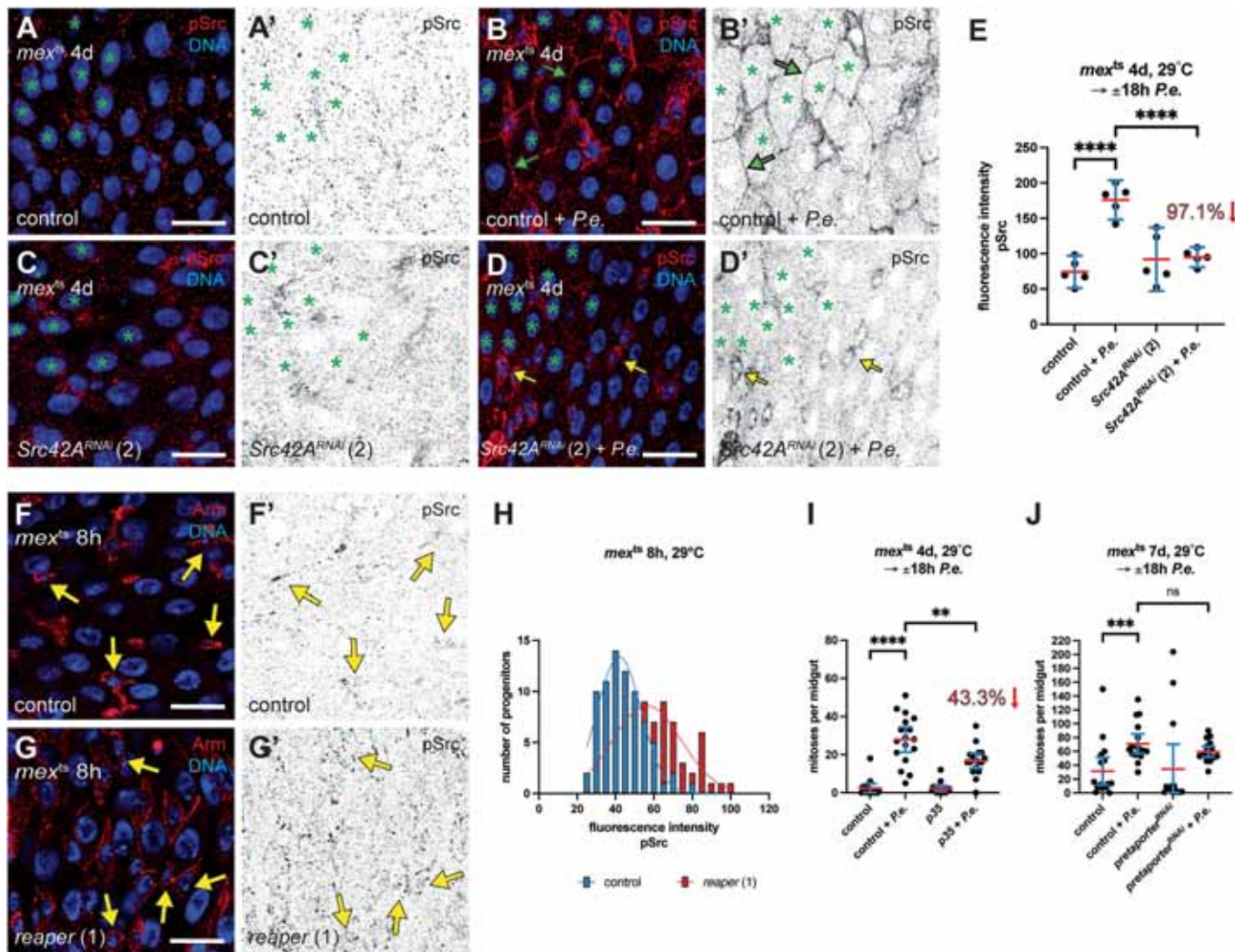


Expanded View Figures



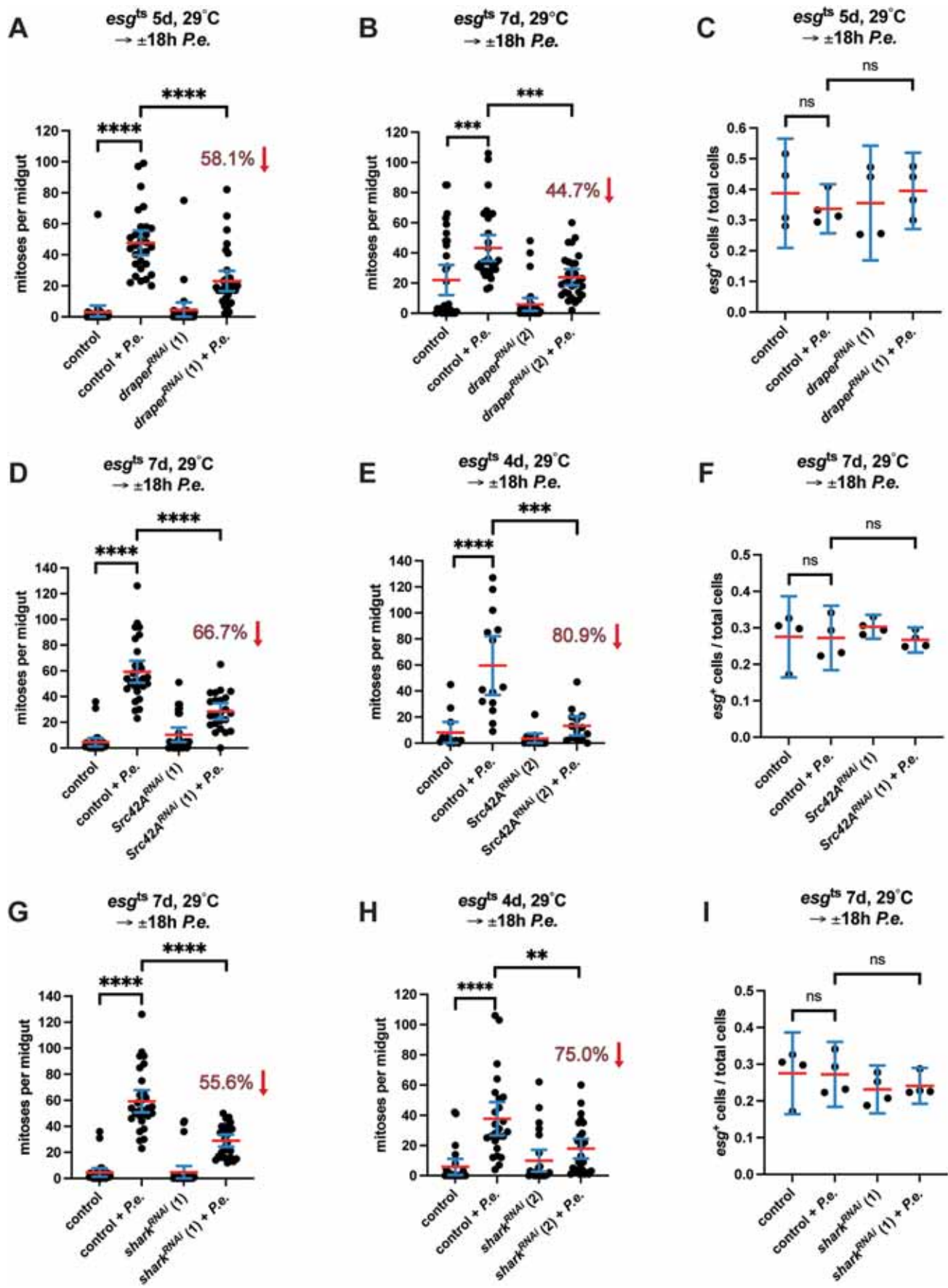


Figure EV2. Draper-Src-Shark signalling in progenitors promotes ISC proliferation after midgut damage.

Draper is required in progenitors to promote ISC proliferation after *P.e.* infection (A, B). The mean mitoses per midgut increased in *P.e.*-infected control midguts ($n = 29$ midguts from two experiments (A) and $n = 31$ midguts from two experiments (B)) compared to uninfected control midguts ($n = 31$ midguts from two experiments (A) and $n = 32$ midguts from two experiments (B)) (Mann-Whitney; $P < 0.0001$ (A) and $P = 0.0009$ (B)). The mean mitoses per midgut decreased in *P.e.*-infected midguts expressing *draper^{RNAi}* in progenitors ($n = 32$ midguts from two experiments (A) and $n = 30$ midguts from two experiments (B)) compared to *P.e.*-infected control midguts (Mann-Whitney; $P < 0.0001$ (A) and $P = 0.0001$ (B)). Depleting *draper* from progenitors does not affect their number after *P.e.*-infection (C). There was no significant difference between the mean ratio of *esg⁺* cells/total cells in *P.e.*-infected control midguts ($n = 4$ midguts from one of two experiments) compared to uninfected control midguts ($n = 4$ midguts from one of two experiments) (unpaired *t* test; $P = 0.4419$). The mean ratio of *esg⁺* cells/total cells was similar in *P.e.*-infected midguts expressing *draper^{RNAi}* in progenitors ($n = 4$ midguts from one of two experiments) compared to *P.e.*-infected control midguts (unpaired *t* test; $P = 0.2557$). Src is required in progenitors to promote ISC proliferation after *P.e.* infection (D, E). The mean mitoses per midgut increased in *P.e.*-infected control midguts ($n = 29$ midguts from two experiments (D) and $n = 14$ midguts from one experiment (E)) compared to uninfected control midguts ($n = 27$ midguts from two experiments (D) and $n = 13$ midguts from one experiment (E)) (Mann-Whitney; $P < 0.0001$ (D) and $P < 0.0001$ (E)). The mean mitoses per midgut decreased in *P.e.*-infected midguts expressing *Src42A^{RNAi}* in progenitors ($n = 22$ midguts from two experiments (D) and $n = 14$ midguts from one experiment (E)) compared to *P.e.*-infected control midguts (Mann-Whitney; $P < 0.0001$ (D) and $P = 0.0001$ (E)). Depleting *Src42A* in progenitors does not affect their number after *P.e.* infection (F). There was no significant difference between the mean ratio of *esg⁺* cells/total cells in *P.e.*-infected control midguts ($n = 4$ midguts from one of two experiments) compared to uninfected control midguts ($n = 4$ midguts from one of two experiments) (unpaired *t* test; $P = 0.9484$). The mean ratio of *esg⁺* cells/total cells was similar in *P.e.*-infected midguts expressing *Src42A^{RNAi}* in progenitors ($n = 4$ midguts from one of two experiments) compared to *P.e.*-infected control midguts (unpaired *t* test; $P = 0.8602$). Shark is required in progenitors to promote ISC proliferation after *P.e.* infection (G, H). The mean mitoses per midgut increased in *P.e.*-infected control midguts ($n = 29$ midguts from two experiments (G) and $n = 25$ midguts from two experiments (H)) compared to uninfected control midguts ($n = 27$ midguts from two experiments (G) and $n = 23$ midguts from two experiments (H)) (Mann-Whitney; $P < 0.0001$ (G) and $P < 0.0001$ (H)). The mean mitoses per midgut decreased in *P.e.*-infected midguts expressing *shark^{RNAi}* in progenitors ($n = 27$ midguts from two experiments (G) and $n = 27$ midguts from two experiments (H)) compared to *P.e.*-infected control midguts (Mann-Whitney; $P < 0.0001$ (G) and $P = 0.0013$ (H)). Depleting *shark* in progenitors does not affect their number after *P.e.*-infection (I). There was no significant difference between the mean ratio of *esg⁺* cells/total cells in *P.e.*-infected control midguts ($n = 4$ midguts from one of two experiments) compared to uninfected control midguts ($n = 4$ midguts from one of two experiments) (unpaired *t* test; $P = 0.9484$). The mean ratio of *esg⁺* cells/total cells in *P.e.*-infected midguts expressing *shark^{RNAi}* in progenitors ($n = 4$ midguts from one of two experiments) was similar to the ratio in *P.e.*-infected control midguts (unpaired *t* test; $P = 0.3649$). Mean (red line) and 95% confidence intervals (blue bars) are shown. Significance levels are indicated by * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$, **** $P \leq 0.0001$, and ns, for not significant ($P > 0.05$). Source data are available online for this figure.

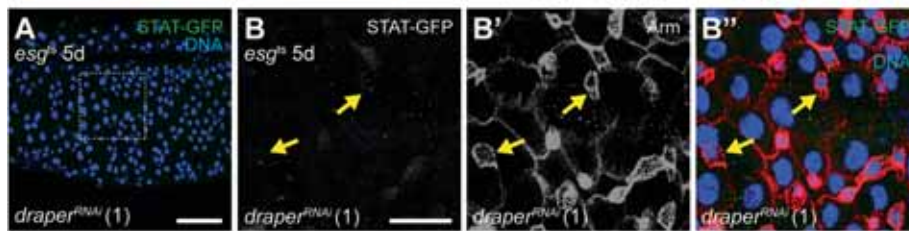
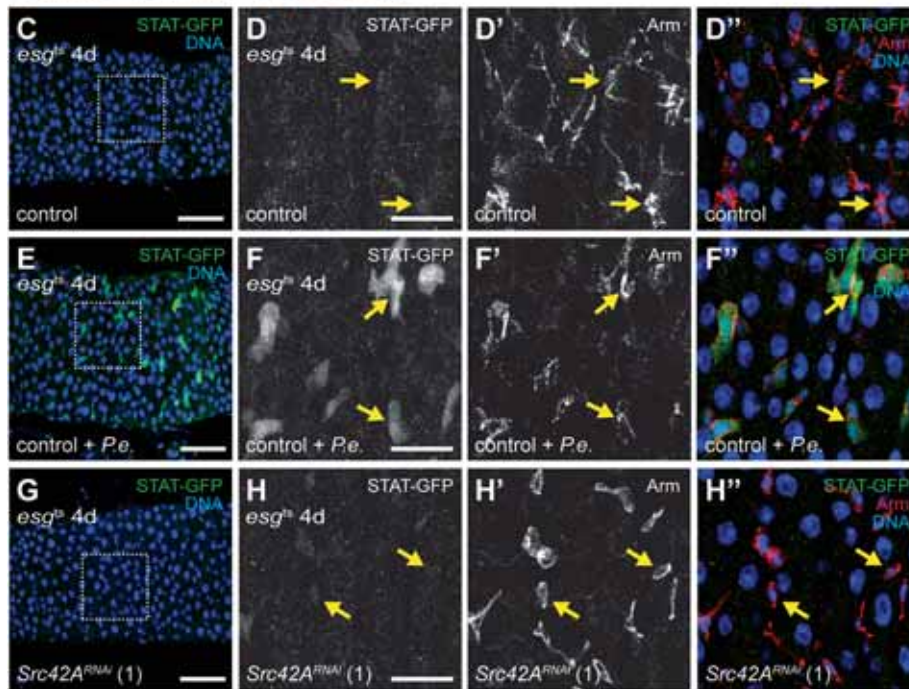
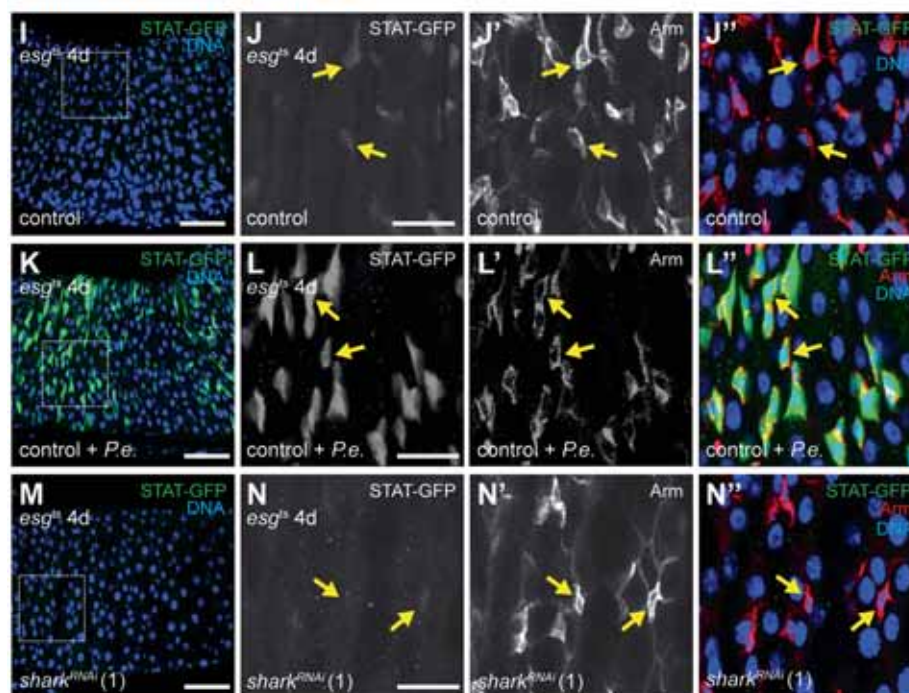
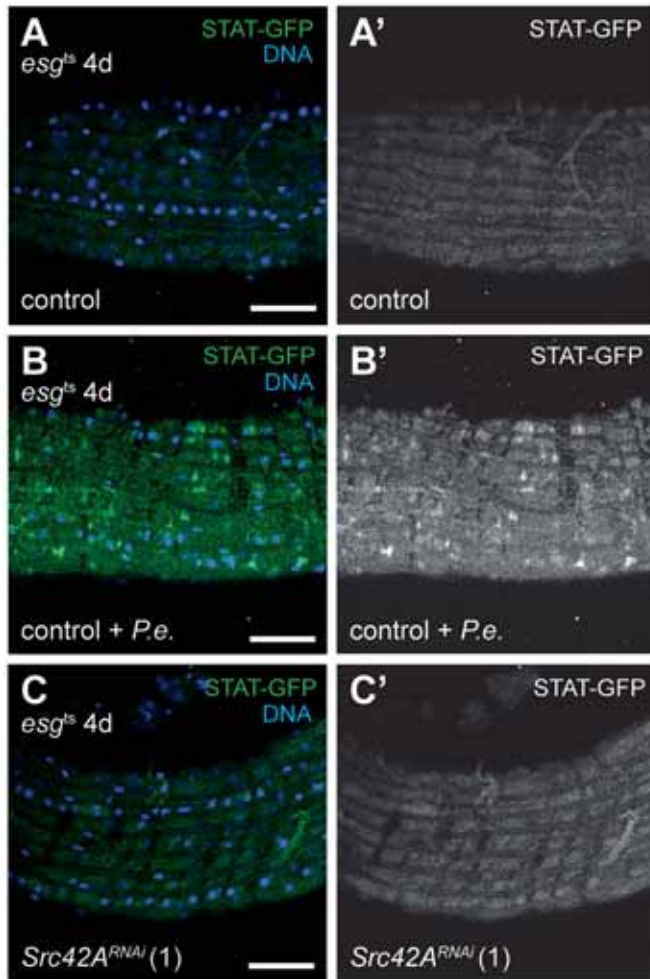
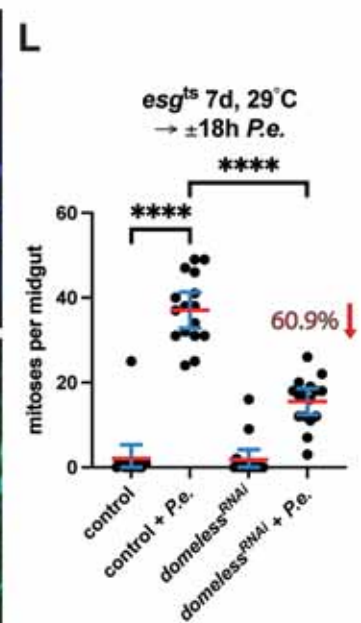
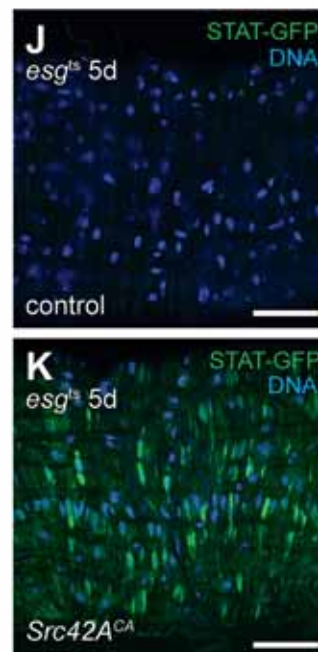
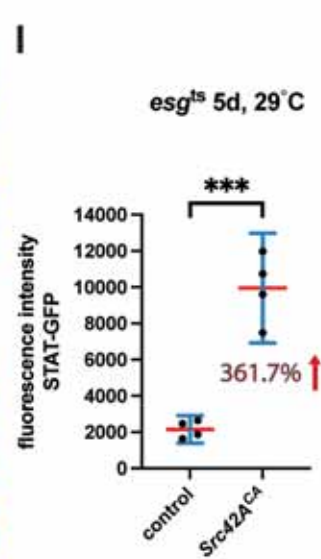
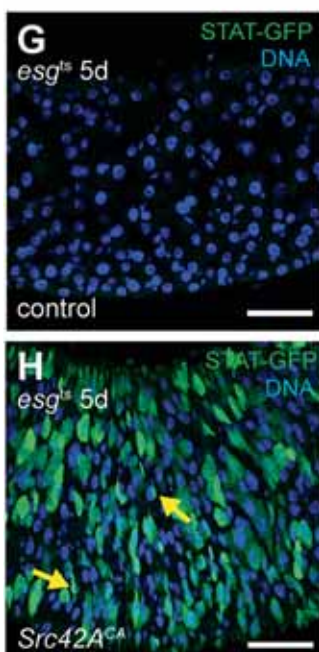
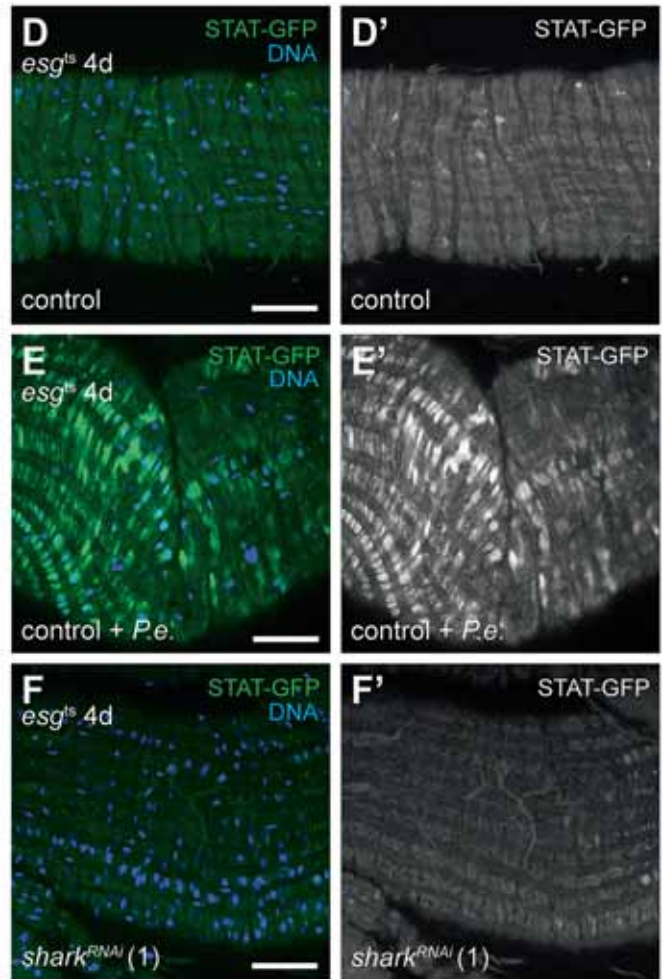
Controls for *draper*^{RNAi} (Figure 3E-F)Controls for *Src42A*^{RNAi} (Figure 3G-H)Controls for *shark*^{RNAi} (Figure 3I-J)



Figure EV3. Draper-Src-Shark signalling promotes STAT activity in progenitors after midgut damage; inhibiting Draper-Src-Shark signalling does not affect basal STAT activity in progenitors.

Draper does not affect basal STAT activity in progenitors (A, B). STAT activity (STAT-GFP (10X STAT-dGFP); green) in progenitors (Arm^{high}, red; yellow arrows) expressing *draper*^{RNAi} in uninfected midguts (A-B'') was similar to control uninfected midguts. STAT is activated in progenitors after *P.e.* infection (C-F, I-L). STAT activity increased in progenitors of *P.e.*-infected control midguts (E-F'', K-L'') compared to uninfected control midguts (C-D'', I-J''). Depleting Src and Shark in progenitors does not affect their basal STAT activity (G-H, M-N). STAT activity in progenitors expressing *Src42A*^{RNAi} in uninfected midguts (G-H'') was similar to that in uninfected control midguts (C-D''). STAT activity in progenitors expressing *shark*^{RNAi} in uninfected midguts (M-N'') was similar to that in uninfected control midguts (I-J''). Scale bars in (A, C, E, G, I, K, M) are 50 µm and in (B, D, F, H, J, L, N) are 20 µm. Significance levels are indicated by * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$, **** $P \leq 0.0001$, and ns, for not significant ($P > 0.05$). Source data are available online for this figure.

Controls for *Src42A^{RNAi}* (Figure 4E)Controls for *shark^{RNAi}* (Figure 4F)

◀ **Figure EV4. Draper-Src-Shark signalling is sufficient to increase STAT activity in progenitors and in the visceral muscle; inhibiting Src-Shark signalling in midgut progenitors does not affect basal STAT activity in the visceral muscle.**

STAT is activated in the visceral muscle (VM) after *P.e.* infection (A-B, D-E). STAT activity (STAT-GFP (10X STAT-dGFP); green) increased in the VM of *P.e.*-infected control midguts (B-B', E-E') compared to uninfected control midguts (A-A', D-D'). Depleting *Src42A* and *shark* does not affect basal STAT activity in the VM (C, F). STAT activity in the VM of uninfected midguts expressing *Src42A^{RNAi}* or *shark^{RNAi}* in progenitors (C-C', F-F') was similar to the STAT activity in the VM of uninfected control midguts (A-A', D-D'). Constitutively active *Src42A* signalling in progenitors induces STAT in both the progenitors and in the VM (G-K). STAT activation increased in progenitors (yellow arrows) expressing *Src42A^{CA}* (H) compared to control midguts (G). Mean STAT levels increased in progenitors expressing *Src42A^{CA}* ($n = 4$ midguts from one experiment) compared to those in control midguts ($n = 4$ midguts from one experiment) (unpaired *t* tests; $P = 0.0002$) (I). STAT activation increased in the VM of midguts expressing *Src42A^{CA}* in progenitors (K) compared to control midguts (J). *Domeless* is required in progenitors to promote ISC proliferation after midgut damage (L). The mean mitoses per midgut increased in *P.e.*-infected control midguts ($n = 16$ midguts from one experiment) compared to uninfected control midguts ($n = 16$ midguts from one experiment) (Mann-Whitney; $P < 0.0001$). The mean mitoses per midgut decreased in *P.e.*-infected midguts expressing *dome^{RNAi}* in progenitors ($n = 16$ midguts from one experiment) compared to *P.e.*-infected control midguts (Mann-Whitney; $P < 0.0001$). Mean (red line) and 95% confidence intervals (blue bars) are shown. Scale bars in (A, B, C, D, E, F, G, H, J, K) are 50 μ m. Significance levels are indicated by * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$, **** $P \leq 0.0001$, and ns, for not significant ($P > 0.05$). Source data are available online for this figure.

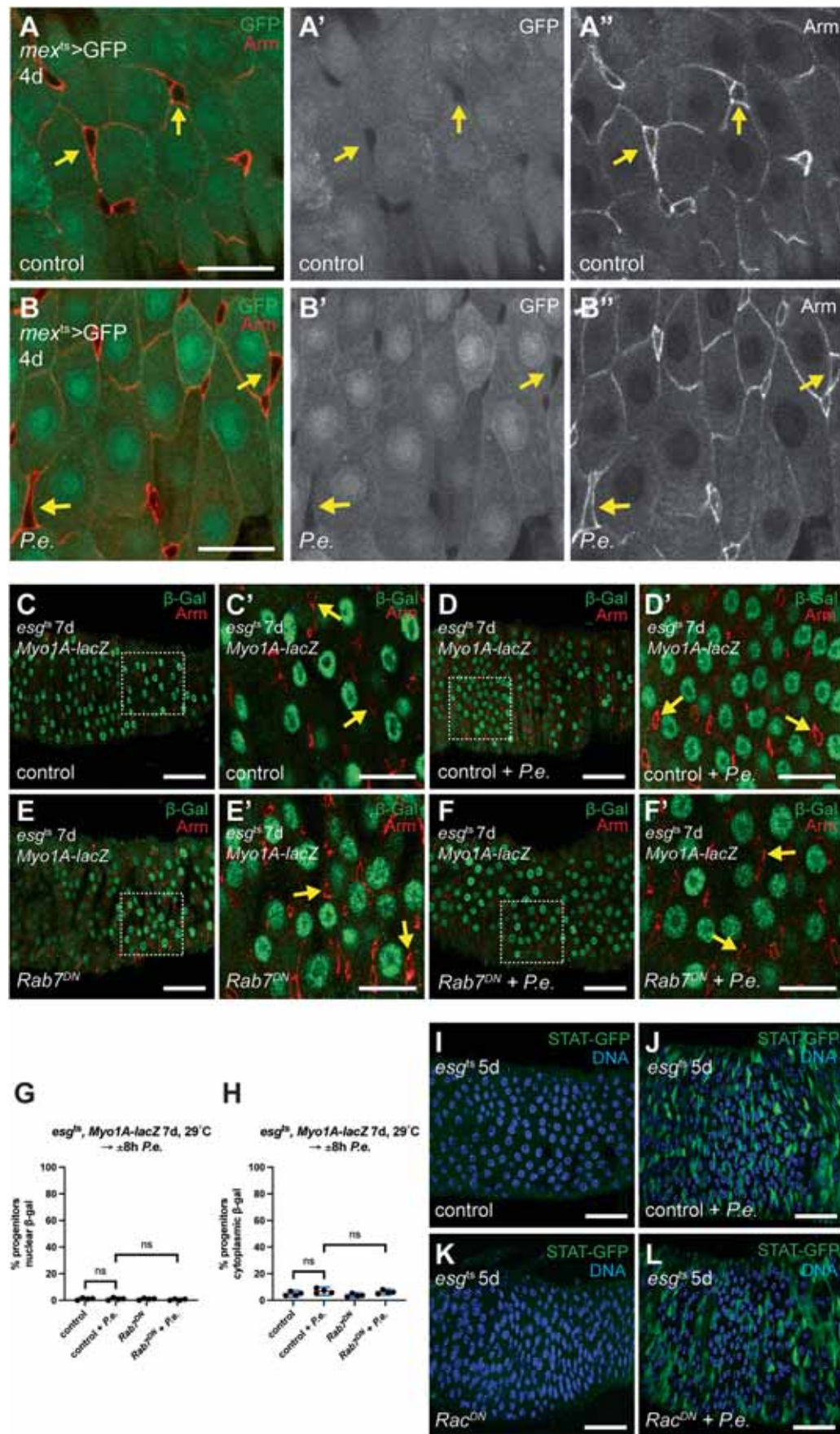


Figure EV5. Midgut progenitors do not clear dying ECs; Rac activity does not promote STAT activity in progenitors after midgut damage.

Dying enterocytes (ECs) are not cleared by progenitors after *P.e.* infection (A, B). GFP (green) expressed in ECs was not detected within *Arm^{high+}* (red, yellow arrows) cells in uninfected and *P.e.*-infected midguts (A–B''). EC corpses are not detected after blocking lysosomal degradation in progenitors after midgut damage (C–H). β -gal-positive (green) EC corpses were detected neither within progenitors (*Arm^{high}* (red); yellow arrows) of control uninfected and *P.e.*-infected midguts (C–D') nor within *Rab7^{DN}*-expressing progenitors of uninfected and infected midguts (E–F'). β -gal was detected within the nuclei of progenitors at the same frequency between uninfected ($n = 4$ midguts from one experiment) and infected control midguts ($n = 4$ midguts from one experiment) (Mann–Whitney; $P > 0.9999$) and between infected midguts with progenitors expressing *Rab7^{DN}* ($n = 4$ midguts from one experiment) and control infected midguts (Mann–Whitney; $P = 0.3463$) (G). β -gal was detected within the cytoplasm of progenitors at the same frequency between infected ($n = 4$ midguts from one experiment) and uninfected control midguts ($n = 4$ midguts from one experiment) (Mann–Whitney; $P = 0.1522$) and between infected midguts with progenitors expressing *Rab7^{DN}* ($n = 4$ midguts from one experiment) and control infected midguts (Mann–Whitney; $P = 0.5942$) (H). Rac signalling does not promote STAT activity in progenitors after *P.e.* infection (I–L). STAT activity (STAT-GFP (10X STAT-dGFP); green) increased in progenitors of *P.e.*-infected control midguts (J) compared to uninfected control midguts (I). STAT activity was similar between progenitors expressing *Rac^{DN}* in *P.e.*-infected midguts (L) and those in *P.e.*-infected control midguts (J). Mean (red line) and 95% confidence intervals (blue bars) are shown. Scale bars in (A, B, C', D', E', F') are 20 μ m and in (C, D, E, F, I–L) are 50 μ m. Single-slice images are presented in (A–F'). Significance levels are indicated by * $P \leq 0.05$, ** $P \leq 0.01$, *** $P \leq 0.001$, **** $P \leq 0.0001$, and ns, for not significant ($P > 0.05$). Source data are available online for this figure.