

**Figure S1.** Manhattan plot of results for Mendelian randomization analysis in the rump group. The red straight line indicates the significant threshold of the false discovery rate = 0.05. The genes labeled in the plot correspond to the top 10 most significant associations.



**Figure S2.** Manhattan plot of results for Mendelian randomization analysis in the feet and legs group. The red straight line indicates the significant threshold of the false discovery rate = 0.05. The genes labeled in the plot correspond to the top 10 most significant associations.



**Figure S3.** Manhattan plot of results for Mendelian randomization analysis in the mammary system group. The red straight line indicates the significant threshold of the false discovery rate = 0.05. The genes labeled in the plot correspond to the top 10 most significant associations.



**Figure S4.** Manhattan plot of results for Mendelian randomization analysis in the dairy character group. The red straight line indicates the significant threshold of the false discovery rate = 0.05. The genes labeled in the plot correspond to the top 10 most significant associations.