

Population Database of 14 STR Markers and D1S80 in a Caucasian-Mestizo Sample of Colombia

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We have analyzed 14 STR (CSF1PO, TPOX, TH01, F13AO1, FES/FPS, vWA, D16S539, D7S820, D13S317, F13B, LPL, D12S1744, and D18S849) and the D1S80 Amp-FIP genetic markers to generate a database useful in paternity and forensic cases in Colombia.

The CTT triplex STR, FFv triplex, SilverSTR™II, F13B and LPL (Promega Corporation, Madison WI) and the STR Multiplex I (D12S1090, D3S1744, D18S849) and D1S80 (Lifecodes Corporation, Stanford CT) were amplified by PCR and DNA obtained from whole blood, bones and tooth material following the manufacturer's recommendations.

The total number of unrelated individuals analyzed for each system is shown in Table #1.

Table 1. Total Number of Unrelated Individuals			
Locus	n=	Locus	n=
D12S1090	486	TH01	409
D3S1744	484	D16S359	199
D18S849	489	D7S820	206
F13AO1	448	D13S317	205
FES/FPS	450	LPL	320
vWA	452	F13B	320
CSF1PO	410	D1S80	378
TPOX	414		

We have calculated the Hardy-Weinberg equilibrium, as well as other parameters of forensic interest such as observed and expected heterozygosity, minimum allele frequency, mean exclusion chance (MEC), mean paternity exclusion probability (MEP), polymorphic information content (PIC) and discrimination power (DP). In addition, the possible associations between loci were also determined.

All markers were tested in HW equilibrium. No associations between loci were detected. The mean exclusion chance between all loci analyzed was 0.999998 and the discrimination power (DP) was $1-6.46 \times 10^{-17}$.