

## Supplementary Materials

**Table S1. Primer information.**

Gene name		5'-3'	Length	Note
<i>PLEC</i>	F	GCTCAGAACCCTGGAGACAG	222	Exonic-CNV
	R	TCTCAGCAGGTTGGGGTTTC		
	F	TGTTCGGACGGCACTTCTTT	206	Intronic-CNV
	R	CCTGTGAGAGACGCCTTGAG		
	F	GGGGTAGGGGACAGCTTAGA	114	Intronic-CNV
	R	TTAATAGGGCATGGTGCGGC		
<i>MC1R</i>	F	GGGCAGTCCCTTGACAAAGA	129	CNV-qPCR
	R	ATCTCCCCAGCCTCCTCATT		
<i>PLEC</i>	F	CAAAGTTGCACCGCACAGAG	232	mRNA-qPCR
	R	TGCAAGGCCTGAGTCTCCT		
<i>GADPH</i>	F	TGAAGGTCGGTGTGAACGGATTTGG	277	mRNA-qPCR
	R	ACGACATACTCAGCACCAGCATCAC		

**Table S2. The association analysis between the traits and CNV-2 in the goat *PLEC* gene.**

Growth Traits	CNV Types (Mean $\pm$ SE)			<i>P</i> values
	Loss	Normal	Gain	
	(1 Copy) ( <i>n</i> = 31)	(2 Copies) ( <i>n</i> =245)	( $\geq$ 3 Copies) ( <i>n</i> = 140)	
body height (BH,cm)	51.74 $\pm$ 0.24	52.07 $\pm$ 0.09	51.65 $\pm$ 0.10	0.241
body oblique length (BOL, cm)	54.37 $\pm$ 0.25	54.76 $\pm$ 0.10	55.12 $\pm$ 0.08	0.417
chest circumference(CC, cm)	56.94 $\pm$ 0.35	57.88 $\pm$ 0.13	58.09 $\pm$ 0.12	0.072
body weight (BW, kg)	18.99 $\pm$ 0.24	19.27 $\pm$ 0.09	20.31 $\pm$ 0.09	0.061
cannon circumference(CAC, cm)	7.17 $\pm$ 0.05	7.19 $\pm$ 0.01	7.33 $\pm$ 0.04	0.104
Carcass Traits & Meat Quality	Loss	Normal	Gain	
	(1 Copy)	(2 Copies)	( $\geq$ 3 Copies)	
	( <i>n</i> = 9)	( <i>n</i> =42)	( <i>n</i> =29)	
Carcass weight (CW, kg)	8.91 <sup>b</sup> $\pm$ 0.24	9.52 <sup>b</sup> $\pm$ 0.16	10.01 <sup>a</sup> $\pm$ 0.22	0.044
cross-section area of <i>longissimus</i> <i>dorsi lumbois</i> muscle(CALM, cm <sup>2</sup> )	7.44 $\pm$ 0.24	7.67 $\pm$ 0.06	8.14 $\pm$ 0.20	0.058
water loss rate (WLR, %)	4.83 $\pm$ 0.09	4.81 $\pm$ 0.18	4.87 $\pm$ 0.14	0.366
water holding capacity (WHC, %)	4.80 $\pm$ 0.14	4.79 $\pm$ 0.05	4.94 $\pm$ 0.06	0.217
shear stress (SS, N)	49.10 <sup>a</sup> $\pm$ 0.6	47.98 <sup>b</sup> $\pm$ 0.17	46.49 <sup>b</sup> $\pm$ 0.32	0.037

**Table S3. The association analysis between the traits and CNV-3 in the goat *PLEC* gene.**

Growth Traits	CNV Types (Mean $\pm$ SE)			<i>P</i> values
	Loss (1 Copy) ( <i>n</i> = 52)	Normal (2 Copies) ( <i>n</i> =265)	Gain ( $\geq 3$ Copies) ( <i>n</i> = 98)	
body height (BH,cm)	52.03 $\pm$ 0.22	52.19 $\pm$ 0.09	51.77 $\pm$ 0.09	0.437
body oblique length (BOL, cm)	54.01 $\pm$ 0.23	54.33 $\pm$ 0.08	55.48 $\pm$ 0.12	0.210
chest circumference(CC, cm)	57.32 $\pm$ 0.23	56.77 $\pm$ 0.12	58.17 $\pm$ 0.18	0.357
body weight (BW, kg)	18.64 $\pm$ 0.24	19.72 $\pm$ 0.10	19.59 $\pm$ 0.14	0.175
cannon circumference(CAC, cm)	7.14 $\pm$ 0.03	7.21 $\pm$ 0.01	7.23 $\pm$ 0.03	0.218
Carcass Traits & Meat Quality	Loss (1 copy) ( <i>n</i> = 21)	Normal (2 copies) ( <i>n</i> =41)	Gain ( $\geq 3$ copies) ( <i>n</i> = 18)	
Carcass weight (CW, kg)	9.12 <sup>b</sup> $\pm$ 0.13	9.71 <sup>a</sup> $\pm$ 0.23	9.64 <sup>a</sup> $\pm$ 0.43	0.179
cross-section area of <i>longissimus dorsi lumbois</i> muscle(CALM, cm <sup>2</sup> )	7.50 $\pm$ 0.11	7.61 $\pm$ 0.42	8.04 $\pm$ 0.44	0.097
water loss rate (WLR, %)	4.81 $\pm$ 0.08	4.85 $\pm$ 0.07	4.75 $\pm$ 0.22	0.772
water holding capacity (WHC, %)	4.93 $\pm$ 0.14	4.81 $\pm$ 0.03	4.86 $\pm$ 0.10	0.391
shear stress (SS, N)	48.81 $\pm$ 0.33	48.09 $\pm$ 0.22	47.79 $\pm$ 0.21	0.064