



# Transcriptional analysis of the porcine *TTID* gene and association of different *TTID* genotypes with carcass traits

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**ABSTRACT.** The titin immunoglobulin domain (TTID) protein localizes to the Z line in muscle and binds to alpha-actinin and gamma-filamin. It plays an indispensable role in stabilizing and anchoring of thin filaments. In this study, the 5'-regulatory region of the porcine *TTID* gene was analyzed with bioinformatic methods. Another objective of this study was to further investigate the polymorphism in the intron 6 of the porcine *TTID* gene. We determined allele frequency among six Chinese porcine purebreds. The polymorphisms were genotyped in a population of 280 F<sub>2</sub> pigs representing two Large White x Meishan reference families. Different *TTID* genotypes were significantly associated with carcass traits, including skin percentage ( $P < 0.05$ ), loin eye area ( $P < 0.05$ ), and average skin thickness ( $P < 0.01$ ). Our study will continue to lay

the groundwork for further investigations into the detailed function of the porcine *TTID* gene.

**Key words:** Porcine; Titin immunoglobulin domain protein (TTID); Polymerase chain reaction-restriction fragment length polymorphism; Association analysis; Carcass traits