

ABSTRACT

Expression of adipogenic transcription factors in adipose tissue of fattening Wagyu and Holstein steers

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In this experiment, we studied the effects of breed differences on the protein expression of adipogenic transcription factors, the C/EBP family (C/EBP α , C/EBP β -LAP, C/EBP β -LIP and C/EBP δ) and PPAR γ , in the adipose tissues of Japanese Black (Wagyu) and Holstein steers from various anatomical sites (subcutaneous, intermuscular, and mesenteric) at different fattening periods (19 and 24 months of age). The expression of C/EBP β -LAP and C/EBP α in the mesenteric fat tissue of Wagyu at 19 months of age was significantly higher than that of Holstein. The expression of C/EBP δ in the subcutaneous, intermuscular and mesenteric fat tissue of Wagyu at 19 months of age was significantly higher than that of Holstein. The plasma insulin concentrations of Wagyu steers at 19 months of age tended to be higher than those of Holstein. No significant differences in the expression of the adipogenic transcription factors and plasma insulin concentration were observed between the breeds at 24 months of age. These results suggest the existence of breed difference on the expression of the C/EBP family between fattening Wagyu and Holstein steers at 19 months of age, whereas breed difference might have disappeared before 24 months of age.