## **Additional file 1**

## Genetics of the Phenotypic Evolution in Sheep: A Molecular Look at Diversity-driving Genes

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## **Supplementary figures**



High-throughput Sequencing Outcomes for Potential Genes Associated with Sheep Tail Phenotypes

Supplementary fig. S1. High-throughput sequencing outcomes for candidate genes linked with the sheep tail phenotype pattern. Outcomes of genomic (a) and transcriptomic (b) approaches.



Supplementary fig. S2. An example of coat color variation in sheep. Coat colors and markings in Shetland sheep breed. Poster copyright and published with the consent of the *Shetland Sheep Society* (www.shetland-sheep.org.uk).



**Supplementary fig. S3. CRISPR/Cas9-generated** *ASIP* **knockout Chinese Merino sheep.** (a) Badger-face with black body coat color. (b) Brown coat color with light ventral pigmentation. (c) Black-white spotted coat color. (d) Wild-type phenotype. Figure adapted from Zhang et al. [83].



**Supplementary fig. S4. Phenotypic variations of face coat color in sheep.** A representative example from Chinese Tan sheep with varied face coat colors, including white, light brown spots, dark brown spots, brown, black spots, black marks, and black. Photos were taken by P.K. at Ningxia Tianyuan Tan Sheep Farm, Hongsibu, China.



**Supplementary fig. S5. Phenotypic variations of nipple (teat) number in sheep.** A representative example from Chinese Tan sheep, including (a) normal nipple number (a pair of nipples) and supernumerary nipples [(b) with three nipples and (c) four nipples]. Photos were taken by P.K.



**Supplementary fig. S6. Location of vertebrae in the sheep skeleton.** This includes cervical, thoracic, lumbar, sacral, and coccygeal vertebrae (item source: PNGITEM).