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Short Communication

Allelic frequencies and statistical data obtained from 15 STR loci in a population of the Goiás State

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ABSTRACT. Due to the miscegenation of the Brazilian population, the central region of Brazil was colonized by internal migration of individuals from different origins, who contributed to the genetic diversity existing in this population. The purpose of this study was to estimate population parameters based on the allele frequencies for 15 polymorphic autosomal short-tandem repeat (STR) loci present in the population of the State of Goiás in the central region of Brazil, and to compare the results with those of others from different Brazilian populations. DNA was obtained from a sample of 986 unrelated individuals by a commercial reagent kit and was quantified by spectrometry for later amplification in the thermocycler. These loci, commonly used in forensics and paternity testing, reflected Hardy-Weinberg equilibrium in this population. The D18S51 and Penta E loci had the highest number of alleles, while the observed heterozygosity

reached the highest rates in FGA (0.920), D7S820 (0.870), and vWA (0.867) markers. Genetic diversity reached the highest levels in Penta E (0.906), Penta D (0.873), and D18S51 (0.860) markers, and the investigated forensic parameters showed high average values, with 93% power of discrimination, polymorphism information content of 78%, gene diversity of 79%, and observed heterozygosity of 79%. Similar to the other populations of Brazil, the population of the Midwest is derived from the admixture of 3 main parental groups: Amerindian, European, particularly Portuguese, and Africans from sub-Saharan Africa. In this context, the overall distribution of allele frequencies in the STR markers of various Brazilian populations is quite similar to the data obtained in this study.

Key words: Allelic frequencies; STR; Population

