

Supplementary Table S1. Information on the genotyped SNPs.

Gene	BTA ^a	SNP Name	Position	RefSNP Alleles	Recoding	Key reference
CAST	7	CAST:c.182A>G (rs109727850)	98485261	A/G (FWD)	GG = 0, AG = 1, AA = 2	
		CAST:c.1526T>C (rs109384915)	98554459	C/T (FWD)	AA = 0, AG = 1, GG = 2	
		CAST:c.1985G>C (rs110914810)	98566736	C/G (FWD)	GG = 0, CG = 1, CC = 2	
CAPN1	29	CAPN1:c.580A>G (rs17872079)	44067070	A/G (FWD)	TT = 0, CT = 1, CC = 2	Page et al. (2004) Page et al. (2004)
		CAPN1:c.658C>T (rs17872093)	44067234	C/T (FWD)	TT = 0, CT = 1, CC = 2	
		CAPN1:c.948G>C (rs17872000)	44069063	C/G (Gly316Ala)	GG = 0, CG = 1, CC = 2	
		CAPN1:c.1589G>A (rs17871051)	44085642	A/G (Val530Ile)	TT = 0, CT = 1, CC = 2	

^a BTA indicates *Bos Taurus* autosome.

Supplementary Table S2. Sequences of the Taqman probes used for SNP genotyping.

SNP Name	Forward Primer(5'–3')	Reverse Primer (5'–3')	Probe 1 (VIC)	Probe 2 (FAM)
CAST:c.182A>G (rs109727850)	ACGATGCCCTGGATCAACTTT	TCTCATCTGGATCAGGCTGTCTT	TGCCCGAGAGTGTTCAG	TGCCCGAGACTGTTCAG
CAST:c.1526T>C (rs109384915)	GCTCCGCCCACAGCA	GAACACTGCTTTCTCAAGACATTTC	CACTCACCCTGGAGC	CACTCACCCTGGAGC
CAST:c.1985G>C (rs110914810)	ACGATGCCCTGGATCAACTTT	TCTCATCTGGATCAGGCTGTCTT	TGCCCGAGAGTGTTCAG	TGCCCGAGACTGTTCAG
CAPN1:c.580A>G (rs17872079)	GCCCAAGGCAACGAGTTCT	GTGGCCTGGAGCTGTCC	TTGGCATAGGCTTTCT	TTGGCATAGGCTTTCT
CAPN1:c.658C>T (rs17872093)	AGCTGCTCCCGCATGTAAG	GGCTGGGCAGGTCAGT	TCCACGCCGTTCCA	CCACGGCGTTCCA
CAPN1:c.948G>C (rs17872000)	CCCCACCCTCTGCAGAGA	GGCAGGGCACGTACCT	CCTGGATCTGGTCATC	CTGGACCTGGTCATC
CAPN1:c.1589G>A (rs17871051)	GCACGTCTGAGGGCTTTGA	TTGCGCAGCTCGTACCA	CACCGGCGGAGTCA	TTCACCGGTGGAGTCA

Supplementary Table S3. Genotype and allele frequencies for 7 selected SNPs in *CAPN1*-*CAST* Genes.

Marker	Genotype	No. of Animals (n=1000)	Frequency
<i>CAST</i> :c.182G>A (rs109727850)	GG	342	0.342
	AG	495	0.495
	AA	163	0.163
<i>CAST</i> :c.1526A>G (rs109384915)	A	411	0.411
	AA	349	0.349
	AG	477	0.477
<i>CAST</i> :c.1985G>C (rs110914810)	GG	174	0.174
	G	413	0.413
	GG	849	0.849
<i>CAPN1</i> :c.580T>C (rs17872079)	CG	142	0.142
	CC	9	0.009
	C	08	0.08
<i>CAPN1</i> :c.658T>C (rs17872093)	TT	360	0.36
	CT	473	0.473
	CC	167	0.167
<i>CAPN1</i> :c.948G>C (rs17872000)	C	404	0.404
	TT	448	0.448
	CC	433	0.433
<i>CAPN1</i> :c.1589T>C (rs17871051)	CC	119	0.119
	C	336	0.336
	GG	407	0.407
	CG	462	0.462
	CC	131	0.131
	C	362	0.362
	TT	564	0.564
	CT	353	0.353
	CC	83	0.083
	C	259	0.259