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### POPULATION STUDIES AT 11 POLYMORPHIC STR LOCI IN A BOVINE SAMPLE FROM NORTHERN CROATIA

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Genotyping of polymorphic sites provides a unique DNA fingerprint. It is therefore possible to employ these methods to follow the meat samples along the retail chain, by generating a DNA profile that can be used to trace-back the identity of the individual animal from the carcasses or the meat cuts. DNA analysis from various type of samples originated from animal is still sort of challenge, especially when the meat cut or bone fragments are focal point of analysis. Applied Biosystems has developed STR kit that addresses the needs of the bovine DNA typing community and covers a common set of STR loci. Nevertheless, efficiency of existing commercial kit within Croatia still unknown and unexamined. Therefore we have performed Croatian cattle population study. Population studies included 111 randomly selected cattle (*Bos taurus*) from Northern Croatia. Genomic DNA was isolated from blood samples using BloodPrep™ Chemistry on the ABI PRISM6100 Nucleic Acid PrepStation™. Microsatellites were amplified using the StockMarks for Cattle® Bovine Genotyping Kit. The PCR amplification has been carried out in PE Gene Amp PCR System Thermal Cycler according to the manufacturer's recommendations. The PCR products were submitted to fragments analysis by capillary electrophoresis, with an automated sequencer ABI PRISM 3130 genetic analyzer according to the manufacturer's specifications. Results were read and interpreted using GeneMapper® ID Software v3.1., respectively. Microsatellite allelic frequency analysis was performed on these data using Cervus 3.0.3 The power of parental exclusion, expected and observed heterozygosity, probability of identity, and non-amplifying allele frequencies were calculated.

**Keywords:** bovine STR loci, *Bos taurus*, STR population studies, forensic DNA analysis, northern Croatia