**ALLELE FREQUENCIES FOR 22 AUTOSOMAL STR LOCI FROM THE DOMINICAN REPUBLIC POPULATION**

Riego, E., Montes de Oca, P., León, P., Ornes de Podestá, M., De Castro, M.
Referencia Laboratorio Clinico, Relationship Testing, Ave. Roberto Pastoriza No.45 Esq. Federico Geraldino, Piantini, Santa Domingo, Dominican Republic

**Objective:** To present allele frequencies for 22 Autosomal STR loci of the Dominican population and compare them with the published data in 2007 by Rivas et al.

**Methods:** Samples were obtained from 101-914 unrelated individuals from the general population of the Dominican Republic during 2009-2012. DNA was extracted from oral and blood stains collected in FTA™ paper using a Maxwell® 16 Instrument (Promega Corporation). 22 autosomal loci (D3S1358, TH01, D21S11, D18S51, D2S1338, D5S818, D13S317, D7S820, D16S539, CSF1PO, D19S433, vWA, D8S1179, TPOX, FGA, Penta E, Penta D, Penta C, LPL, F13A1, F13B, FES/FPS) were amplified using a GeneAmp® PCR System 9700 (Applied Biosystems) with PowerPlex® 16 HS System, PowerPlex® 18D System, PowerPlex® CS7 System, AmpFℓSTR® Identifiler® PCR Amplification Kit and AmpFℓSTR® Identifiler® Plus PCR Amplification Kit. The detection system was a 3130 Genetic Analyzer (Applied Biosystem). The resultant data was analyzed using the GeneMapper® *ID* v3.2.1 or GeneMapper® *ID-X* v1.2 softwares. Statistical analysis was performed using PowerStats, DNA View and Arlequin softwares. The genetic distance between both studies was determined using Arlequin software.

**Summary of Results:** Allele frequencies were obtained for 22 autosomal STR loci. No Hardy-Weinberg equilibrium deviation was observed ($p > 0.05$). The Matching Probability was determined, as well as the Power of Discrimination, the Polymorphic Information Content, Power of Exclusion, the Typical Paternity Index, the Homozygosity, the Heterozygosity and the Minimum Allele Frequency. The genetic distance between the samples of these studies of the Dominican Republic population was determined. The only difference between these two samples was in D3S1358 locus (FST $p < 0.05$).

**Conclusions:** A new database of Autosomal STR loci for the Dominican Republic was established. This allele frequency database is suitable and useful for relationship testing and forensic casework analysis. ⌘