



Rabbit *MSTN* gene polymorphisms and genetic effect analysis

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ABSTRACT. We analyzed meat samples of nine pure lines of rabbit and its 37 hybrid combinations by sequencing and single-strand conformation polymorphism techniques to explore genetic polymorphisms of all the three exon regions and part of the 5'-regulatory region of the myostatin (*MSTN*) gene. Thus, we detected a single nucleotide mutation (T→C) on the 476 locus of the 5'-regulatory region, but no mutation sites were detected in the exon areas. The correlation analysis showed that the mutation had some favorable genetic effects, and it resulted in increased liver weight, carcass weight, forelegs weight, back and waist weight, ham weight, and tare weight, whereas it decreased muscle drip loss and cooking loss ($P < 0.05$). These results suggest that the mutations in the upstream regulatory region of the *MSTN* gene are beneficial to the rabbit soma development, and the mutations can be used as molecular markers for the selection of the meat quality of rabbits.

Key words: Rabbits; *MSTN* gene; Single nucleotide polymorphism; Meat quality traits