

Supplementary Materials

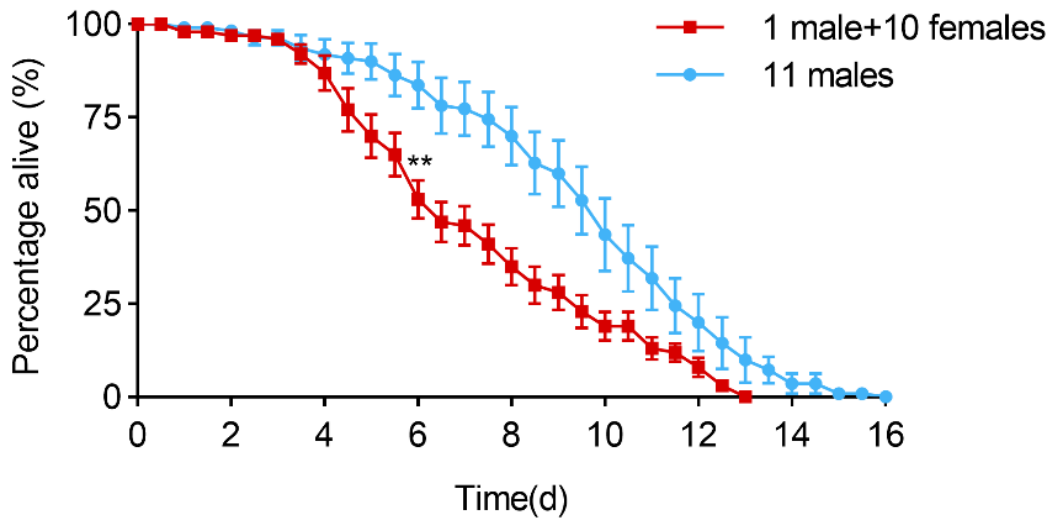


Fig. S1 Sexual activity reduces wild-type males' survival time under low nutrition environment.

Groups of 1M+10F or 11M were housed on 1% agar + 1% sugar medium and transferred every two days at 22°C. $n = 10$ for each. Each n consists of 10 vials of 1M+10F or one vial of 11M. $**P < 0.01$ at the 6-day time point, Mann Whitney U test. Error bars indicate SEM.

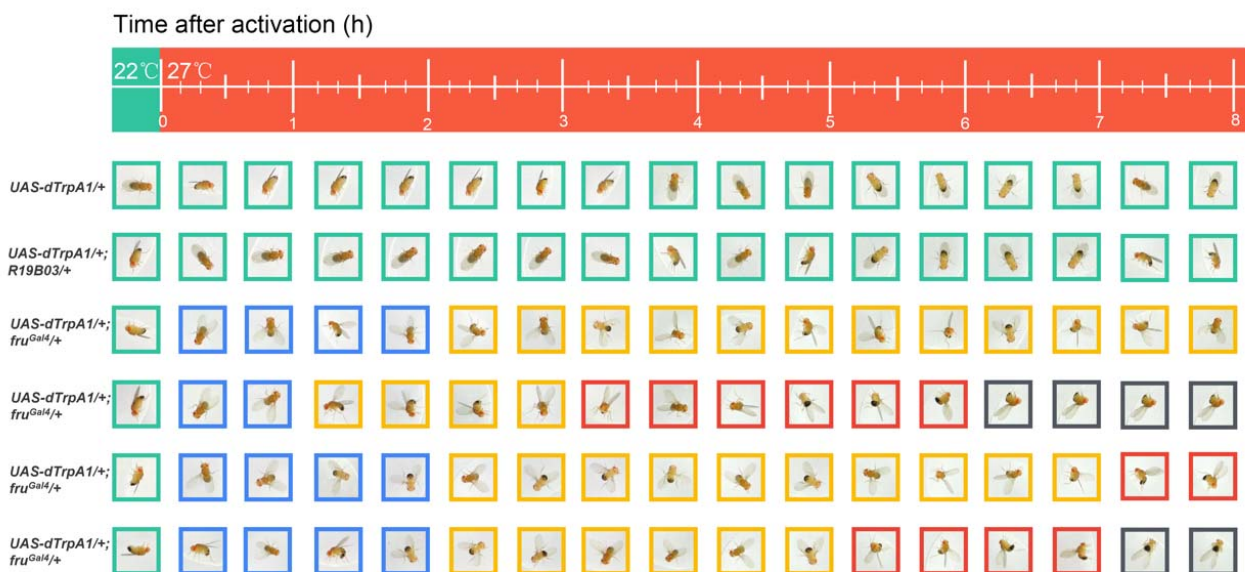


Fig. S2 Example video stills of individual males at 27°C for 10 hours. From up to bottom: a *UAS-dTrpA1/+* male, a *UAS-dTrpA1/+; R19B03/+* male, and four *UAS-dTrpA1/+; fru^{GAL4}/+* males.

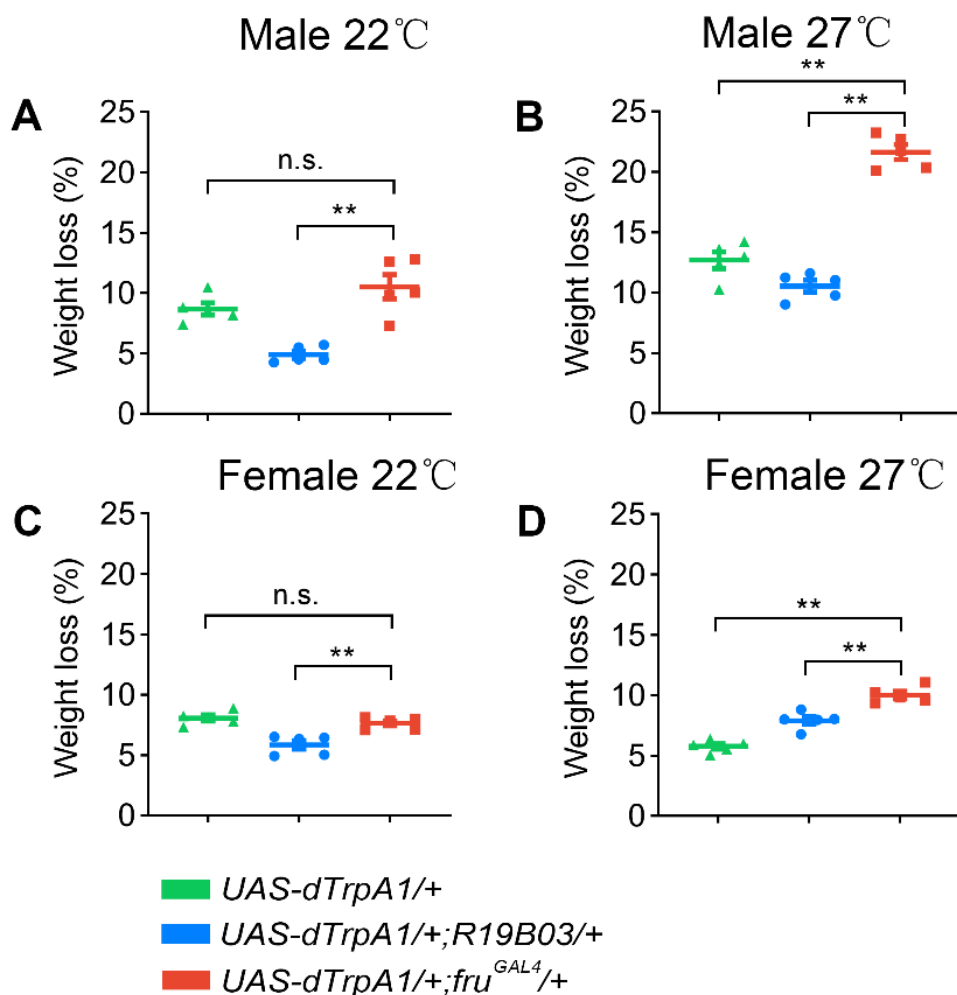


Fig. S3 Activation of *fru^M* neurons induces body weight loss in males. **A** Weight loss of males at 22°C at controls. These weight losses were probably due to dehydration. All flies were tested in groups of 10 in vials without food for 6 hours. $n = 5$ each, Each sample consists of 20 flies. *n.s.*, not significant, $**p < 0.01$, Mann Whitney U test. **B** Weight loss of males at 27°C. $**P < 0.01$, Mann Whitney U test. **C, D** Weight loss of females at 22°C (C) or 27°C (D). *n.s.*, not significant, $**P < 0.01$, Mann Whitney U test. Genotypes as indicated. Error bars indicate SEM.

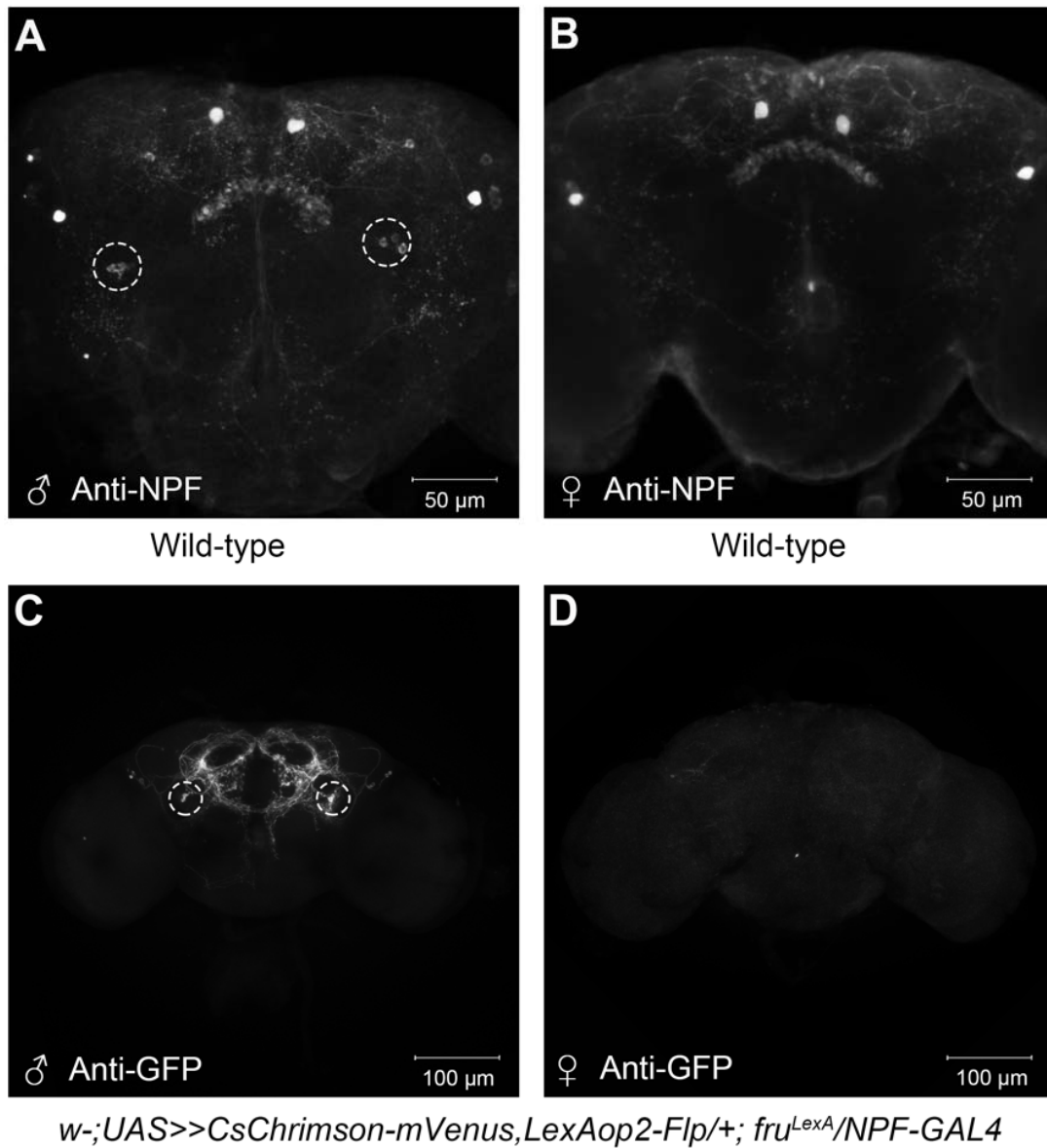


Fig. S4 Sex-specific NPF neurons that co-express FruM. **A, B** Anti-NPF staining reveals three pairs of male-specific neurons in males (**A**, circled in red) but not in females (**B**). **C, D** Intersectional expression of *fru^{LexA}* and *NPF-GAL4* labels male-specific neurons in a male brain (**C**), but not in a female brain (**D**). Representative of 5 brains for each. Scale bars as indicated.