

INVESTIGATIONS OF BULLS, BLAD GENE CARRIERS SPERM

J.Kučinskienė, I.Miceikienė, H.Žilinskas, V.Riškevičienė

Summary. BLAD (Bovine Leukocyte Adhesion Deficiency) is a monogenic autosomal, recessive inherited disease of Holstein cattle. This disease characterized by a greatly reduced level of expression of the $\beta 2$ heterodimeric integrin. Integrins are adhesion molecules that mediate the entry and passage of neutrophils through membranes to destroy invading pathogens. Mutation was detected by polymerase chain reaction coupled with restriction fragment length polymorphism assays (PCR-RFLP). DNA fragments of predicted sizes were amplified using oligonucleotide primers and the products' specificity was assessed by nucleotide sequencing. Mutation was detected in DNA samples from bovine blood, semen and hair roots by the presence or absence of restriction sites within the PCR amplification products (Tab I). The test included 146 bulls. The frequency of defective alleles carriers was 2.7 % in bulls used in artificial insemination. BLAD gene doesn't have influence on sperms functional and morphological changes.

Keywords: cattle, BLAD, CD18 gene, $\beta 2$ integrin, PCR-RFLP, mutation frequency, sperm.