

## PRION PROTEIN GENE POLYMORPHISMS IN LITHUANIAN COARSEWOOL NATIVE AND LITHUANIAN BLACKFACE SHEEP BREEDS

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**Summary.** Fifty-six sheep of Lithuanian coarsewool native and Lithuanian blackface breeds were sequence analyzed for polymorphisms in the prion protein (PrP) gene. Genotype and allele frequencies of polymorphisms in PrP known to confer resistance to scrapie, a fatal neurodegenerative disease of sheep. A 939 bp fragment of exon 3 from ovine PrP gene was amplified by PCR and analyzed by direct sequencing. Double heterozygous genotypes were further verified by PCR cloning and sequence analysis. Known polymorphisms at codons 136, 154 and 171 were observed, and three different haplotypes (ARR, ARQ, AHQ) were determined. Based on the polymorphisms observed at codons 136, 154 and 171, sheep population of Lithuanian coarsewool native and Lithuanian blackface breeds showed the resistant ARR allele in different frequencies. High risk VRQ allele did not occurred.

**Keywords:** PrP gene, scrapie, polymorphisms, sheep.