



Polymorphisms of *PRLR* and *FOLR1* genes and association with milk production traits in goats

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Genet. Mol. Res. 13 (2): 2555-2562 (2014)
Received December 11, 2012
Accepted October 15, 2013
Published January 24, 2014
DOI <http://dx.doi.org/10.4238/2014.January.24.1>

ABSTRACT. We investigated the polymorphisms of *PRLR* and *FOLR1* genes in Xinong Saanen, Guanzhong, and Boer goat breeds by DNA sequencing and PCR-RFLP. Two novel SNPs were identified: KC109741: g.62130C>T in the 3'-UTR of goat gene *PRLR*, and KC136296: g.7884A>C in exon 3 of goat gene *FOLR1*. In the three goat breeds, the polymorphism information content was 0.20-0.27 at the g.62130C>T locus. At the g.7884A>C locus, it was 0.36 in Boer goats. The three goat breeds were in Hardy-Weinberg disequilibrium at the g.62130C>T locus. The g.62130C>T SNP was found to be significantly associated with milk production traits in Xinong Saanen and Guanzhong breeds. These results are consistent with the regulatory function of *PRLR* in mammary gland development, milk secretion, and expression of milk protein genes; they extend the spectrum of genetic variation of the goat *PRLR* gene, which could be useful for breeding programs.

Key words: SNP; PCR-RFLP; *PRLR*; *FOLR1*; Genotype