

## **Y Chromosome Haplotype Analysis in Two Tunisian Sheep Breeds**

Kdidi, S.<sup>1,4</sup>, Yahyaoui, M.H.<sup>1</sup>, García-Manrique, B.<sup>2</sup>, Sarto, P.<sup>2</sup>, Ben Sassi, M.<sup>3</sup>, Khorchani, T.<sup>1</sup> and Calvo, J.H.<sup>2</sup>,

<sup>1</sup>Livestock and Wildlife Laboratory, IRA, Medenine, Tunisia,

<sup>2</sup>Unidad de Tecnologia en Produccion Animal, CITA, Zaragoza, Spain,

<sup>3</sup>Office Elevage et Paturages OEP Tunis Tunisia,

<sup>4</sup>Laboratory of Genetics, Immunology and Human Pathology, FST, El-Manar University, Tunis, Tunisia; kdidi\_samia@yahoo.fr

### **Abstract**

This work aimed to investigate Y chromosomal haplotypes in the two main Tunisian sheep breeds. For this purpose, we sequenced two regions of SRY and one region in each of AMELY and DBY genes in four breeds: Barbarin (n=23), Western Thin Tail (n=18). Moreover, the diversity at SRYM18 microsatellite locus was studied, finding four alleles: 139, 141, 143 and 145 bp. The sequencing analysis did not reveal any polymorphism in AMELY or DBY regions. Therefore, four haplotypes have been found in these breeds: H4, H6, H8 and H12. The most common haplotype was the H8 (48.75%) followed by H6 (44%) while other haplotypes were observed at low frequencies. H4 was observed only in thin tailed breeds. In spite of the small area of the country, a high diversity at the Y chromosome was observed. The result underlined the genetic relation of Tunisian sheep with Middle East, African and European sheep breeds since haplotypes detected in these populations were found in Tunisian sheep.

**Keywords:** Y chromosome, diversity, sheep, Tunisia.