



## Single nucleotide polymorphisms in CAPN and leptin genes associated with meat color and tenderness in Nelore cattle

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**ABSTRACT.** We analyzed single nucleotide polymorphisms in calpain, leptin, leptin receptor, and growth hormone receptor genes and their association with color, drip and cooking losses of longissimus muscle at 7, 14 and 21 days postmortem in 638 purebred Nelore bulls slaughtered between 22 and 26 months of age. Meat samples were vacuum-packed and aged at 4°C. The single nucleotide polymorphisms T945M, GHR2, E2FB, and CAPN4751 were evaluated. All genotypic classes were observed; however, the T/T genotype of T945M and E2FB was found at a low frequency. A significant association of E2FB with drip loss (a measure of water-holding capacity) was detected at seven days of meat aging. CAPN4751 had an additive effect on red and yellow color intensities. The T allele of CAPN4751

was found to be positively associated with improved meat color, but not with meat tenderness, differing from a previous report indicating that it is associated with meat tenderness. We conclude that the potential for use of CAPN4751 as a marker for these meat quality traits requires further research.

**Key words:** Beef; Bovine; Genome; Livestock; Molecular markers; SNP