

Supplementary experimental procedures

Genotypes of dissected females

- 1) *en2.4-GAL4^{e22c}, UAS-flp/+; FRT^{82B}/FRT^{82B}, awd^{j2A4}*
- 2) *en2.4-GAL4^{e22c}, UAS-flp/+; Ubi-GFP, FRT^{82B}/FRT^{82B}, awd^{j2A4}*
- 3) *en2.4-GAL4^{e22c}, UAS-flp/UAS-YFP-Rab5^{wl}; FRT^{82B}/FRT^{82B}, awd^{j2A4}*
- 4) *en2.4-GAL4^{e22c}, UAS-flp/UAS-YFP-Rab5^{CA}; FRT^{82B}/FRT^{82B}, awd^{j2A4}*
- 5) *hs-flp; +/+; Ubi-GFP, FRT^{82B}/FRT^{82B}, awd^{j2A4}*
- 6) *y, w, hs-flp/GbeSu(H)_{m8}-lacZ; UAS-YFP-Rab5^{wl}/+; Tub-Gal4, FRT^{82B}, Tub-Gal80/FRT^{82B}, awd^{j2A4}*
- 7) *y, w, hs-flp/GbeSu(H)_{m8}-lacZ; UAS-YFP-Rab5^{CA}/+; Tub-Gal4, FRT^{82B}, Tub-Gal80/FRT^{82B}, awd^{j2A4}*
- 8) *y, w, hs-flp/GbeSu(H)_{m8}-lacZ; UAS-YFP-Rab5^{DN}/+; Tub-Gal4, FRT^{82B}, Tub-Gal80/FRT^{82B}, awd^{j2A4}*
- 9) *y, w, hs-flp/GbeSu(H)_{m8}-lacZ; Act-Gal4, UAS-GFP/UAS-NICD; FRT^{82B}, Act-Gal80/FRT^{82B}, awd^{j2A4}*
- 10) *hs-flp/GbeSu(H)_{m8}-lacZ; Act-Gal4, UAS-GFP/UAS-NEXT; FRT^{82B}, Act-Gal80/FRT^{82B}, awd^{j2A4}*
- 11) *shi²/shi²*

The crosses to obtain females of the genotype from 1) to 4) were performed at 18°C. Newly born females were transferred to fresh vials with *w^{67c23}* males and incubated at 29°C.

Before dissection, the flies were transferred to fresh, yeasted food daily at 29°C for 5 days.

The crosses to obtain females of the genotype from 5) to 10) were performed at 25°C. 1-2 days-old females were heat shocked three times for 1 hr at 37°C and then transferred to fresh vials with *w^{67c23}* males and incubated at 25°C. Before dissection, the flies were transferred to fresh, yeasted food daily at 25°C for 4 days.

1-2 days-old *shi²/shi²* females were transferred at 29°C for 6 hr and then dissected and processed for immunostaining

Genotypes of dissected larvae

1) *y, w, hs-flp; +/+; FRT^{82B}, Ubi-GFP/FRT^{82B}, awd^{j2A4}*

2) *y, w, hs-flp/GbeSu(H)_{ms}-lacZ; Act-Gal4, UAS-GFP/+; FRT^{82B}, Act-Gal80/FRT^{82B}, awd^{j2A4}*

Loss of function clones of *awd^{j2A4}* were induced at 48h after egg laying by 1 hr heat shock at 37°C.

Genotypes of flies for cuticle preparation of adult wings

1) *en2.4-GAL4^{e22c}, UAS-flp/+; FRT^{82B}/FRT^{82B}, awd^{j2A4}*