

Tracing the Genetic History of Arabian Camel in Arab World Based on SNP and mtDNA markers

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ABSTRACT

Studying the genetic history of Arabian camel ancestors can provide crucial clues about past human migrations, including the main pathways used for the commercial transport in old historical times. Arabian camels are vital to the subsistence and economy of many people in the Arab world, especially in arid zones where other domestic animals cannot be easily kept. A precise estimation of the genetic diversity contribution of the north Africa and Arabs peninsula animals is not available which is remain topics of interest to the researcher community. To accomplish this we need to understand how the current genetic diversity of Arabian camel originated, and this can be obtained by estimating genetic diversity among and between Arabian camel populations in Arab world and we need to clarify the origin and major movements of Arabian camel populations in Northern Africa and Arab peninsula, so we need to analyse the maternal and SNPs for camel sample along the north of the African and Arab Peninsula. In this study, we will collect 30 tissue samples from camel population in Arab world using mitochondrial DNA (mtDNA) and SNPs for the genetic diversity. Only one sample per breeder will collect to ensure that individuals were not closely related. Extraction of genomic DNA for each samples by using GENOMED spin kit according to protocol. A set of mitochondrial DNA (mtDNA) and SNPs data will assemble and analyze together with publish information from camel populations worldwide.

Keywords: mtDNA, SNPs, Genetic diversity, Camels