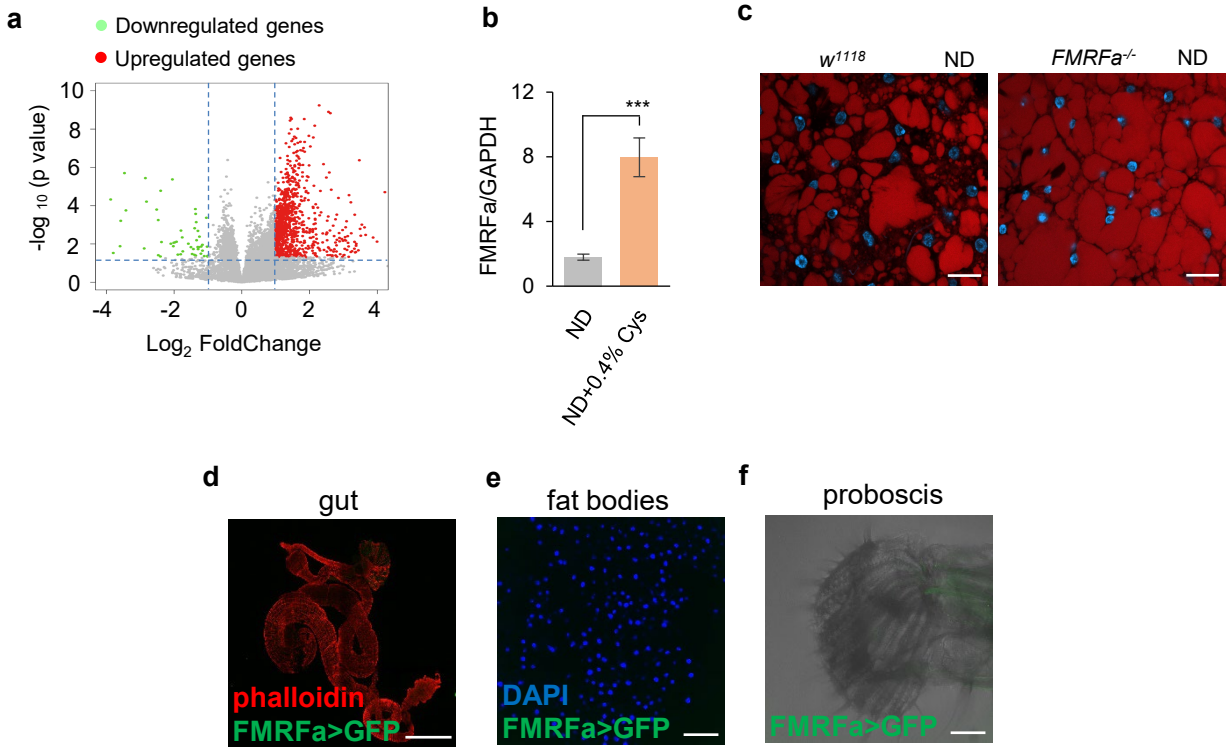


**Fig. S5**



**Fig. S5: FMRFa signaling suppressed fat storage under ND feeding.**

**a** RNAseq analysis of flies fed with 5% sucrose or 5% sucrose added with 0.2% cysteine for 5 days (n=6). Volcano plot showed differentially expressed genes between the two groups (green: downregulated genes in the cysteine group; red: upregulated genes in the cysteine group). The horizontal line indicated the significance threshold ( $p = 0.05$ ), and the vertical lines indicated two-fold change threshold. **b** *FMRFa* mRNA levels of flies fed with ND or ND plus cysteine by qPCR (n=6). **c** Nile Red staining of the fat bodies collected from the indicated genotypes, lipids in red and nucleus in blue. Scale bar, 20  $\mu\text{m}$ . **(d-f)** *FMRFa* expression in the gut (d, Scale bar, 500  $\mu\text{m}$ ), the fat bodies (e, Scale bar, 50  $\mu\text{m}$ ), and the proboscis (f, Scale bar, 50  $\mu\text{m}$ ), illustrated by mCD8::GFP driven by *FMRFa<sup>GAL4</sup>*. \*\*\* $p < 0.001$ . Student's t-test was used for unpaired -wise comparisons.