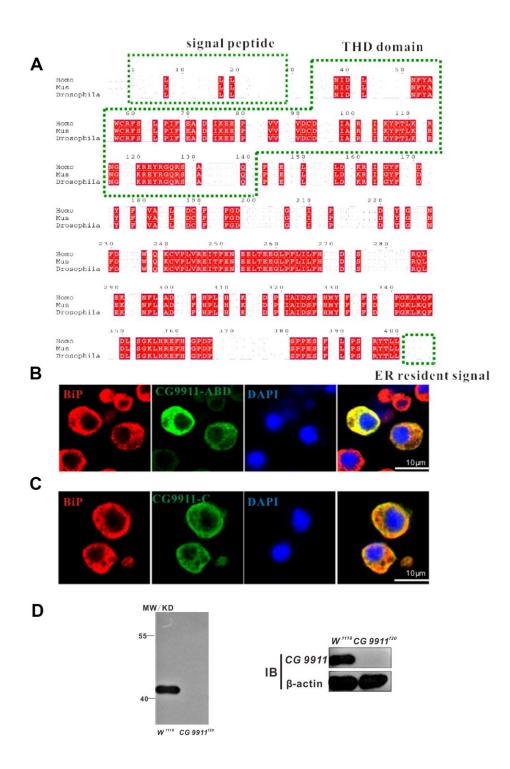
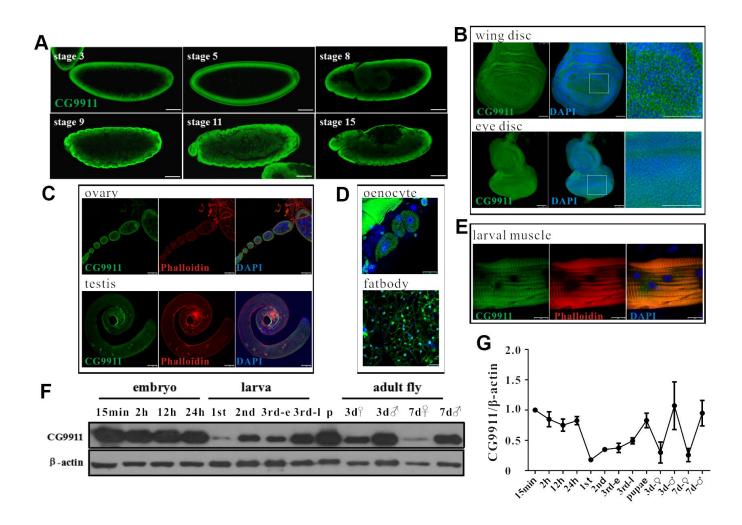
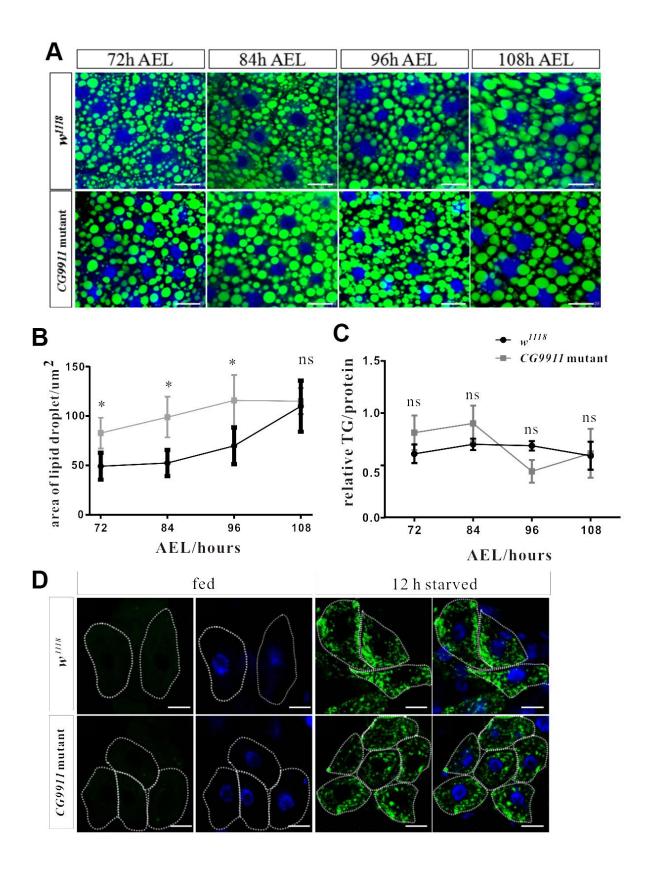
SUPPLEMENTARY FIGURES



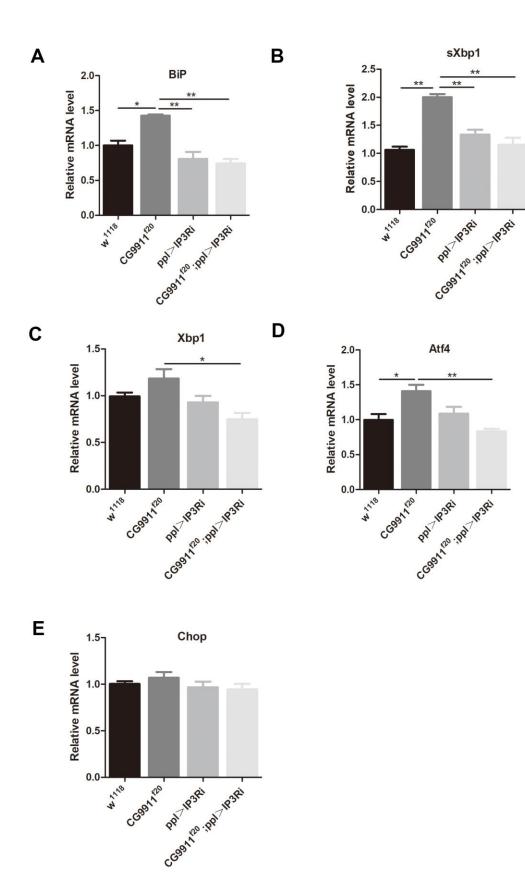
Supplementary Figure 1. CG9911 is a conserved protein. (A) Blast result of protein sequence in human, mouse and *Drosophila*. Identical protein sequence is presented in orange box and positive protein sequences are in transparent box. Signal peptide, THD domain and ER resident signal are marked by green dashed lines. (B, C) Subcellular location of CG9911 in S2 cells. BiP is labeled with red fluorescence signal. *CG9911* ABD isoform (B) and C isoform (C) are labeled with green fluorescence signal. DAPI is used to stain nuclei. Scale bar = 10 μ m. (D) CG9911 protein is absent in mutant flies as shown by Western blot. Protein extracts from w^{1118} (wild type) and *CG9911* mutant flies are blotted with anti-CG9911 antibodies. β -Actin is used as loading control.



Supplementary Figure 2. Expression pattern of CG9911. (A) CG9911 is expressed in embryos and marked with green fluoresce signal. Scale bar = 75 μ m. (B) CG9911 is expressed in larval eye and wing disc with enlarged view. Green signal represents CG9911, nuclei is stained by DAPI. Scale bar = 50 μ m. (C) CG9911 expression in ovary and testis. F-actin is stained by Phalloidin. Scale car = 50 μ m. (D) in larval oenocyte and fat body in adult fly. Scale bar = 25 μ m. (E) in larval muscle. Scale bar = 25 μ m. (F) western blot of flies in different developmental stages with CG9911 antibody. β -actin is used as loading control. 3rd e and 3rd l stands for early and late third instar larvae. P stands for pupae. 3d means adult flies with 3 days after eclosion. (G) Quantity of CG9911 expression.



Supplementary Figure 3. CG9911 does not affect lipid metabolism of larval fat body and oenocyte. (A) lipid droplets staining of larval fat body in different developmental stages. Lipid droplets are stained by BODIPY and nuclei is stained by DAPI. Scale bar = 25 μ m. (B) statistical analysis of LD size of different stages in CG9911 mutant and wild type larvae. (C) Relative TG level of different stages in CG9911 mutant and wild type larvae. (D) LD staining of oenocyte under the condition of normal fed and starvation. Lipid droplets are stained by BODIPY and nuclei is stained by DAPI. Scalebar = 25 μ m. Data are presented as the means ± s.e.m. *p < 0.05.



Supplementary Figure 4. Real-time PCR detection of UPR marker genes in w^{118} , CG9911^{f20}, ppl>IP3Ri, and CG9911; ppl>IP3Ri flies, respectably. BiP (A), sXbp1 (B), Xbp1 (C), Atf4 (D), and Chop (E) were subjected to investigation, respectively. Three independent repeat tests were performed in each group. Data are presented as the means ± s.e.m; * p < 0.05, ** p<0.01.