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# Evolutionary Relationship of Four Major Ethnic Populations in Nigeria Based on *Alu PV92* Insertion Polymorphism

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**ABSTRACT** Nigeria is a country located within the sub-Sahara region of Africa with four main geographical regions of diverse human population and ethnicity yet little is known about the evolutionary trait of these populations. As such, the *Alu* PV92 insertion polymorphism was used to depict the evolutionary and ancestral trait among the four main populations in Nigeria. Samples were obtained from 149 individuals from the four populations and DNA was extracted from their cheek cells. *Alu* PV92 DNA sequence was amplified by PCR and visualized on a 1.5 percent agarose gel for *Alu* insertion polymorphism. Among the 149 individuals, the frequency of *Alu* insertion (+) allele was 21 (7.05%) in the entire population and was predominant in the Ijaw-Ibibio population (4.36%). The Hardy-Weinberg equilibrium was not violated for the entire study population ($p>0.05$) suggesting that *Alu* polymorphism was responsible for the evolution of the population. The average heterozygosity (0.1191) and the Gst (0.0846) were relatively low compared to other populations predicting a low degree of interpopulation differentiation or diversity. Phylogenetic analysis showed the Ijaw-Ibibio population to exhibit the highest genetic distance from other populations suggesting Ijaw-Ibibio as the ancestral population. In conclusion, the four main populations of Nigeria were found to be closely related with a low level of genetic diversity except for the Ijaw-Ibibio population which showed the highest interpopulation differentiation and thus considered to be the ancestral population.