ANALYSIS OF THE HYPERVARIABLE MICROSATELLITE *locus* HUMACTBP2 (SE33) IN COLOMBIAN POPULATION

M. Paredes,[1] and L. Laverde[2]
1. Scientific Investigation Division 2. Biology Forensic Group
National Institute of Legal Medicine and Forensic Sciences of Colombia
Calle 7ª Nro. 12 – 61 Tel. 57-1-3334850 ext 144 Bogota, Colombia
mparedes@rocketmail.com

The Forensic DNA testing Labs frequently have complex scenes both in criminal identification and paternity testing. Mixed DNA samples recovered from sexual assault victims or paternity investigation where the father is absent, are some of the special hard situations for forensic scientist, where traditional STR markers can not be enough to solve the problem and therefore the use of highly polymorphic markers is recommended. HUMACTBP2 (SE33) is an extremely hypervariable locus that has shown the highest values of individual identification power. HUMACTBP2 has almost 30 frequent alleles and more than 20 private alleles in populations where it has been analyzed. In this survey, we have followed the quality parameters that the international forensic community recommends to validate genetic markers as human identification tools. We made an allelic ladder which contains 40 different alleles. All of them were detected using automated fluorescence-based capillary electrophoresis with high reproducibility indexes. 46 different alleles were detected in a sample of 303 unrelated individuals from the main Colombian populations (Andean-mestizo and Caribbean Afro-descendents); whose frequencies are presented. We obtained population – genetic parameters that show the great utility of SE33 as forensic genetic marker:

Power of Discrimination	Chance of Exclusion	Observed Heterozigocity	Hardy- Weinberg Equilibrium (P)
0.994	0.8223	0.9333	0.06312