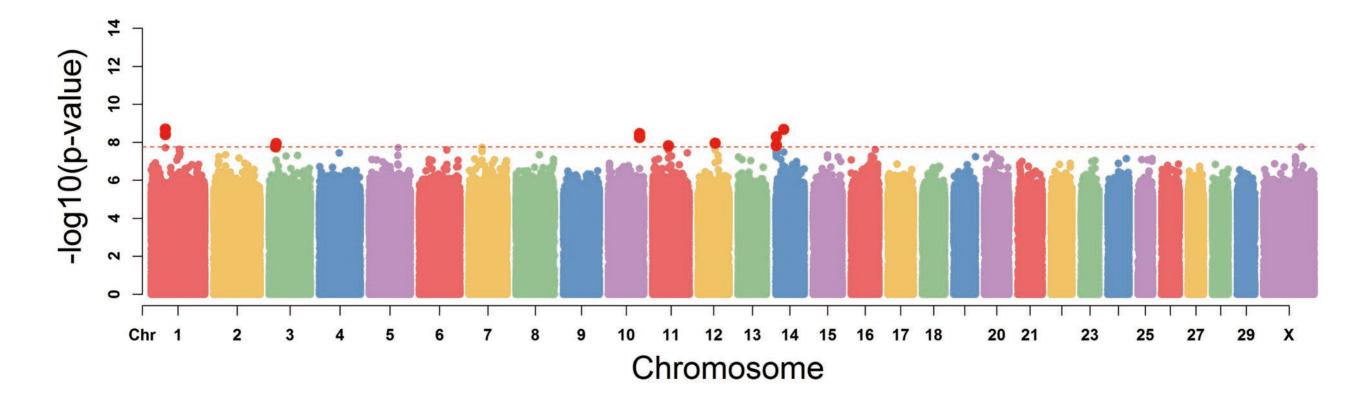


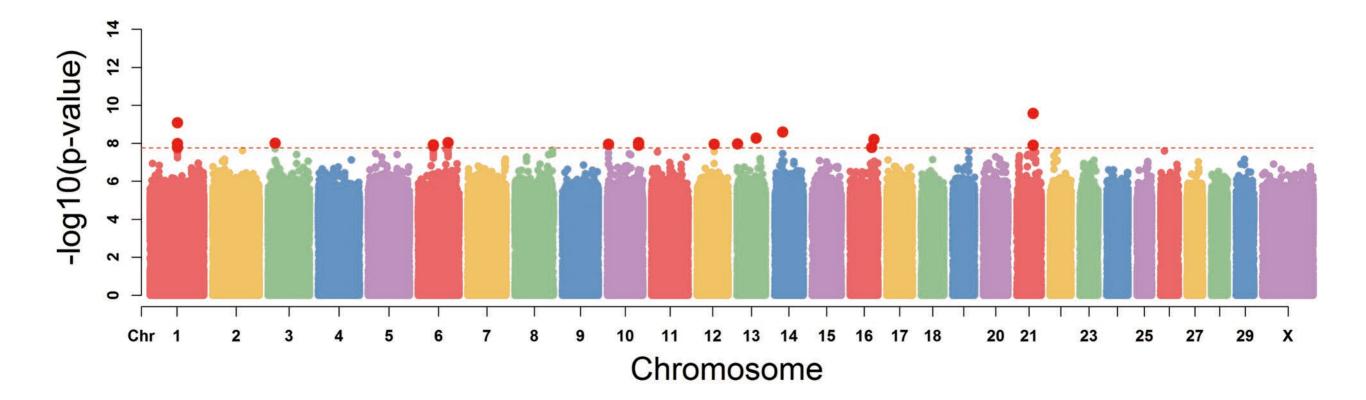
Manhattan plot of αS1-CN

Fig. S10. Manhattan plot for the -log10 (P-value) of single SNP associated with as1-CN



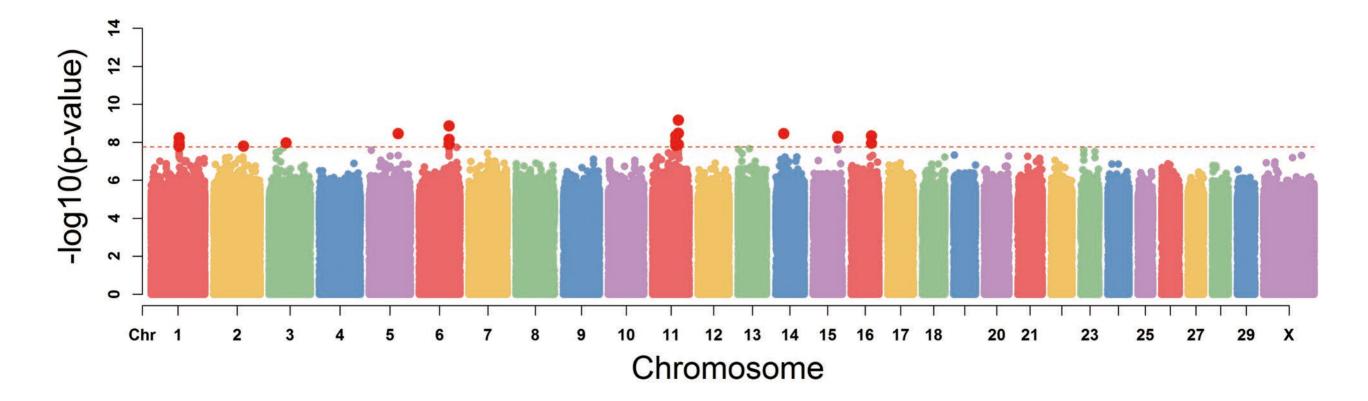
Manhattan plot of αS2-CN

Fig. S11. Manhattan plot for the -log10 (P-value) of single SNP associated with as2-CN



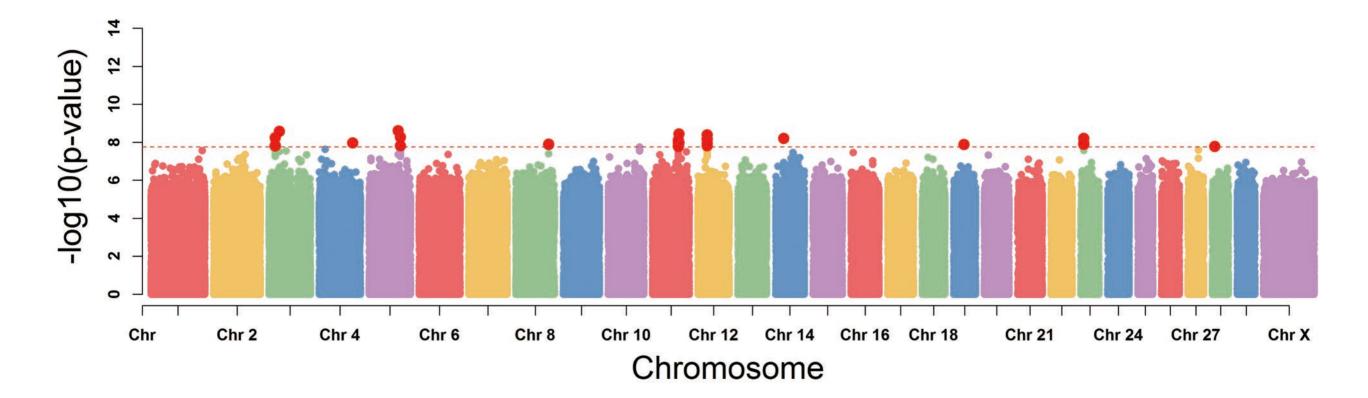
Manhattan plot of β-CN

Fig. S12. Manhattan plot for the –log10 (P-value) of single SNP associated with  $\beta$ -CN



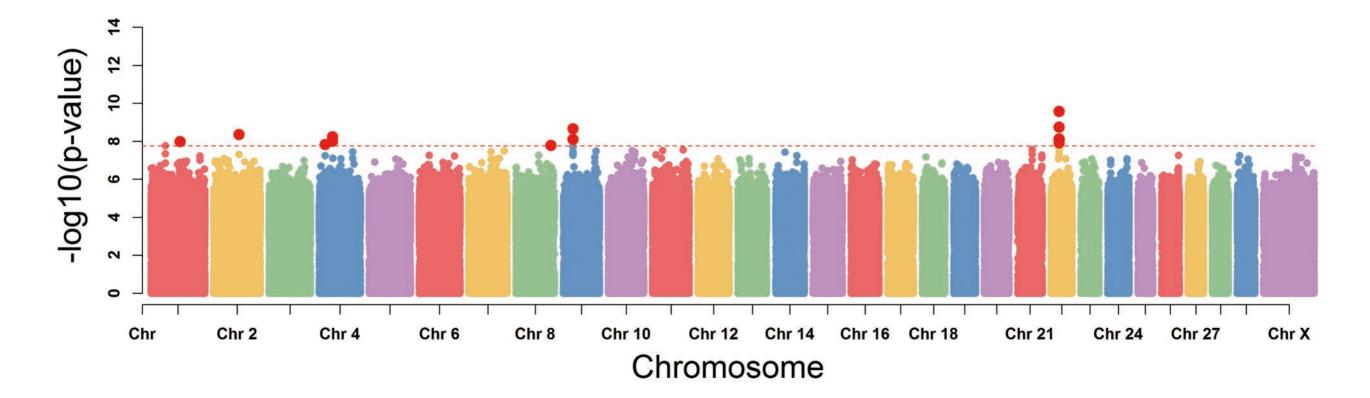
Manhattan plot of ĸ-CN

Fig. S13. Manhattan plot for the  $-\log 10$  (P-value) of single SNP associated with  $\kappa$ -CN



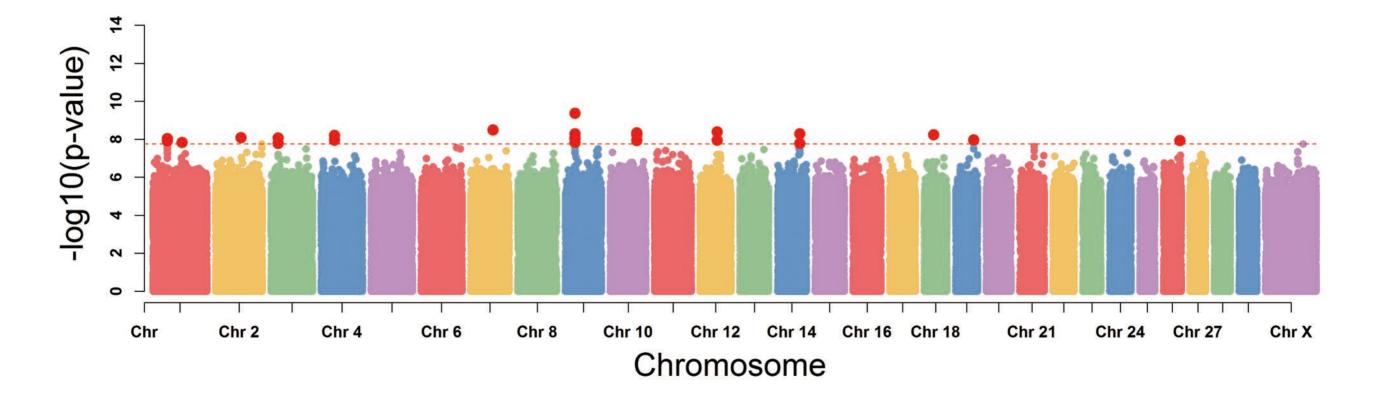
Manhattan plot of α-LA

Fig. S14. Manhattan plot for the -log10 (P-value) of single SNP associated with  $\alpha$ -LA



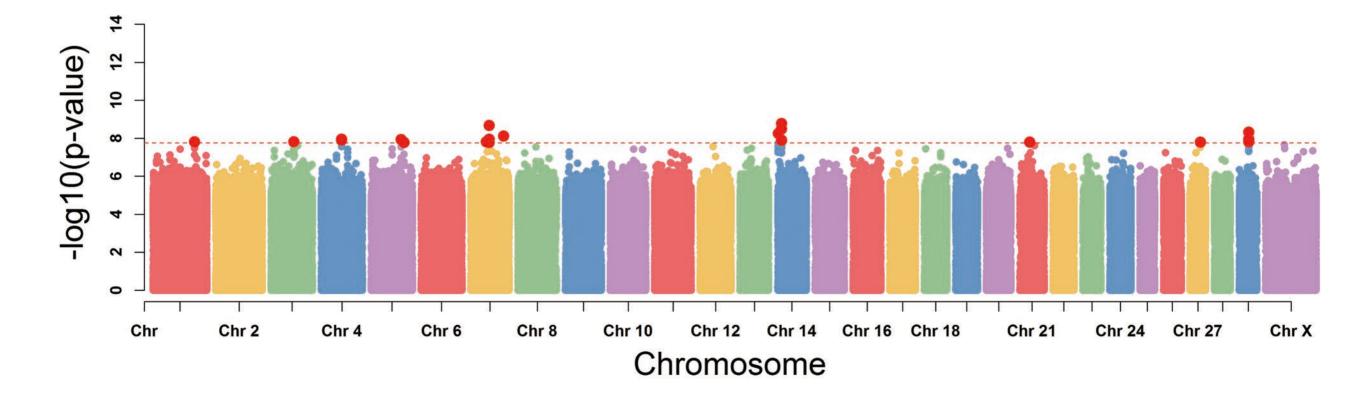
Manhattan plot of β-LG

Fig. S15. Manhattan plot for the  $-\log 10$  (P-value) of single SNP associated with  $\beta$ -LG



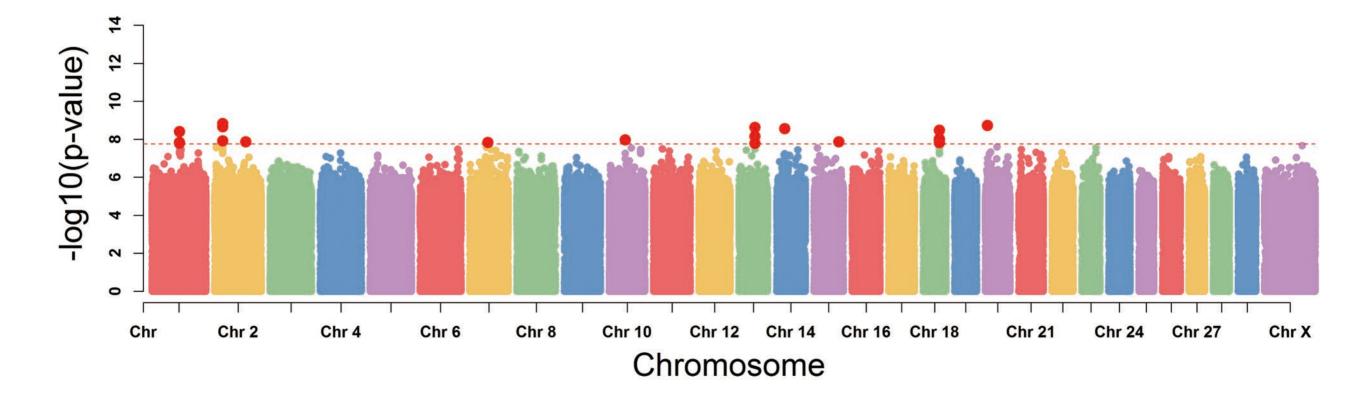
Manhattan plot of casein index

Fig. S16. Manhattan plot for the –log10 (P-value) of single SNP associated with casein index



Manhattan plot of protein percentage

Fig. S17. Manhattan plot for the -log10 (P-value) of single SNP associated with protein percentage



Manhattan plot of protein yield

Fig. S18. Manhattan plot for the -log10 (P-value) of single SNP associated with protein yield

## Genetic map

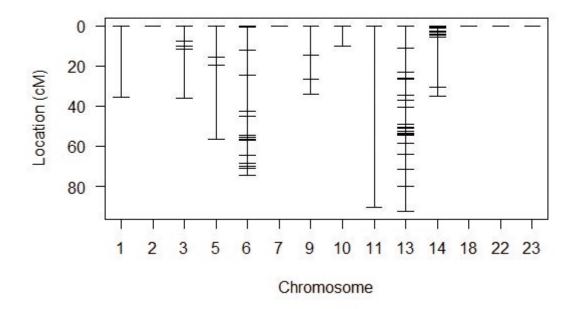


Fig. S19. Genetic map for 118 QTL related to milk protein composition