

Diversity of Microsatellite Loci and Mitochondrial DNA Haplotypes in a Population From the Peruvian Andes

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The characterization of distinct populations that may have some level of isolation from more widely dispersed groups of people can provide valuable data on the genetic diversity that can be expected for genetic markers routinely used in human identification. Internationally, there is an ever growing need for DNA testing in forensic casework, parentage evaluation and other issues where an individual's identity or population affinity may be in question. With the growing use of STR markers and mitochondrial DNA (mtDNA) sequencing in the arena of human identification, the basic questions of genetic diversity and mtDNA haplotype frequency must be answered. The data provided by mtDNA sequencing extends past that provided by the typical genetic markers used in routine forensic testing, as it has the potential to be employed in identifying victims of mass disasters, military actions and remains in anthropological studies where testing nuclear markers may not be feasible. This study was undertaken to provide microsatellite data and mtDNA haplotype data on a population from a remote region of the Peruvian Andes. One hundred individuals were screened for thirteen STR loci representing the core markers recently adopted for the CODIS database program. Additionally, mtDNA was sequenced from the HV1 and HV2 regions from these individuals to assess haplotype diversity. Comparisons are made to data obtained from individuals with more cosmopolitan affinities from areas of South America, as well as data from North American populations.