



# Growth hormone polymorphisms and growth traits in Chinese Tibetan sheep *Ovis aries*

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**ABSTRACT.** Growth hormone (GH) plays an important role in promoting growth, protein and muscle accretion, and fat catabolism, suggesting that GH is a potential candidate gene affecting growth traits in vertebrates. In this paper, polymorphisms in GH were investigated in 632 Chinese Tibetan sheep, by using DNA sequencing. Three single nucleotide polymorphisms were identified, including two mutations (g.616G>A and g.624G>A) in intron 2 and one synonymous mutation (g.498G>C) in exon 2. Association analyses showed that both g.498G>C and g.616G>A were significantly associated with several growth traits (at  $P < 0.01$  or  $P < 0.05$ ) in three investigated breeds. Our results demonstrate that GH variation may be used as a molecular marker for growth traits in Chinese Tibetan sheep.

**Key words:** Chinese Tibetan sheep; Growth hormone; Growth traits; SNP