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CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

HAPLOTYPE IN THE *CAST* GENE ASSOCIATED WITH CARCASS FINISHING SCORE IN SANTA INES SHEEP

Luís Fernando Batista PINTO*[1], Alessandro Lima MACHADO[1], Ariana Nascimento MEIRA[1], Evandro Neves MUNIZ[2], Hymerson Costa AZEVEDO[2], Gerson Barreto MOURÃO[3], Victor Breno Pedrosa[4], Luiz Lehmann COUTINHO[3]

*Autor para correspondência: luisfbp@gmail.com
[1]Universidade Federal da Bahia, Salvador, Bahia, Brasil
[2]Embrapa Tabuleiros Costeiros, Aracajú, Sergipe, Brasil
[3]Universidade de São Paulo, Piracicaba, São Paulo, Brasil
[4]Universidade Estadual de Ponta Grossa, Ponta Grossa, Paraná, Brasil

The µ-calpain (*CAPN1*) and calpastatin (*CAST*) genes play key roles in protein turnover and, therefore, they can be associated with carcass traits in farm animals. This study aimed to identify association between haplotypes in the *CAST* gene and carcass traits in Santa Ines sheep. A total of 192 lambs were genotyped for the single nucleotide polymorphisms (SNP) *g.93398442C>T* (rs411539518) and *g.93398765C>T* (rs418818682) in the *CAST* gene and evaluated for ultrasound images of rib eye area (REA) and fat thickness (FT) in longissimus muscle between 12th and 13th ribs. In addition, all lambs were evaluated for carcass finish score (CFS), with values between 1 and 5. The haplotype block was found with haploview software. Then, a haplotype trend regression (HTR) analysis was performed, using a 5% significance level. The haplotype frequencies were as follows: *CT* (43.4%), *CC* (43.4%), *TT* (12.8%), and *TC* (0.4%). The *TC* haplotype were not used in HTR analysis due its low frequency. The HTR analysis didn´t find effects on REA and FT. However, a significant effect (P=0.004) was found for CFS. The change of haplotype *CT* by *CC* influenced CFS (P=0.004), with regression coefficient and standard error of 0.0999 and 0.0338, respectively. Therefore, the present study identified haplotypes in *CAST* gene associated with finishing carcass score in Santa Ines sheep, which may be sources of information for marker-assisted selection.

Keywords: fat, lamb, ovine, selection, SNP

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