Supplemental Figure and Tables

The relationship between immunity and metabolism in *Drosophila* diet-induced insulin resistance

Laura Palanker Musselman, Jill L. Fink, Ana R. Grant, Jared A. Gatto, Bryon F. Tuthill II, and Thomas J. Baranski

Supplemental Figure

Figure S1. Transgenic PGRP RNAi phenotypes support a minor but substantive role for PGRPs in insulin signaling.

Supplemental Tables (in Excel format)

Table S1. Differentially-expressed genes in wandering L3 fat bodies from w^{1118}, *r4-GAL4* transheterozygous control or *r4-GAL4, UAS-InR^{i} larvae* reared on control (0.15 M sucrose) diets.

Table S2. Differentially-expressed genes in wandering L3 fat bodies from w^{1118}, *r4-GAL4* transheterozygous control or *r4-GAL4, UAS-InR^{i}* larvae reared on high sugar (0.7 M sucrose) diets

Table S3. Differentially-expressed genes in mid-third instar fat bodies from *yw*, *hs-GAL4* genetic background controls or *hs-GAL4, UAS-InR^{CA}* larvae 6 hours after heat shock

Table S4. Differentially-expressed genes in the overlap between HS *InR^{i}* and *InR^{CA}* fat bodies.

Table S5. Immune genes differentially expressed in whole adult male *Canton-S* flies fed 0.15 M or 1 M food for 4 weeks

Table S6. Immune genes differentially expressed in whole adult male *Canton-S* flies fed 0.15 M or 1 M food for 2 days

Supplemental Figure and Legend

Figure S1. Transgenic PGRP RNAi phenotypes support a minor but substantive role for PGRPs in insulin signaling. (A) Fat body *PGRP-SB2* RNAi (*r4-GAL4* x *UAS-PGRP-SB2*^{i} offspring) did not reduce the developmental delay associated with HS feeding on 1 M sucrose diets, compared with controls (*r4-GAL4* x *60100* control offspring). n=10 for each genotype. (B) Fat body *PGRP-SB2* RNAi did not reduce hyperglycemia resulting from HS feeding, compared with controls. n≥53 for each genotype. (C) TAG storage in whole larvae is unaffected by fat body *PGRP-SB2* RNAi. n=24 for each genotype. (D) Fat body insulin sensitivity, measured by Akt phosphorylation in response to exogenous insulin, is not affected by *PGRP-SB2* knockdown. n=12 for each genotype. (E) TAG storage in whole larvae significantly increases in fat body *PGRP-SC2* RNAi (*r4-GAL4* x *UAS-PGRP-SC2*^{i} offspring) only in males, compared to controls (*r4-GAL4* x *60100* control offspring) reared on the 0.7 M HS sucrose diet. n≥15 for each genotype. (F) 7-day survival of adults reared on a 0.7 M sucrose diet. 3- to 7- day old control and fat body *PGRP-SC2*^{i} survival was quantified after inoculation with *P. aeruginosa.* n=38 vials for controls and 46 vials for *PGRP-SC2*^{i} flies. (G) 7-day survival of adults reared on a 1 M sucrose diet. 3- to 7- day old control and fat body *PGRP-SB2*^{i} flies were counted after inoculation. n=23 vials for controls and 25 vials for *PGRP-SB2*^{i} flies. (H) 7-day survival of adults reared on a 0.7 M sucrose diet. 3- to 7- day old control and fat body *PGRP-SB2*^{i} were counted after inoculation. n=38 vials for controls and 16 vials for *PGRP-SB2*^{i} flies. A two-tailed Student's t-test was used to derive p values. Error bars show S.E.M.