

**Supplementary TABLE 1 | Genes with ASE that overlap with known imprinted genes**

Gene	Species				Expressed allele
	Human	Mouse	Sheep	Cattle	
<i>IGF2R</i>	√	√	√	√	Maternal
<i>GRB10</i>	√	√	√		Maternal
<i>ALDH1L1</i>	√				Maternal
<i>OBSCN</i>	√				Paternal

**Supplementary TABLE 2 | Comparison of ASE Gene and Normal Gene Expression**

	ASE-average fpkm	ASE-average number	Normal-ave rage fpkm	Normal-avera ge number
Liver	576.03	144	19.49	15785
Bone	146.15	107	19.66	19908
Muscle	645.53	78	20.99	19187
Fat	45.22	97	20.9	19670
Mammary	70.88	124	19.88	20304
Skin	162.66	127	19.22	20347

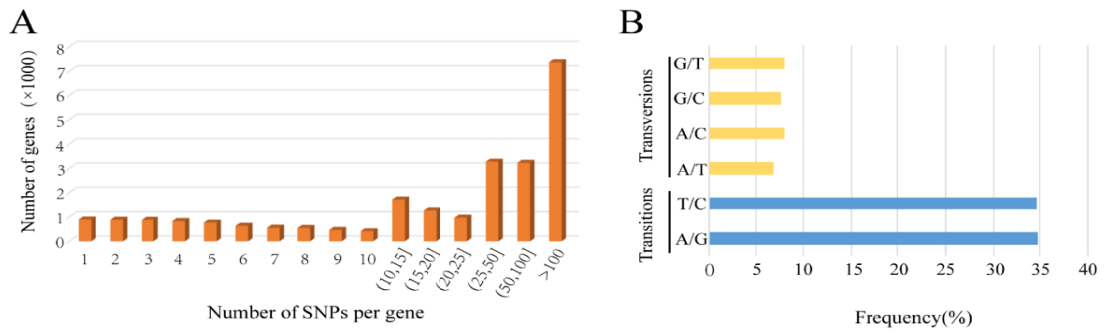
**Supplementary TABLE 3 | Genes with ASE that have an overlapping situation in six tissues**

Tissue number	Tissue	Gene number	Gene
6	bone, fat, liver, mammary, muscle, skin	5	<i>HLA-A, HLA-B, HLA-DQA1, HLA-DQB1, LOC106503915</i>
5	bone, fat, liver, muscle, skin	1	<i>SH3TC1</i>
	bone, fat, mammary, muscle, skin	5	<i>SGCB, SPCS3, TUBA1A, PODXL, LOC108633505</i>
4	bone, fat, liver, mammary	1	<i>LOC102172184</i>
	bone, fat, liver, skin	1	<i>HEBP1</i>
	fat, liver, mammary, muscle	1	<i>ENPP5</i>
	fat, liver, mammary, skin	1	<i>LOC102185917</i>
	bone, mammary, muscle, skin	1	<i>RPS8</i>
	bone, fat, mammary, skin	1	<i>LOC102185917</i>
	fat, mammary, muscle, skin	2	<i>TMEM43, AHNAK</i>
3	bone, fat, liver	2	<i>C3, TAP1</i>
	bone, liver, mammary	1	<i>XPC</i>
	liver, mammary, muscle	1	<i>GHR</i>
	liver, muscle, skin	1	<i>LOC102173702</i>
	fat, liver, mammary	2	<i>LOC102172205, LOC102176375</i>

	bone, fat, mammary	2	<i>LOC102189675, TNFAIP2</i>
	fat, mammary, muscle	1	<i>LOC102178315</i>
	mammary, muscle, skin	1	<i>LC102169149</i>
	fat, mammary, skin	3	<i>CLN5, LOC102169730, SEPNI</i>
2	bone, liver	3	<i>CD5L, LOC102169730, LOC108637533</i>
	liver, muscle	4	<i>EGFR, DEPTOR, MRPL17, LOC108637533</i>
	fat, liver	1	<i>C4A</i>
	liver, mammary	6	<i>HSPA13, LOC102169084, LOC102181292, LOC102174841, LOC102169190, LOC108638035</i>
	liver, skin	1	<i>COL18A1</i>
	bone, muscle	1	<i>GMPR LOC106501822, RGCC, LOC102174023, LOC108633303,</i>
	bone, fat	5	<i>LOC108638310</i>
	bone, mammary	4	<i>STK19, COL6A1, LOC102184629, LOC106503943</i>
	bone, skin	1	<i>SLC43A1</i>
	fat, muscle	2	<i>AMOTL1, FAM127A</i>
	fat, mammary	13	<i>LOC102180881, TGM2, LOC108633235, LOC102175469, CD36, KIAA1456, AGGF1, DDX58, LOC108634436, LOC102175225, LOC102176116, LOC102184922, LOC102172138</i>

	fat, skin	4	<i>LOC102186320, FARP2, SLC40A1, NPC1</i>
	mammary, skin	8	<i>CPNE8, TUBB2A, LYRM9, LOC102172005, METTL22, PAPLN, LOC102176726, LOC108636992</i>
1	liver	112	
	bone	73	
	muscle	53	
	fat	44	
	mammary	65	
	skin	91	

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**Supplementary Figure 1. SNP identification among Nubian goats, Chinese Yunling black goats and their hybrid F1 offspring. (A) SNP distribution according to the number of SNPs per gene. (B) Frequency of different substitution types in the identified SNPs.**