

**ASSESSING THE FREQUENCY OF SOMATIC MUTATION FROM SINGLE DOG HAIRS - FORENSIC TESTING OF STOCKMARKS® CANINE I VER3 KIT**

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As dogs are widespread and popular pets they have overriding importance from a criminal point of view. The relevancy exists not only in cases of dog attacks or in traffic accidents, but the scattered, shaded hairs can often provide indirect evidence in crime scene - person relations as well. We tested the probability of revealing the true profile from single dog hairs.

393 hairs were collected by pulling from a bullmastiff donor, and 0,3-0,5 cm pieces were cut from the root end for DNA extraction. The samples were amplified by multiplex PCR of 10 loci using StockMarks® Canine I Ver3 kit, electrophoresed on ABI 310, and analyzed using Genescan 3.1 software and Genotyper 2.5 software.

44 aberrant - triallelic, drop-out or imbalanced - patterns were found in 290 full profiles. All aberrant loci were re-checked by monoplex and/or a new multiplex amplification and only one sample left mutant.

As one hair sample presented different genotype after repeated analysis the individual in the study has been proved to be a somatic mosaic. Altogether 15,2% of the full profiles presented divergent genotypes from the original, which phenomenon suggests a careful use of this canine multiplex PCR kit especially in DNA samples of low copy number.