Title : Genetic Diversity and Relationships Among Lolo-Burmese Speaking Populations Analyzed Using Mitochondrial DNA Markers.

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ABSTRACT

The Akha and Lahu are ethnic groups from the Lolo-Burmese branch of the Sino-Tibetan language family. They originally came from the Tibetan Plateau and migrated through southern China and northern Myanmar before settling in northern Thailand. In Thailand, they are known as hill-tribe communities living in mountainous areas, each with a unique history, language, and culture. However, their genetic background has not been well studied. This study aimed to explore the genetic structure of the Akha and Lahu and their connections with other Asian populations. We analyzed the mitochondrial DNA control region of 48 unrelated Akha and 45 unrelated Lahu individuals, with samples collected from two villages in Chiang Rai and Chiang Mai for each ethnic group. A total of 27 and 16 unique haplotypes were identified in the Akha and Lahu, respectively. These haplotypes were classified into the major haplogroups D, F, and B, except for the Lahu in Chiang Rai province, where haplogroup B was absent. The Lahu in Chiang Mai had the lowest haplotype diversity (0.7804±0.0086), suggesting a strong founder effect. Genetic relationship analysis showed that the Akha people are relatively homogeneous and share affinities with some Tai-Kadai and Austroasiatic-speaking groups. In contrast, the Lahu showed greater genetic differences, even among their own subgroups. These findings help improve our understanding of the genetic diversity and relationships of these ethnic groups and provide useful information for future research on hill-tribe populations.