

Supplementary Figures

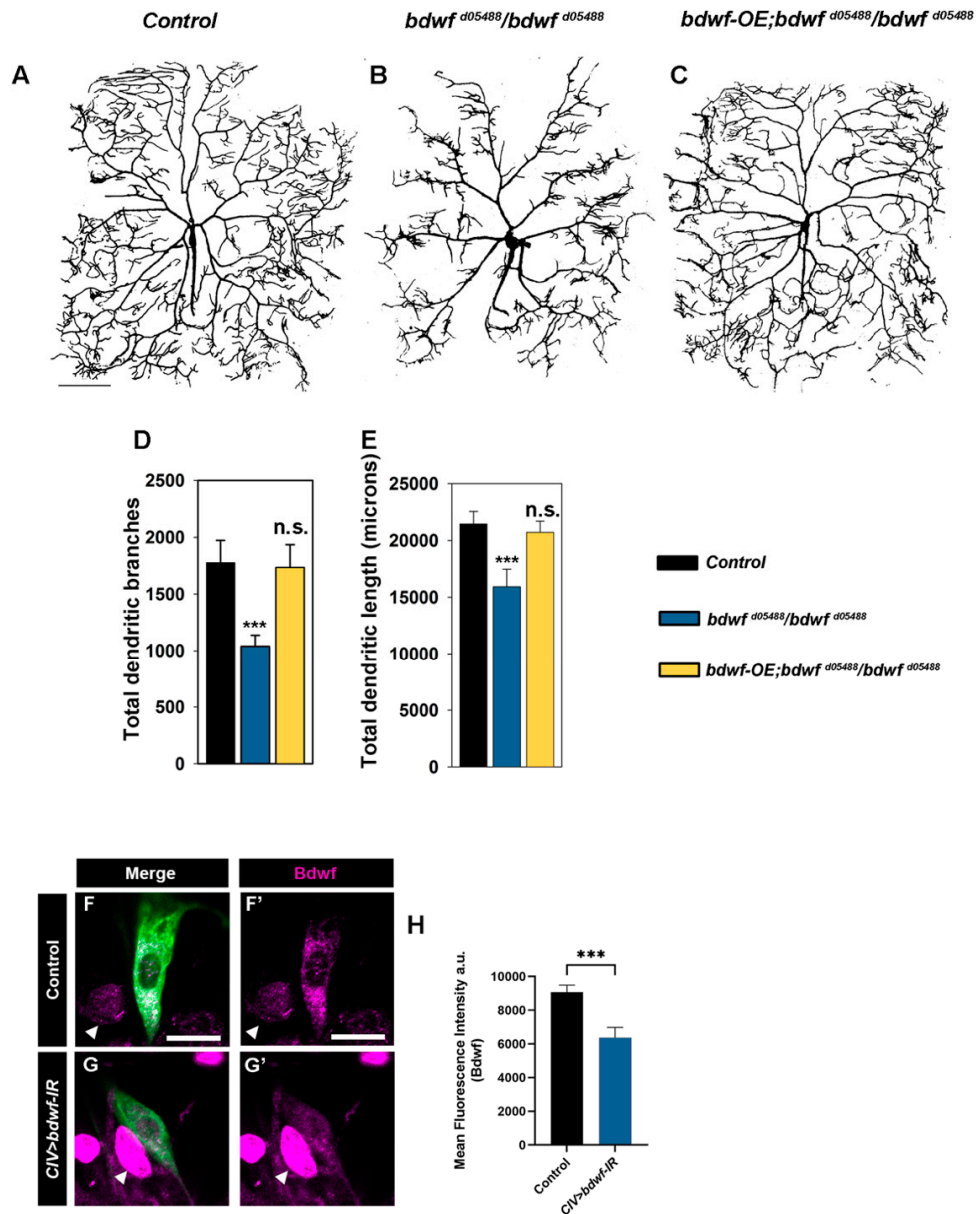


Figure S1: Rescue of *bdwf* mutant dendritic defects and validation of *bdwf-IR* and *bdwf* antibody. (A-E) Compared to wild-type control CIV neurons (A), *bdwf^{d0588}* homozygous mutant CIV neurons results display a strong and penetrant dendritic hypotrophy (B), which is fully rescued by CIV expression of *UAS-bdwf* (C, D, E). White arrowheads point to *Bdwf* expression in non-neuronal cell types (e.g. epithelia or muscle) Genotypes: (A- E) *Gal4⁴⁷⁷, UAS-mCD8::GFP/+; +/+* or *bdwf^{d0588}/bdwf^{d0588}* or *UAS-Bdwf-FLAG-HA/+*. Scale bar, 50 μ m, n=8 neurons per genotype. (F-H) *bdwf-IR* knockdown in CIV neurons leads to a significant

reduction in Bdwf protein expression levels. Scale bar, 10 μ m. n= 16 (control) and n=9 (*bdwf-IR*). Error bars represent \pm S.E.M. ***p \leq 0.01 (Student's t-test).

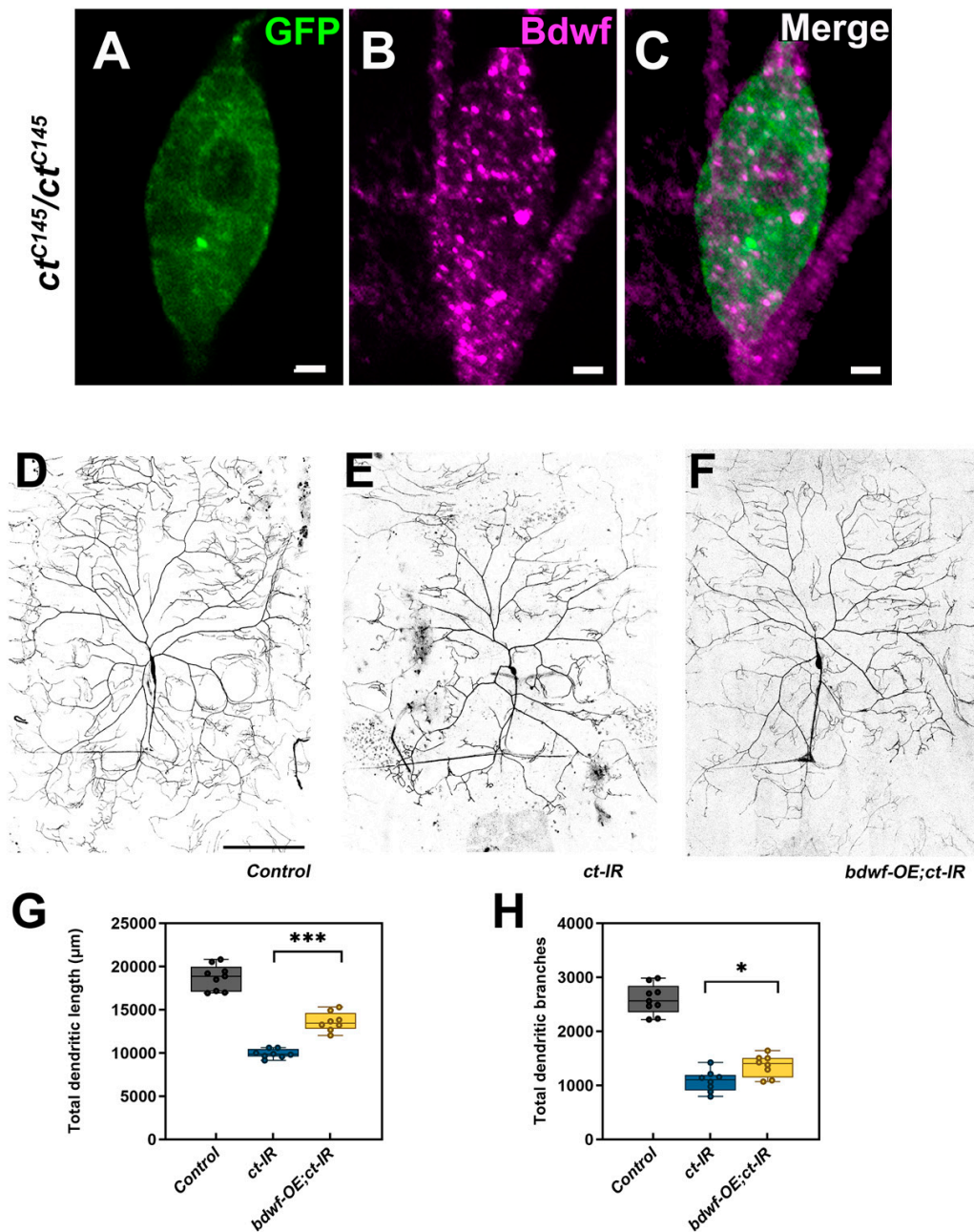


Figure S2: *Cut* is not required for *Bdwf* expression and *Bdwf* can partially rescue *cut* RNAi-mediated defects in CIV dendrite morphogenesis. (A-C) Representative images of *ct* MARCM clones of CIV md neurons stained for CD8 (green) and Bdwf (magenta) showing normal Bdwf expression in *ct* mutants. Scale bar: 1 μ m. (D-F) Bdwf acts downstream of *Ct* to promote dendritic growth in CIV md neurons. Compared to control (D), *ct-IR* (E, G, H) shows significant reduction in both the total dendritic length and the total dendritic branches which is partially rescued by the simultaneous co-expression of *UAS-bdwf-FLAG-HA* and *ct-IR* (F, G, H) in CIV daC neurons. Scale bar, 100 μ m. (G, H) Quantification of TDL and TDB for CIV da neurons. Error

bars represent \pm SEM, * $p \leq 0.05$, *** $p \leq 0.001$ (One-way ANOVA with Sidak's multiple comparison test). n=9 for WT, n=8 for *ct-IR*, n=8 for *bdwf-OE+ct-IR*. Genotypes: *GAL4⁴⁷⁷,UAS-mCD8::GFP/+;UAS-CD4-tdTOM/+* (D, G, H), *GAL4⁴⁷⁷,UAS-mCD8::GFP/+;UAS-ct-IR/ UAS-CD4-tdTOM* (E, G, H), *GAL4⁴⁷⁷,UAS-mCD8::GFP/+;UAS-ct-IR/ UAS- bdwf-FLAG-HA* (F, G, H).