

**ALLELE FREQUENCY OF NINE (9) SHORT TANDEM REPEAT LOCI
IN THE PANAMANIAN POPULATION**

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Short Tandem Repeat Loci (STR) are highly informative polymorphic loci that are used for identity testing.

We conducted parentage testing by using nine STR loci on 252 individuals not related. These nine unlinked STR loci are amplified in three Multiplex reactions available from Promega Corporation in which the non-overlapping loci were simultaneously amplified, using polymerase chain reaction (PCR) and locus specific primers, separation of amplified alleles by denaturing polyacrylamide gel electrophoresis and visualized using silver staining.

The loci include CSF1PO, TPOX, TH01, F13A01, FESFDS, vWA, D16S539, D7S820, D13S317.

The population characteristic of the Multiplex System for the most frequency alleles in the Panamanian are: for CTT, the PI = 28.25 and W = 0.9658; for FFv, the PI = 24.87 and W = 0.9613; for STR-III, the PI = 51.12 and W = 0.9800.

The cumulative typical paternity index for nine loci is 35971 and W = 0.9999722.

Our studies validate the use of DNA typing with STR loci for parentage testing in the Panamanian population, thus providing an accurate, highly sensitive, rapid assay and reliable investigative tools that can be used with analysis of paternity, in the Republic of Panama using our allelic frequency instead of the Hispanic American Frequency.