

POPULATION FREQUENCIES FOR CSF1PO, TPOX, TH01, F13A01, FES/FPS, vWA, D12S1090, D3S1744 AND D18S849 IN A SAMPLE OF BLACK POPULATION FROM COLOMBIA

Juan J. Yunis^{1,2}, Andres Baena¹, Gonzalo Arboleda¹, Oscar Garcia³, Ion Uriarte³, y Emilio Yunis²

¹*Instituto de Genética Universidad Nacional de Colombia, Santa Fé de Bogotá, D.C. Colombia.*

²*Servicios Médicos Yunis Turbay y Cia. Ave 22 # 42-24, Of 102. Santa Fé de Bogotá, D.C. Colombia*

³*Area de Laboratorio, Ertzaintza, Avda. Montevideo 3, Bilbao, País Vasco.*



Short tandem repeats (STR) are widely used in forensics as well as in paternity testing. However, a population database for the relevant population must be established for statistical evaluation of the evidence. Few STR studies exist in South American native, Mestizo and Black populations. Extensive work may be required in order to characterize different populations in South American countries due to different genetic admixture processes in the last 500 years.

The ancestors of the Colombian Black population were brought as slaves from the west coast of Africa (Guinea, Ivory Coast, Senegal and Mali among others) between 1580 and 1650 to work in the fields and mines.

We report the STR allele frequencies and other parameters of forensic importance from a sample of African descent individuals obtained from five towns of the Choco department in the pacific region (n = 247-252) for 9 STR loci. HUMTH01 (11p15.5), HUMTPOX (2p13), HUMCSF1PO (5q33.5-q34), HUMvWA (12p12-pter), HUMFES/FPS (15q25-qter) and HUMF13A01 (6p24-p25), D12S1090, D3S1744 and D18S849.

Despite the low number of individuals sampled in five different towns of the Choco region of Colombia, our results did not show any significant difference between them, probably as the result of a process of genetic "homogenization" carried out by the slavers in Colombia and the Americas in general. In that process, individuals speaking the same language were separated in order to avoid emancipation movements among them. This admixture process will limit the usefulness of STR markers to trace back the origin of the Colombian Black population with their specific African ancestors.

A comparison of our results with those reported for US Blacks by the manufacturers, did not reveal significant differences for all loci analyzed, a result likely due to the same origin in the West coast of Africa for both populations submitted as well as to the same 'homogenization' process.

The sample analyzed in the present study was found to be in Hardy-Weinberg equilibrium. In addition, no associations between loci were detected in the sample studied. The mean exclusion chance for all 9 STR markers is 0.999855 and the Discrimination Power is 99.999999964. Our results could be used to derive estimates of multiple loci profiles frequencies for forensic purposes, to calculate paternity indexes and the probability of paternity in parentage testing studies and to genetically characterize the Colombian population.

