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## Czech Journal of Animal Science

Polymorphism identification in the goat *MSTN* gene and association analysis with growth traits

An X.P., Wang J.G. , Hou J.X., Zhao H.B., Bai L., Li G., Wang L.X., Liu X.Q., Xiao W.P., Song Y.X., Cao B.Y.:

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The myostatin (*MSTN*) gene was studied as a candidate genetic marker for growth traits. We investigated polymorphisms of the *MSTN* gene in 664 individuals from four goat populations and applied PCR-

SSCP and DNA sequencing analysis to reveal two single nucleotide polymorphisms (DQ167575: g.368A>C (p.Lys49Thr) and g.4911C>T. At g.368A>C locus, the frequencies of g.368A allele were 0.75–0.81, and the frequencies of g.368C allele were 0.19–0.25. At g.4911C>T locus, the frequencies of g.4911C allele were 0.76–0.82, and frequencies of g.4911T allele were 0.18–0.24. Compared to the female goats with AC genotype, those with AA genotype had superior body weight in Boer goats ( $15.69 \pm 0.28$  vs.  $14.51 \pm 0.31$ ,  $P < 0.05$ ) and  $F_1$  generation of Boer  $\times$  Guanzhong dairy goats ( $19.39 \pm 0.34$  vs.  $18.27 \pm 0.33$ ,  $P < 0.05$ ). In addition, the female goats with AA genotype ( $45.8 \pm 0.33$  cm) had greater withers height than those with AC genotype ( $44.78 \pm 0.36$  cm) in  $F_2$  generation of Boer  $\times$  Guanzhong dairy goats ( $P < 0.05$ ). Hence, the biochemical and physiological functions along with the results obtained in our investigation suggest that the *MSTN* gene might play an important role