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***Alu* Insertions and Ethnic Composition in a Brazilian
Population Sample**

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KEY WORDS *Alu* insertion; PSAs; polymorphism; admixture; paternity.

ABSTRACT *Alu* insertions can be defined as a family of elements approximately 300 base pairs long, which have more than 500,000 copies distributed throughout the human genome. Once inserted in certain loci, these sequences apparently do not suffer any loss or rearrangements. Some of these sequences were inserted recently, such that the presence or absence of the insertion is polymorphic. Three of these markers (TPA 25, PV 92 and APO) were studied in a sample of 149 trios (mother, child, and supposed father) from an urban population from southwestern Brazil (Ribeirão Preto, SP). The goal was to characterize the ethnic composition of this population and evaluate the usefulness of *Alu* insertions in the investigation of paternity. The analysis was done with PCR followed by polyacrylamide gel electrophoresis stained with silver nitrate. The frequencies obtained, intermediate between African and European, exhibit Hardy-Weinberg equilibrium, and they reflect the composition of an urban population to which European and African ethnic components made a greater contribution than Amerindians. Our results corroborate previous reports concerning the difficulty of amplification of these markers, contraindicating their use for forensic purposes.