

### Table S1. Flies used in this study

Please note the genotype of sex chromosome is simplified. The actual genotypes for the sex chromosome could be mixed, depending on the source RNAi collection, UAS transgenes, and larvae of both sexes were pooled and tested if not indicate.

Fig. panels – genotypes tested:

#### Fig. 1.

(B)  $w^{1118}$  control.

(C)  $Pvr^{hypo/null}$ .

(D)  $Pvf3^{null}$ .

(E)  $Pvf2^{hypo}$ .

(F)  $Pvf1^{null}$ .

(G)  $w^{1118}$  control.

(H)  $Pvf1^{null}$ .

(I)  $w^{1118}$  control,  $Pvf1^{null}$ .

#### Fig. 2.

(B)  $hml\Delta-Gal4$ ,  $UAS-GFP/+$ .

(C)  $hml\Delta-Gal4$ ,  $UAS-GFP/UAS-Pvr^{RNAi\#2}$ .

(D)  $hml\Delta Gal4$ ,  $UAS-LifeActGFP/+$ ;  $UAS-Luciferase^{RNAi}/+$ .

(E)  $hml\Delta Gal4$ ,  $UAS-LifeActGFP/+$ ;  $UAS-Pvr^{CA}/UAS-Luciferase^{RNAi}$ .

(F)  $hml\Delta Gal4$ ,  $UAS-LifeActGFP/+$ ,  $UAS-Pvr^{CA}/UAS-Pvr^{RNAi\#1}$ .

(G) as (D-F).

(H)  $hml\Delta Gal4$ ,  $UAS-LifeActGFP/UAS-LacZ$  and  $hml\Delta Gal4$ ,  $UAS-LifeActGFP/UAS-Pvr^{CA}$ .

**Fig. 3.** Genotypes are indicated in the figure.

**Fig. 4.**

(A) *e22c-Gal4, UAS-dsRed2Nuc, UAS-src-GFP/+; UAS-Luciferase<sup>RNAi</sup>/+.*

(B) *e22c-Gal4, UAS-dsRed2Nuc, UAS-src-GFP/+; UAS-Pvr<sup>RNAi#1</sup>/+.*

(C) *e22c-Gal4, UAS-dsRed2Nuc, UAS-src-GFP/UAS-Ras<sup>RNAi#1</sup>.*

(D) *e22c-Gal4, UAS-dsRed2Nuc, UAS-src-GFP/+; UAS-Mask<sup>RNAi#1</sup>/+.*

(E) *e22c-Gal4, UAS-dsRed2Nuc, UAS-src-GFP/UAS-MKK3<sup>RNAi#2</sup>.*

(F) as (A-E).

(G) *UAS-LacZ/UAS-Pvr<sup>RNAi#2</sup>; A58-Gal4, UAS-dsRed2Nuc, UAS-src-GFP/+.*

(H) *UAS-Pvr/UAS-Pvr<sup>RNAi#2</sup>; A58-Gal4, UAS-dsRed2Nuc, UAS-src-GFP/+.*

(I) *UAS-Ras/UAS-Pvr<sup>RNAi#2</sup>; A58-Gal4, UAS-dsRed2Nuc, UAS-src-GFP/+.*

(J) *UAS-MKK3/+ or Y; UAS-Pvr<sup>RNAi#2</sup>/+; A58-Gal4, UAS-dsRed2Nuc, UAS-src-GFP/+.*

(K) as (G-J).

**Fig. 5.**

(B) *hml Δ-Gal4, UAS-LifeactGFP/+; UAS-Pvr<sup>CA</sup>/UAS-Luciferase<sup>RNAi</sup>.*

(C) *hml Δ-Gal4, UAS-LifeactGFP/+; UAS-Pvr<sup>CA</sup>/UAS-Akt<sup>RNAi</sup>.*

(D) *hml Δ-Gal4, UAS-LifeactGFP/+; UAS-Pvr<sup>CA</sup>/UAS-Mask<sup>RNAi#1</sup>.*

(E) as (B) and (C).

(F)

- *hml Δ-Gal4, UAS-LifeactGFP/+; UAS-Pvr<sup>CA</sup>/UAS-Luciferase<sup>RNAi</sup>.*
- *hml Δ-Gal4, UAS-LifeactGFP; UAS-Pvr<sup>CA</sup>/UAS-Mask<sup>RNAi#1</sup>.*

- *hml Δ-Gal4, UAS-LifeactGFP/ UAS-Mask<sup>RNAi#2</sup>; UAS-Pvr<sup>CA</sup>/+*.
- (G)
- *hml Δ-Gal4, UAS-LifeactGFP/+; UAS-Pvr<sup>CA</sup>/UAS-Luciferase<sup>RNAi</sup>.*
  - *hml Δ-Gal4, UAS-LifeactGFP/UAS-MKK3<sup>RNAi#1, #2, or #3</sup>; UAS-Pvr<sup>CA</sup>/+*.
- (H)
- *hml Δ-Gal4, UAS-LifeactGFP/+; UAS-Pvr<sup>CA</sup>/UAS-Luciferase<sup>RNAi</sup>.*
  - *hml Δ-Gal4, UAS-LifeactGFP; UAS-Pvr<sup>CA</sup>/UAS-Ckl1α<sup>RNAi#1 or #2</sup>.*
- (I)
- *hml Δ-Gal4, UAS-LifeactGFP/+; UAS-Pvr<sup>CA</sup>/UAS-Luciferase<sup>RNAi</sup>.*
  - *UAS-Ras<sup>DN/+</sup> or Y; hml Δ-Gal4, UAS-LifeactGFP/+; UAS-Pvr<sup>CA</sup>/+*
  - *hml Δ-Gal4, UAS-LifeactGFP/ UAS-Ras<sup>RNAi#1</sup>; UAS-Pvr<sup>CA</sup>*
  - *hml Δ-Gal4, UAS-LifeactGFP/+; UAS-Pvr<sup>CA</sup>/UAS-Ras<sup>RNAi#2, or #3</sup>*
- (J)
- *hml Δ-Gal4, UAS-LifeactGFP/+; UAS-Luciferase<sup>RNAi/+</sup>.*
  - *hml Δ-Gal4, UAS-LifeactGFP/+; UAS-Pvr<sup>RNAi#1/+</sup>.*
  - *hml Δ-Gal4, UAS-LifeactGFP/+; UAS-Akt<sup>RNAi/+</sup>.*
  - *hml Δ-Gal4, UAS-LifeactGFP/+; UAS-Mask<sup>RNAi#1/+</sup>.*
  - *hml Δ-Gal4, UAS-LifeactGFP/UAS-Ras<sup>RNAi#1</sup>.*
  - *hml Δ-Gal4, UAS-LifeactGFP/+; UAS-Ckl1α<sup>RNAi#1/+</sup>.*
  - *hml Δ-Gal4, UAS-LifeactGFP/UAS-MKK3<sup>RNAi#1</sup>.*

**Fig. 6.**

(A,D) *hml Δ-Gal4, UAS-LifeactGFP/+; UAS-Luciferase<sup>RNAi/+</sup>.*

(B,E) *hml Δ-Gal4, UAS-LifeactGFP/+; UAS-Mask<sup>RNAi#1</sup>/+*.

(C) *hml Δ-Gal4, UAS-LifeactGFP/+; UAS-Akt<sup>RNAi</sup>/+*.

(F) as (A) and (B).

**Fig. S1.**

(A-D) *w<sup>1118</sup>*.

**Fig. S2.**

(B,B') *w<sup>1118</sup>; hmlΔ-Gal4, UAS-GFP*

(C,C') *hmlΔ-Gal4, UAS-GFP/UAS-Pvr<sup>RNAi#2</sup>*.

**Fig. S3.**

(A,C) *hmlΔ-Gal4, UAS-LifeActGFP/UAS-LacZ*.

(B,D) *hmlΔ-Gal4, UAS-LifeActGFP/UAS-Pvr<sup>CA</sup>*.

**Fig. S4.**

(A-B''') *hmlΔ-Gal4, UAS-CD4-TdTom/+* (did not select sexes)

(C-C''') *hmlΔ-Gal4, UAS-CD4-TdTom/+* (female)

(D-D''') *Pvf1<sup>null</sup>; hmlΔ-Gal4, UAS-CD4-TdTom/+* (female)

(E-E''') *hmlΔ-Gal4, UAS-CD4-TdTom/UAS-Luciferase<sup>RNAi</sup>* (female)

(F-F''') *hmlΔ-Gal4, UAS-CD4-TdTom/UAS-Mask<sup>RNAi#1</sup>* (female)