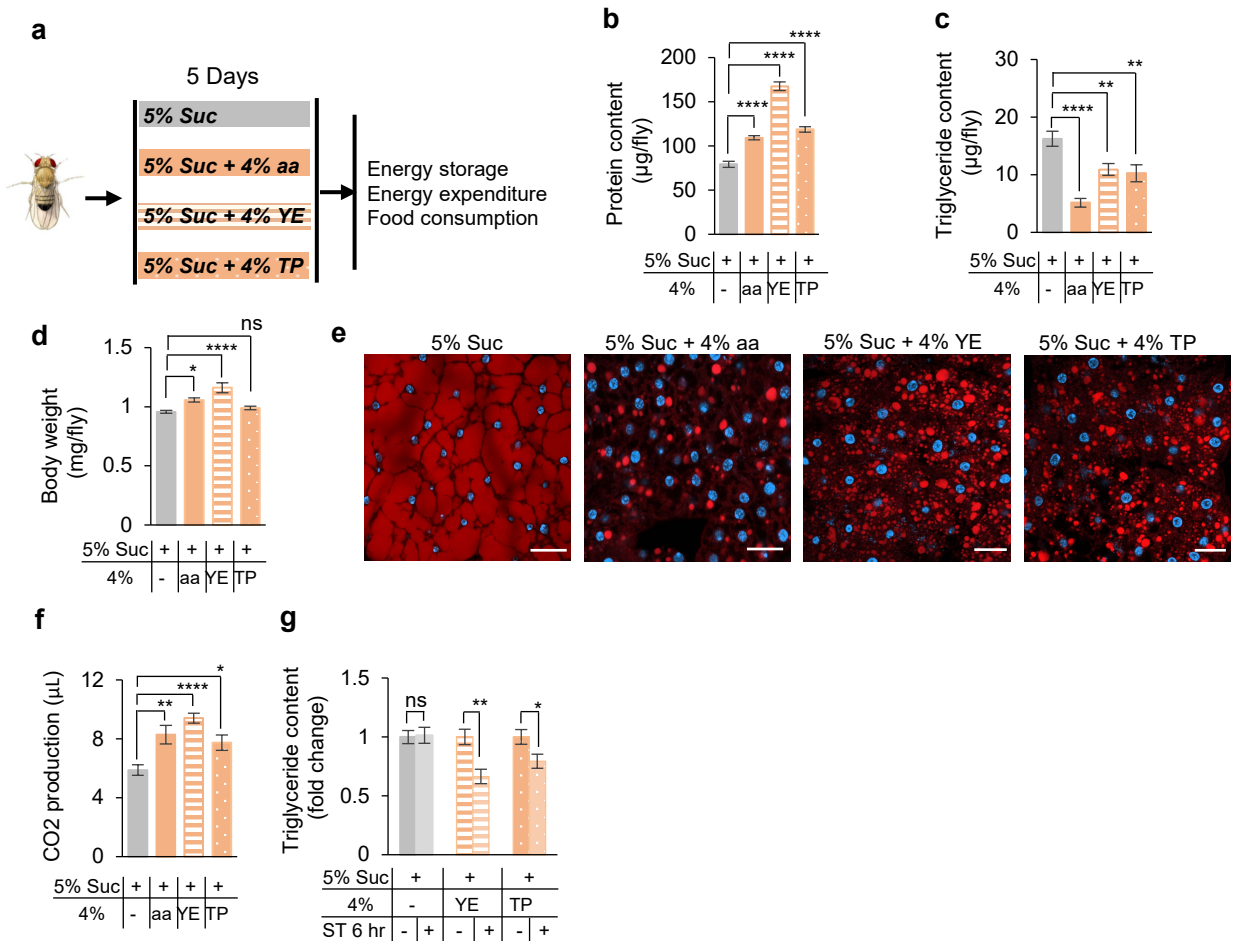


Fig. S1**Fig. S1: Excess protein added to 5% sucrose also exerted fat loss effect in fruit flies.**

a The illustration of experimental design in Figs. S1b-g. Wild-type *Oregon-R* virgin female flies were collected and fed with 5% sucrose with (orange) or without (grey) indicated proteins (4%) for 5 days and then subjected to different metabolic and behavioral assays. **(b-d)** The content of different nutrient types after HPD treatment, including protein (b, n=10), triglyceride (c, n=8-16), and body weight (d, n=5) of indicated treatment groups. **e** Nile Red staining of the fat bodies collected from the indicated treatment groups, lipids in red and nucleus in blue. Scale bar, 20 µm. **f** CO₂ production of indicated treatment groups in 1 hour (n=9-11 biological replicates, each containing 5 flies). **g** Triglyceride content of flies pre-fed with different HPD for 5 days and then starved for 6 hours or not (n=23-32). ns, p > 0.05; *p < 0.05; **p < 0.01; ****p < 0.0001. One-way ANOVA followed by post hoc test with Bonferroni correction was used for multiple comparisons when applicable.