Supplemental Information

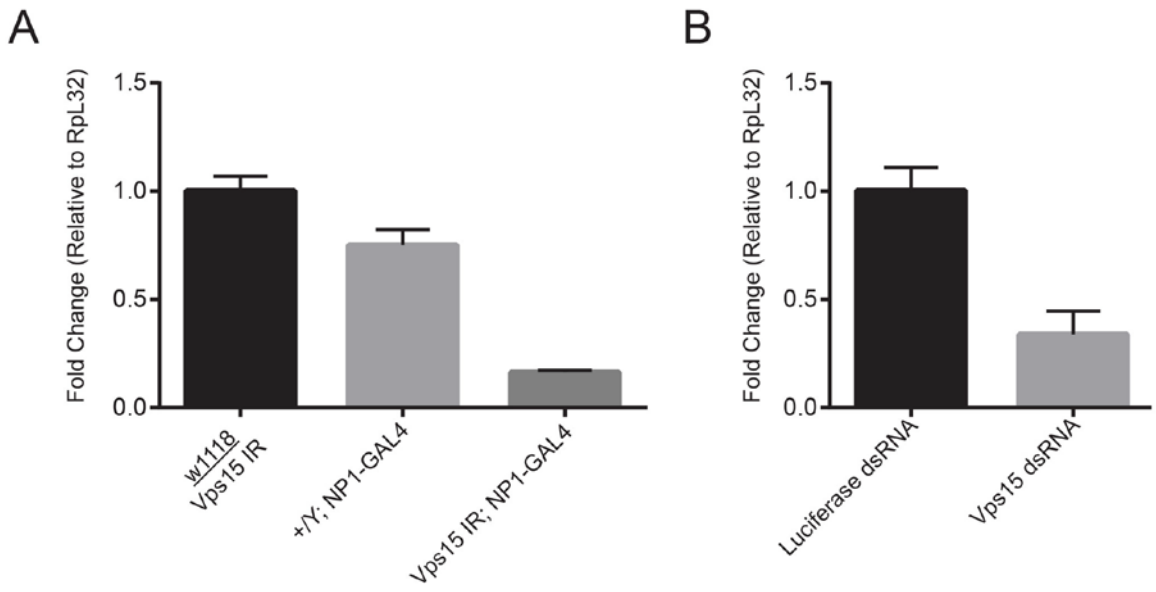

Figure S1. Vps15 Knockdown Efficiency. Knockdown of Vps15 was analyzed via RT-PCR. (A) *Vps15* mRNA levels from larval intestines with undriven UAS-Vps15 IR, NP1-GAL4 driver only, or driven knock down of Vps15 IR were determined and normalized to *RpL32* as a reference gene. (B) *Vps15* mRNA levels from pGFP-Atg8a S2R+ cells soaked with dsRNA targeting either luciferase (control) or *Vps15.* Vps15 levels were normalized to *RpL32* as a reference gene. In both cases, similar results were obtained using Vps15 primers targeting a different region of the transcript as well as using *GAPDH* as the reference gene.

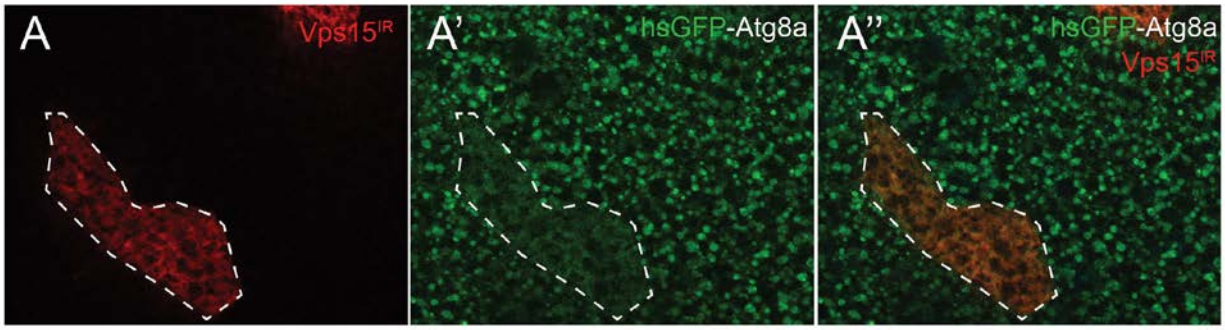

Figure S2. An additional RNAi line shows that *Vps15* is required for starvation induced autophagy in the *Drosophila* fat body. (A-A") Fat body was dissected from feeding third instar larvae starved for 4 h by feeding 20% sucrose. hs-GFP punctae reflect starvation-induced autophagosome formation in control (dsRed-negative) larval fat body cells, whereas the lack of puncta formation reflects a defect in autophagy in *Vps15*^{IR} expressing (dsRed-positive) fat body cells.

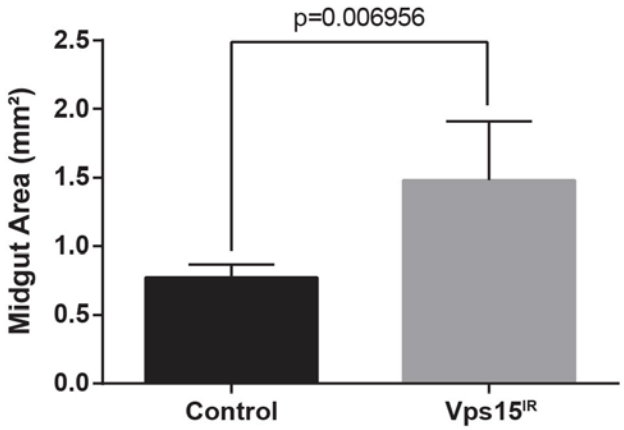

Figure S3. *Vps15* is necessary for efficient midgut degradation. Midguts were dissected from control (Vps15IR that is not expressed) or Vps15 IR-expressing larvae 2h APF. The area of the guts was measured (n=5) using the AxioVision software and quantification is shown as mean +/- s.d.