



Association between a single nucleotide polymorphism in the bovine chemerin gene and carcass traits in Qinchuan cattle

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ABSTRACT. Qinchuan is a red or yellow draft and beef breed in China. In order to identify a predictor of carcass traits on the basis of associations between carcass traits and gene polymorphism, variation in the bovine chemerin gene was investigated using PCR-single-strand conformational polymorphism and DNA sequencing. An SNP of A868G located in exon 2 of the *Bos taurus* chemerin gene was detected in 716 samples of six breeds (Jiaxian red, Luxi, Nan yang, Qinchuan, Simmental and Luxi crossbred steers, and Xia'nian), all in China, and three genotypes (AA, AG and GG) were found. Based on the χ^2 test, the AA/AG/GG genotype frequencies of all six breeds were found to be in Hardy-Weinberg equilibrium. A possible association of A868G with some carcass traits was investigated in 106 Qinchuan cattle. Animals with the AG genotype were found to have significantly lower mean loin eye area and meat tenderness compared to those with the AA and GG genotypes. However, there was no significant association between any individual haplotype and backfat thickness, water holding capacity or

marbling score. We suggest that A868G could be used as a molecular marker in marker-assisted selection for carcass traits.

Key words: *Bos taurus*; Chemerin gene; PCR-SSCP; SNP; Carcass traits