



Genome-wide association study for vertebrae number in Ujimqin sheep. **(A)** Annular Manhattan plots of GWAS results and SNP density distribution map on 1–26 chromosomes. The X axis shows SNPs across chromosomes SSC1 to SSC26, and the Y axis represents the  $-\log_{10}(p)$ . **(B)** Manhattan plots of SSC7 of GWAS results. The top line indicates the genome-wide significant thresholds ( $p < 10^{-6}$ ). **(C)** QQ plot of GWAS analysis. **(D)** Heat map of linkage disequilibrium between Significant SNP on SSC7. The X axis and Y axis is SNPs.