

Description of Additional Supplementary Files

File Name: Supplementary Data 1

Description: Supplementary Data 1 contains a list of genome-wide identified QTL ($\alpha_{gw} < 0.05$) relevant for figure 1.

File Name: Supplementary Data 2

Description: Supplementary Data 2 contains a list of chromosome-wide identified QTL ($\alpha_{cw} < 0.05$) relevant for figure 1.

File Name: Supplementary Data 3

Description: Supplementary Data 3 summarizes SNPs and indels data from the whole genome sequencing of the four founder strains used in this study (NZM2410/J, MRL/MpJ, BxD2/TyJ, and CAST/EiJ).

File Name: Supplementary Data 4

Description: Supplementary Data 4 contains a list of differentially expressed genes in spleens of mice when stratified by diet relevant for figure 4.

File Name: Supplementary Data 5

Description: Supplementary Data 5 contains a list of differentially expressed genes in spleens of healthy vs. diseased mice relevant for figure 4.

File Name: Supplementary Data 6

Description: Supplementary Data 6 contains a list of pathways enriched in spleens of mice set on different diets and based on the presence or absence of disease relevant for figure 4.

File Name: Supplementary Data 7

Description: Supplementary Data 7 contains a list of FMC1-associated genes relevant to figure 4.

File Name: Supplementary Data 8

Description: Supplementary Data 8 contains a list of FFC4-associated genes relevant to figure 4.

File Name: Supplementary Data 9

Description: Supplementary Data 9 a list of differentially expressed genes in spleens of ANA positive vs. ANA negative NZM2410/J mice relevant to figure 5.

File Name: Supplementary Data 10

Description: Supplementary Data 10 contains a list of differentially expressed genes in spleens of mice set on calorie-restricted diet vs. NZM2410/J mice set on control and western diets relevant for figure 5.

File Name: Supplementary Data 11

Description: Supplementary Data 11 a list of FMC3-associated genes relevant to figure 5.

File Name: Supplementary Data 12

Description: Supplementary Data 12 contains a list of FMC5-associated genes relevant to figure 5.

File Name: Supplementary Data 13

Description: Supplementary Data 13 contains a list of FFC6-associated genes relevant to figure 5.