (1). Possible divergence from Hardy-Weinberg expectations (HWE) was tested by calculating the unbiased estimate of the expected homozygote/heterozygote frequencies (1–4) and the exact test (5), based on 2000 shufflings experiments. An interclass correlation criterion (6) for two-locus associations was used for detecting disequilibrium between the STR loci. The program for this analysis was kindly provided by R. Chakraborty (University of Texas, School of Biomedical sciences, Houston Texas).

The distributions of the observed allele frequencies for the 15 STR loci are shown in Table 1. The most informative loci are D18S51 and FGA, and the least discriminating are TPOX and CSF1PO. The fifteen loci meet Hardy-Weinberg expectations. The combined power of discrimination is >0.99999999 , and the combined power of exclusion is 0.99999926. The complete data are

available either by accessing <http://www.gitad.org/poblaciones> or emailing the corresponding author.

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References

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¹ Laboratory of Genetic Identification. Dept. de Medicina Legal. Facultad de Medicina. Universidad de Granada. E-18012 Granada, Spain.

² DNA Laboratory. D.G. Servicios Periciales. P.G.J. del Estado de Chihuahua. Chihuahua, Mexico.

³ FBI Laboratory Division. Quantico, VA 22135.

Additional information and reprint requests:
Prof. Dr. Jose A. Lorente
Department of Medicina Legal—University of Granada
Av. Madrid 11
E-18012 Granada
Spain

TABLE 1—Observed allele frequencies for the fifteen Identifiler® loci.

Allele	D3S1358	TH01	D21S11	D18S51	D2S1338	D5S818	D13S317
2.2							
<5		0.00311					
5							
6		0.23913					
7		0.30435				0.05901	
8		0.06832				0.01553	0.06832
9		0.16460				0.04037	0.22981
9.3		0.21118					
10		0.00621		0.01863		0.05590	0.09627
>10		0.00311					
11				0.02174		0.40994	0.26398
<12	0.00621						
12	0.00311			0.13975		0.29814	0.18012
13	0.00621			0.14286		0.11180	0.09627
14	0.05280			0.13975		0.00621	0.06522
15	0.31677			0.16460		0.00311	
16	0.26087			0.13665	0.03106		
17	0.16770			0.10248	0.16460		
18	0.14596			0.06522	0.04348		
19	0.04037			0.03727	0.23913		
20				0.01863	0.17391		
21				0.00621	0.02795		
22				0.00311	0.06211		
23				0.00311	0.14286		
24					0.05901		
25					0.04348		
25.2			0.00311				
26					0.01242		
27			0.01863				
28			0.09317				
29			0.20807				
30			0.29503				
30.2			0.02795				
31			0.05901				
31.1			0.00311				
31.2			0.13043				
32			0.00311				
32.2			0.09006				
32.3			0.00311				
33			0.00311				
33.2			0.04658				
34.2			0.00932				
34.3			0.00311				
35.2			0.00311				
Homozygosity test*	0.762	0.446	0.148	0.680	0.228	0.342	0.301
Exact test**	0.017	0.459	0.116	0.824	0.972	0.073	0.012
PD	0.91007291	0.90675514	0.94649126	0.96909841	0.95675321	0.85405656	0.93368311
PE	0.57058241	0.55668406	0.66976540	0.75147290	0.70663845	0.49866824	0.64004831

Allele	D7S820	D16S539	CSF1PO	D19S433	vWA	D8S1179	TPOX	FGA
2.2								
3.2								
5								
6							0.00311	
7	0.01863							
8	0.14596	0.03416	0.00311			0.00621	0.58385	
9	0.06832	0.11180	0.02484			0.00932	0.06832	
10	0.30124	0.20186	0.28261			0.07143	0.05280	
11	0.27019	0.21739	0.29193	0.00621	0.00311	0.05901	0.22671	
11.2				0.01242				
12	0.16460	0.27640	0.34783	0.03727		0.11801	0.06211	
12.2				0.01242				
13	0.02484	0.13975	0.04348	0.22360		0.30124	0.00311	
13.2				0.07764				
14	0.00621	0.01863	0.00621	0.31056	0.07143	0.29193		
14.2				0.02484				
15				0.16770	0.07453	0.11801		
15.2				0.06211				
16				0.02484	0.29503	0.02174		
16.2				0.03416				
17					0.30745	0.00311		0.00311

TABLE 1—Continued.

Allele	D7S820	D16S539	CSF1PO	D19S433	vWA	D8S1179	TPOX	FGA
17.2				0.00621				
18					0.16149			0.01242
19					0.07143			0.09006
20					0.01242			0.08385
21					0.00311			0.09938
22								0.10870
22.2								
23								0.17391
23.2								0.00311
24								0.15839
25								0.14596
26								0.09317
27								0.02484
28								0.00311
Homozygosity test*	0.800	0.916	0.157	0.845	0.382	0.428	0.239	0.377
Exact test**	0.523	0.448	0.672	0.072	0.057	0.648	0.705	0.268
PD	0.91709425	0.92789630	0.85112457	0.92889935	0.90289726	0.92805062	0.79086455	0.96801821
PE	0.57759331	0.60855433	0.45289261	0.63921864	0.57252133	0.59304848	0.36674141	0.75055161

PD = power of discrimination.

PE = power of exclusion.

* χ^2_{df} based on unbiased estimate with 2000 shufflings.

** Exact test based on 2000 shufflings.