



*Thesis Abstract*

## **Allele frequency of Y chromosome loci DYS390, DYS391 and DYS393 in Brazilian subjects and their use for identification (Frequência alélica dos locos DYS390, DYS391 e DYS393 em indivíduos brasileiros e sua aplicação à identificação humana)**

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Humans can be identified by several different methods, including comparative analysis of dental documents. Nowadays, molecular biology has introduced more effective resources for human identification. However, these methods demand a previous definition of biological parameters, and the determination of the allele frequency of the population to which they will be applied. We determined the allele frequency of three short tandem repeat (STR) loci in the Y chromosome (DYS390, DYS391 and DYS393) in a group of white Brazilians. We also developed standardized protocols for the collection and storage of biological materials and routines for DNA extraction and amplification. Six alleles (21-26) were found for locus DYS390; allele 24 was the most frequent (46%). STR DYS391 also had six alleles (8-13), and allele 11 was the most frequent (37%). We found five alleles at STR DYS393 (11-15), and allele 13 was the most frequent (45%). The allele profile of this population was found to be quite different from that of other known populations. Before molecular techniques can be applied to human identification problems, we need to determine the allele patterns in the background population. The use of allele frequencies from other populations could result in imprecision in human identification processes.