NINETEEN AUTOSOMAL MICROSATELLITE DATA FROM ANTIOQUIA (COLOMBIA)

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Introduction:
Allele frequencies for 19 autosomal STRs (F13A01, FESFPS, F13B, LPL, D5S818, D7S820, THO1, TPOX, VWA, CSF1P0, D16S539, D13S317, D3S1358, D8S1179, FGA, PENTA D, PENTA E, D21S11 and D18S51) were estimated from a sample between 364 and 400 unrelated individuals living in the northern department of Antioquia.

Materials and Methods:
We have analyzed a total of 400 blood samples of unrelated healthy donors living in Antioquia (Colombia). DNA was extracted from whole blood following the Salting out method. Amplification was performed using the Power- Plex 16 and the FFFL cuadruplex GenePrint1 systems, according to the manufacturer (Promega). The termocyclers used were MJ Research PTC100 (Promega), Perkin-Elmer 9600.

Electrophoresis and Detection:
The PowerPlex 16 and FFFL systems products were combined with an internal Lane Stantard 60-600 and run on an ABI PRISM 310 Genetic Analyzer (Applied Bioystems). Using a 10 – Second injection time, in a 47 cm x 50 um capillary (applied Biosystems), filled with POP-4 (Applied Biosystems) at 15 kV for 30 min. At 60^0C. The Genescan sample file was analyzed with the Genotyper 2.5 Software.

Quality control:
Proficiency testing of the GEP-ISFG WG (http://www.usc.es/gep-isfh).

Analysis of data:
Allele frequency, Heterozigosity values (observed and expected) were calculated according to Nei. Several forensic and population parameters were estimated by using the Cervus 2.0 and the Arlequin 2.0 software.

Results:

Allele	Ho	He	PD	CE	PIC	X^2
F13A01	0.805	0.801	0.926	0.427	0.770	11.19
FESFPS	0.690	0.699	0.861	0.282	0.650	5.04
F13B	0.695	0.731	0.878	0.312	0.682	11.31
LPL	0.680	0.697	0.855	0.278	0.646	1.89
D5S818	0.687	0.715	0.881	0.314	0.675	4.31
D7S820	0.813	0.774	0.913	0.389	0.740	8.4
TH01	0.810	0.762	0.892	0.364	0.725	18.14
TPOX	0.632	0.653	0.827	0.246	0.605	3.61
VWA	0.794	0.789	0.921	0.410	0.757	4.06
CSF1PO	0.687	0.716	0.875	0.299	0.666	3.8
D3S1358	0.755	0.765	0.909	0.368	0.727	0.89
D13S317	0.799	0.810	0.937	0.452	0.784	1.04
D8S1179	0.788	0.794	0.928	0.422	0.764	6.03
FGA	0.874	0.879	0.970	0.599	0.865	11.45
Penta D	0.846	0.846	0.955	0.523	0.826	19.99
Penta E	0.898	0.907	0.981	0.684	0.899	3.62
D21S11	0.819	0.846	0.957	0.528	0.827	20.33
D16S539	0.832	0.801	0.925	0.426	0.770	13.35
D18S51	0.857	0.874	0.969	0.588	0.859	16.9

Discussion:

No deviation from Hardy–Weinberg equilibrium was detected at any locus. The distribution of the allelic frequencies of the present study were compared to
the other published Colombian data. There were not statistical significant differences in any system.

Our result shows that the Antioquia (Colombia) population studied is genetically heterogenous. The allele frequencies and their discrimination power obtains will be of great use in forensic studies.

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