

Digestion of Mitochondrial DNA of Some Sudanese Camel Breeds Using Three Different Restriction Enzymes

Sulieman, M. ^{1,2*}, **Sid Ahmed, S.** ¹, **Makkawi, A. A.** ¹, **Nahid Gornas**², **Yossra A.
Malik**²

1 Faculty of Agricultural Studies, Sudan University of Science and Technology, Shambat, Sudan

2Unit of Molecular Biology and Immunology, Central Laboratory, Khartoum, Sudan

E-mail:* monasulieman63@gmail.com

ABSTRACT

The study was conducted to estimate the relationship between and within some Sudanese camel breeds (Kababeish, Shanabla and Nyalawi) by digestion of mitochondrial DNA using three different restriction enzymes. DNA was extracted from 45 blood samples of Sudanese camels (15 samples from each breed). Polymerase chain reaction was done using specific primers in order to amplify the D-Loop region. The PCR products were digested using three different restriction enzymes (tag1, hinf and scal). The products were run on agarose gel 2%. The result of this study revealed differences between the three breeds according to digested and undigested samples. Tag1 did not cut any of the 45 samples of all breeds, while Scal cut 4.4% of the Shanabla breed, 6.7% of Kababeish breed, but did not cut any of Nyalawei camels. The third restriction enzyme hinf cut all sample from Shanabla camels, and also cut 95.6% of Kababeish breed and also 95.6% of Nyalawei camels this study highlighted some dark areas, which led us to recommend more number of samples and molecular markers should used to get more definite and specific information which can help in management and conservation of the breed resource to prevent replacement through cross breeding.

Keywords: Mitochondrial DNA, Camel, Sudan.