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Identification of humans based on differences at the level of DNA, or DNA fingerprinting is now a widely accepted tool in forensic investigations. Increasingly, short tandem repeat (STR) loci are becoming the method of choice for such analyses. STR loci are composed of highly polymorphic tandemly repeated sequences of 1-7 base pair in length.

The objective of this study was to establish a database for the Sri Lankan population with respect to allele frequencies and matching probabilities for the three STR loci, CSF1PO, TPOX, and Th01. These values are required in order to apply STR based typing for forensic casework.

A total of 118 unrelated Sri Lankan individuals, the ethnic composition of which approximated that of the physical population, was used as a representative sample of the Sri Lankan population. The three STR loci were simultaneously amplified by Polymerase Chain Reaction. The products were size fractionated by polyacrylamide gel electrophoresis, visualized by silver staining, and allele size determined by comparison with an allelic ladder marker. For the loci, CSF1PO, TPOX, and Th01, the observed heterozygosity was found to be 0.703, 0.669 and 0.813 and the matching probability was found to be 0.119, 0.137 and 0.078, respectively. The probability of a chance match using

the CSF1PO, TPOX, THO1, STR system for the Sri Lankan population was calculated to be 785 to 1.