



Short Communication

A novel single-nucleotide polymorphism in the 5' upstream region of the prolactin receptor gene is associated with fiber traits in Liaoning cashmere goats

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ABSTRACT. The most important traits of Chinese Liaoning cashmere goat fiber are fiber diameter, weight, and length. We looked for polymorphisms and their possible association with cashmere fiber traits in the 5' upstream region (5' UTR) of the prolactin receptor gene (*PRLR*), which encodes an anterior pituitary peptide hormone involved in different physiological activities; it is the principal endocrine regulator in pelage replacement in mammals. A novel

single-nucleotide polymorphism (SNP) was found in the 5' UTR of *PRLR* by PCR-RFLP in an analysis of 590 goats. Two genotypes (CC and CT) were observed. The frequencies of allele C and T were 0.93 and 0.07, respectively. Association analysis revealed that the *PRLR* 5' UTR polymorphism (SNP5) was significantly associated with cashmere fiber weight and diameter. This novel SNP in hircine *PRLR* has potential as a molecular marker for cashmere fiber weight and diameter in Liaoning cashmere goats.

Key words: Cashmere goats; Prolactin receptor; Polymorphisms; Cashmere fiber traits