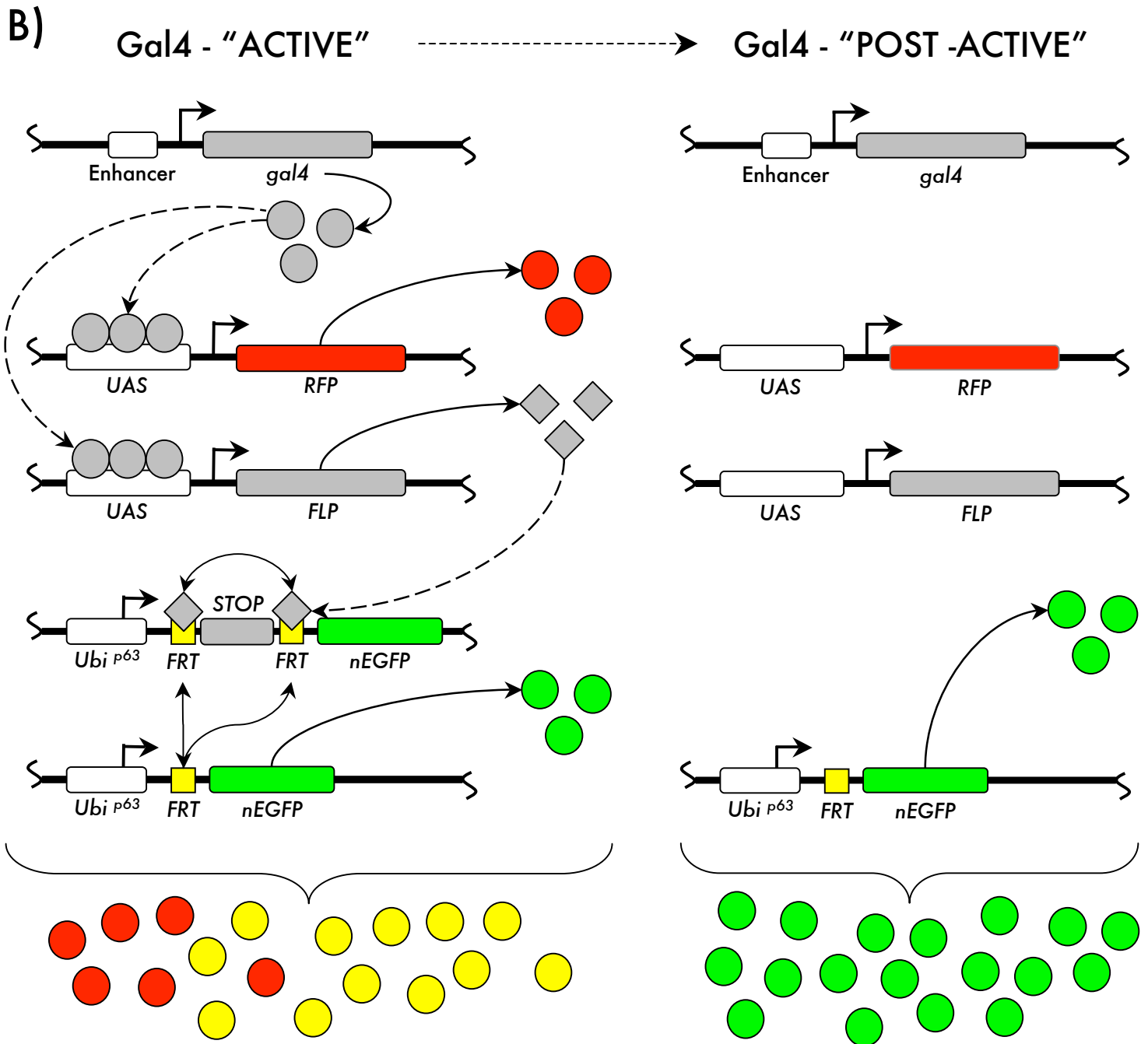
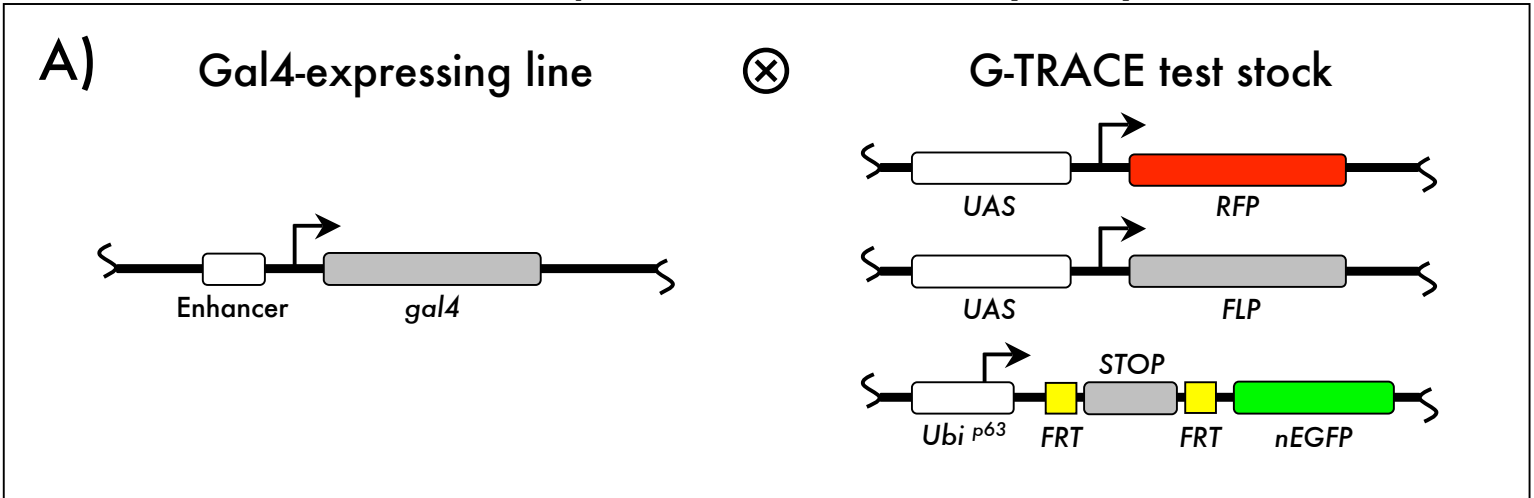
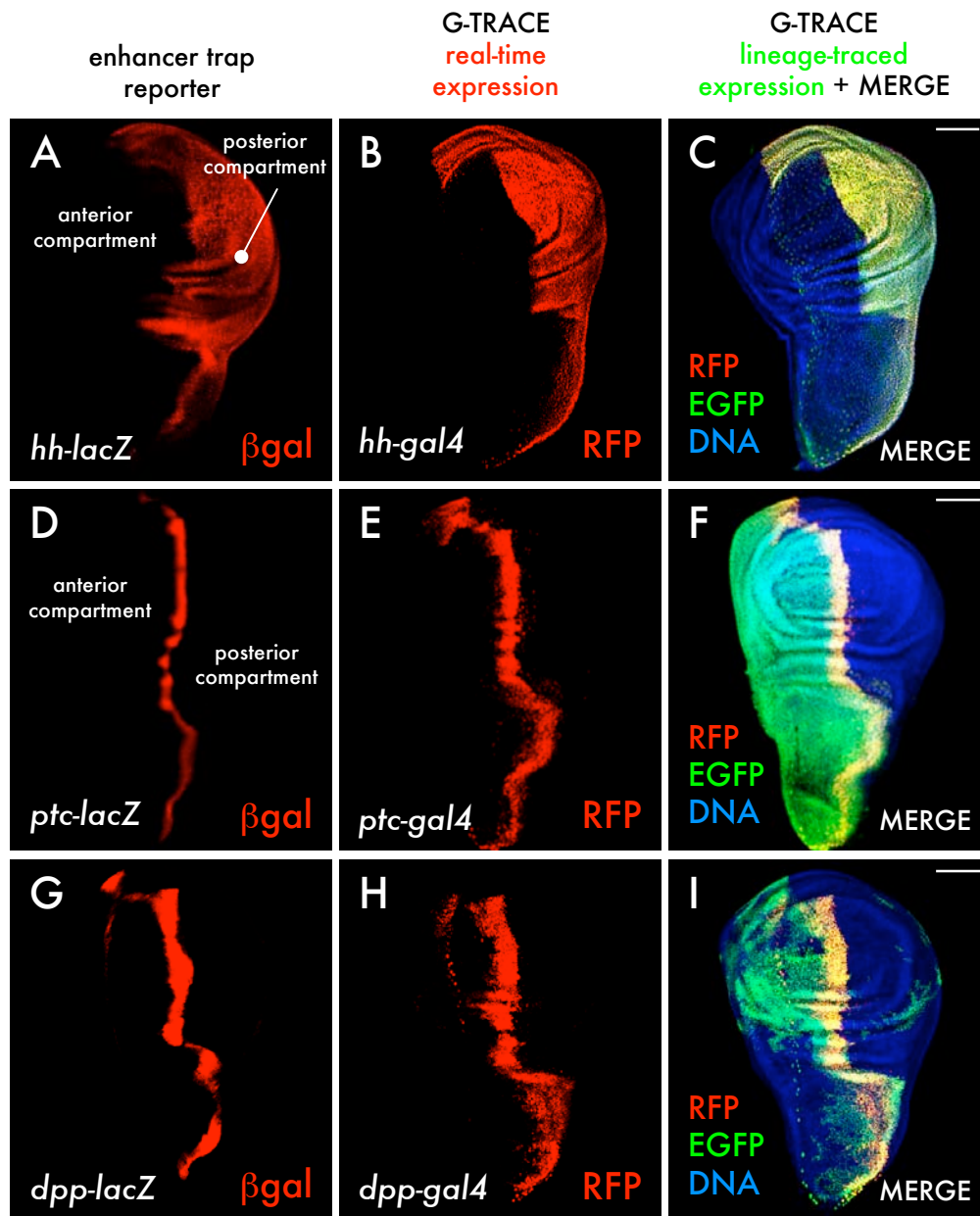


The *Drosophila* G-TRACE analysis system

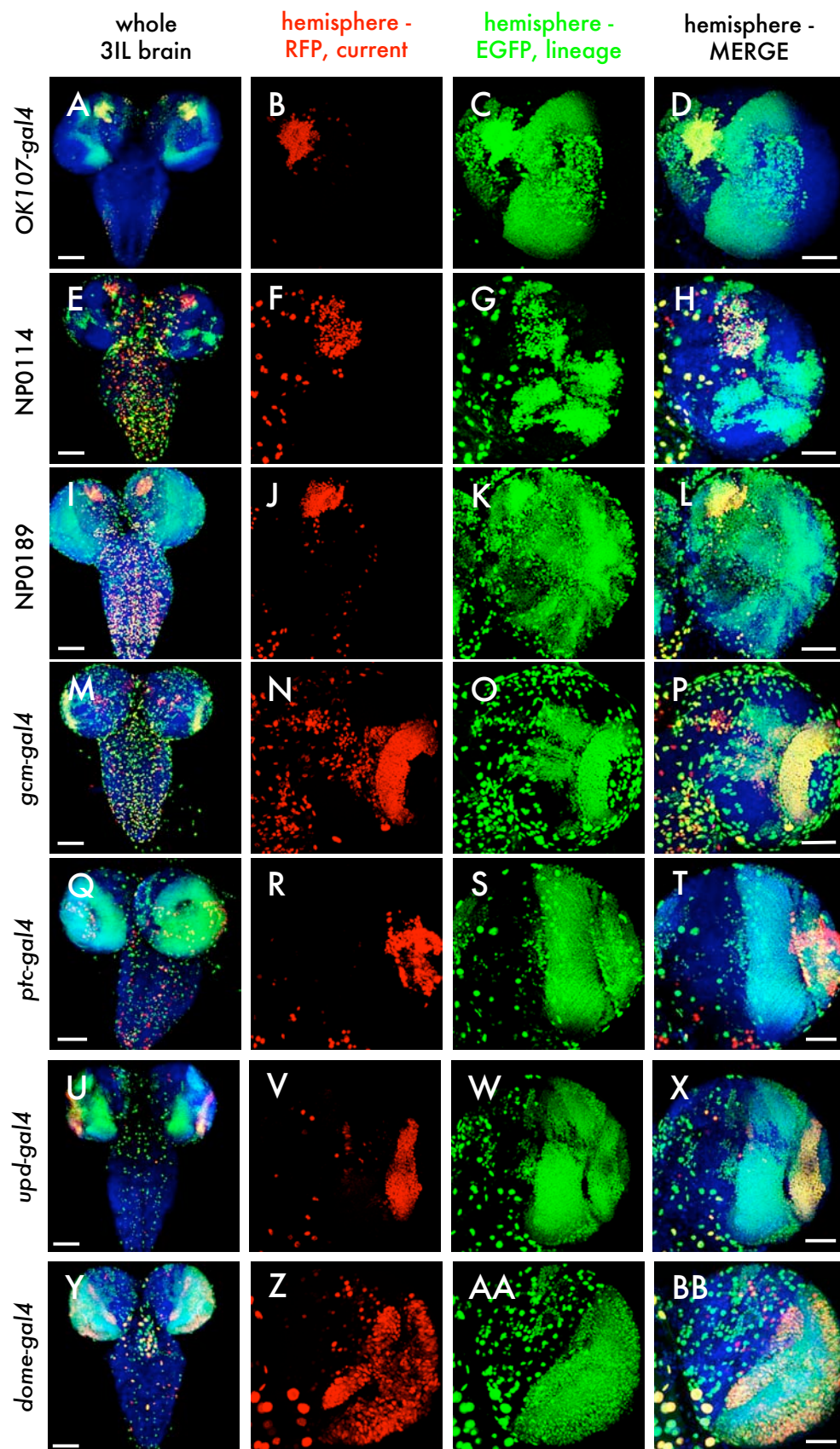
Supplementary Figure 1. Full schematic depicting the G-TRACE analysis system. A) Individual Gal4-expressing lines are crossed to the G-TRACE analysis test stock, which has the genotype *UAS-RedStinger UAS-FLP Ubi-p63FRT>STOPFRT>nEGFP*. B) Cells expressing Gal4 activate the expression of RFP and FLP recombinase, which in turn mediates the excision of the FRT-flanked STOP cassette. Subsequently, nEGFP is expressed from the *Ubi-p63E* promoter and is heritably maintained in all daughter cells, even cells in which Gal4 expression is subsequently downregulated ("POST-ACTIVE"). The circles at the bottom of the figure represent cells that appear red or yellow (left), when Gal4 activates RFP expression followed by EGFP expression, or green (right), when Gal4 expression has been downregulated such that cell only express the lineage-tracing marker EGFP.

Supplementary Figure 2



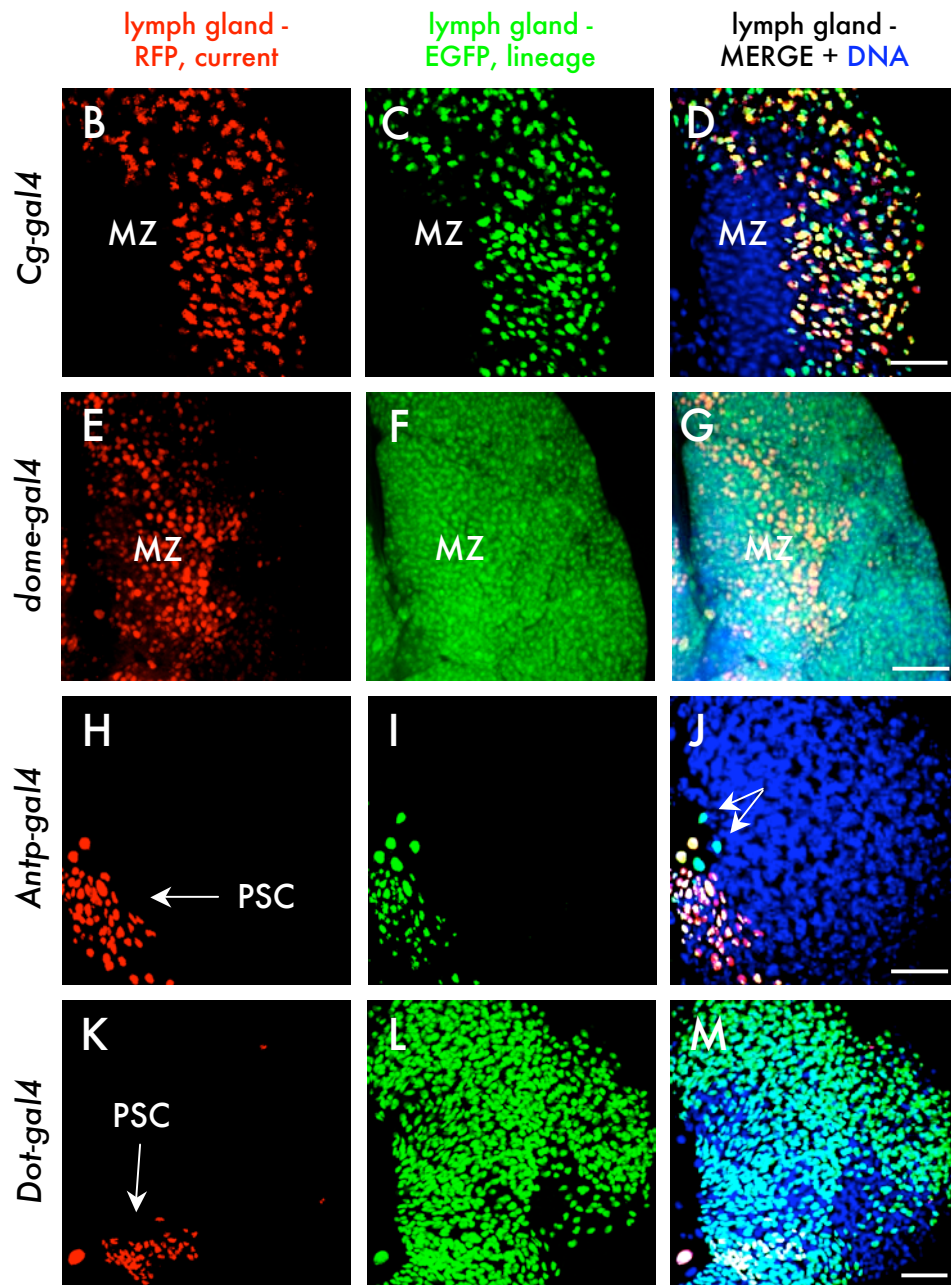
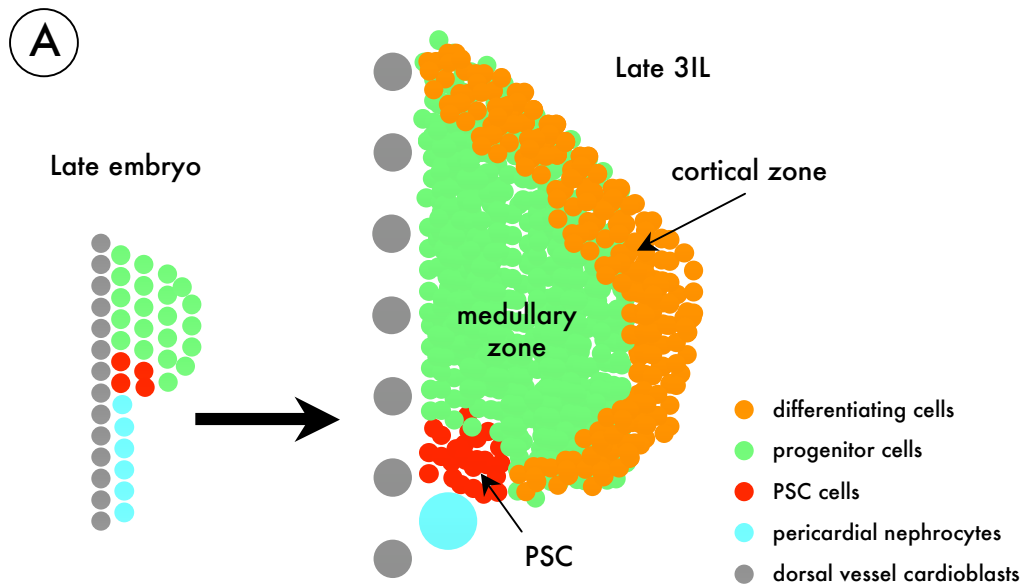
Supplementary Figure 2. The G-TRACE analysis system recapitulates real-time expression patterns and reveals prior expression via lineage tracing. Comparison of *lacZ* expression patterns with G-TRACE expression patterns for three well-characterized genes in the late third instar wing imaginal disc. *hh-lacZ* expression (A, β gal) and *hh-gal4* expression (B, RFP) are restricted to the posterior (P) wing compartment. Lineage-traced EGFP expression (C) is also restricted to the P compartment indicating that *hh-gal4* expression is limited to P compartment cells throughout wing development; Scale bar: 50 microns. *ptc-lacZ* (D, β gal) and *ptc-gal4* (E, RFP) are expressed similarly in a stripe of cells in the anterior (A) compartment along the A/P boundary. By contrast, lineage tracing (F, EGFP) reveals that the entire A compartment either expressed *ptc-gal4* at one point or that all A compartment cells are derived from precursors, such as those at the A/P boundary, that expressed *ptc-gal4*; Scale bar: 50 microns. *dpp-lacZ* (G, β gal) and *dpp-gal4* (H, RFP) are, like *ptc* (compare to D and E), expressed in a stripe of A compartment cells at the A/P boundary. Despite the similarity in expression of real-time RFP patterns, the lineage-traced pattern for *dpp-gal4* (I, EGFP) is markedly different from that of *ptc-gal4* (compare to F), indicating that these Gal4 lines are differentially regulated during the course of wing disc development; Scale bar: 50 microns.

Supplementary Figure 3



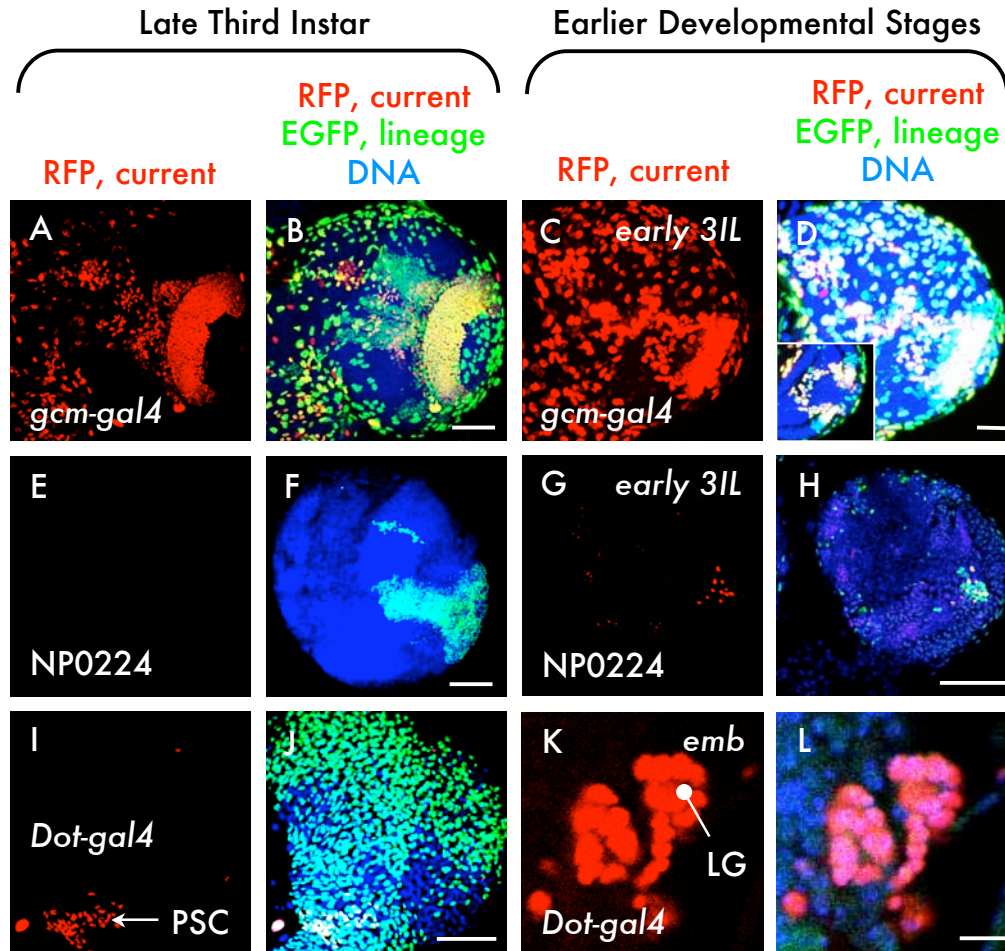
Supplementary Figure 3. A survey of G-TRACE patterns in the late larval brain. Low-magnification images (whole third-instar larval brain, first column) of several known and unknown Gal4-expressing lines showing real-time (RFP) and lineage-traced (EGFP) patterns throughout the late third instar brain (blue, DNA). Close-up images of single brain hemispheres detailing G-TRACE real-time (RFP, current, second column) and lineage-traced (EGFP, lineage, third column) expression patterns (MERGE, fourth column). A-D) *OK107-gal4* expression is restricted to the mushroom body at this stage (B) but exhibits extensive lineage tracing in the optic lobe (C, D). E-H) Gal4-ET NP0114 expression is also highly restricted to the mushroom body (F) but traces only subset of cell clusters in the optic lobe (G, H). I-L) Like *OK107-gal4* and NP0114, real-time expression of Gal4-ET NP0189 is highly restricted to the mushroom body (J), but traces significantly more cell clusters (K, L) than NP0114. M-P) *gcm-gal4* exhibits real-time RFP expression in both a subset of mushroom body as well as the optic lobe (N), however most of the lineage-tracing is restricted to the optic lobe (O, P). Another observed pattern was one in which both the real-time and lineage-traced expression patterns were found to be restricted primarily to the optic lobes. Gal4-expressing lines that exhibit such a pattern include *ptc-gal4* (Q-T), *dome-gal4* (U-X), and *upd-gal4* (Y-B'). While variable in extent, most Gal4-expressing lines examined were found to trace brain surface glia. Scale bars in Column 1 are 100 microns. Scale bars in Column 4 are 50 microns.

Supplementary Figure 4



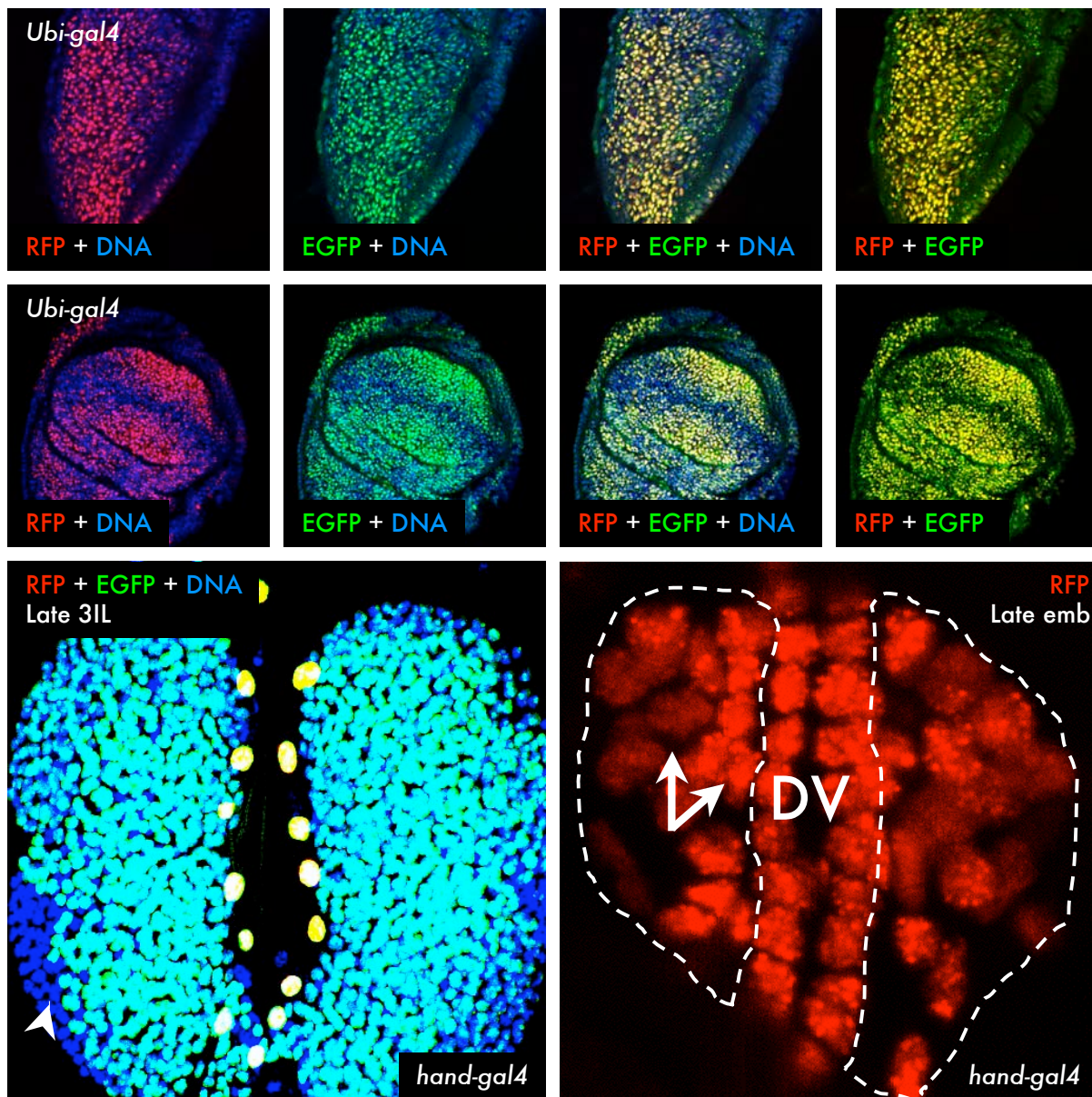
Supplementary Figure 4. G-TRACE analysis of late larval lymph glands. A) Schematic depicting lymph gland structure in late embryos and late larvae; only one half is depicted. The lymph gland primordium flanks dorsal vessel cardioblast and is anterior to pericardial cells that will develop into nephrocytes. The posterior signaling center (PSC) is already specified by this stage. In late 3IL, the lymph gland has grown and the medullary and cortical zones have formed. The medullary zone consists of blood progenitor cells where as the cortical zone contains differentiating hemocytes. Real-time and lineage-traced expression of *Cg-gal4* (B-D) is restricted to the cortical zone and absent from the medullary zone (MZ). Many RFP-negative, EGFP-positive cells can be observed in the cortical zone in C. Real-time expression of *dome-gal4* (E-G) is restricted to the medullary zone, but lineage-traces both the medullary and cortical zones. Real-time and lineage-traced expression of *Antp-gal4* (H-J) is restricted to the PSC. A few RFP-negative, EGFP-positive cells can be observed (J, arrows). Real-time expression of *Dot-gal4* (K-M) is restricted to the PSC (K, arrow), but lineage-traces cells throughout the lymph gland. Scale bars are 50 microns.

Supplementary Figure 5



Supplementary Figure 5. Temporal analysis of G-TRACE patterns with several Gal4 drivers. G-TRACE on *gcm-gal4* (A-D; inset: single optical section), *NP0224* (E-H), and *Dot-gal4* (I-L) lines at early and late developmental stages, as indicated. LG, lymph gland. PSC, posterior signaling center. 3IL, third instar larvae; emb, embryo. Scale: (C-D, 25 μm ; K-L, 10 μm ; Others, 50 μm).

Supplementary Figure 6



Supplementary Figure 6. The efficiency of Gal4-based lineage marking. G-TRACE analysis using *Ubiquitin-gal4* (*Ubi-gal4*) essentially marks all cells, although some cells exhibit differences in level of expression. In the wing hinge regions (A-D) virtually all cells express EGFP however a few cells near the lateral edges have low or undetectable levels of RFP expression. Similarly, nearly all cells express EGFP in the wing pouch (E-H) although cells of the dorsal/ventral boundary exhibit low-level expression, suggesting that the *Ubi-p63E* promoter is less active in these cell types. This interpretation is consistent with the pattern of RFP expression (E), which is also low in the dorsal/ventral boundary. Based upon numerous examples like these, it appears that FLP-out and EGFP expression can occur in all cells, with the major limiting factor being the strength of the Gal4 line being used. For example, the *hand* gene is expressed throughout the cardiogenic mesoderm from which the lymph gland is derived. Furthermore, the *hand-gal4* reporter line has been shown to recapitulate this pattern and be active in all such cells including the developing lymph gland. Using *hand-gal4* with G-TRACE, however, often generates sectors of untraced cells in the lymph gland (I, arrowhead). Furthermore, these negative sectors are reproducibly located in the periphery of the primary lobes, indicating that precursors of these cells likely have lower levels of Gal4 activity relative to precursors of cells positioned medially. Indeed, examination of late embryo and first instar larvae (not shown) demonstrated that, although expressed throughout the lymph gland, cells located laterally, away from the midline, exhibited markedly lower level RFP expression (J, arrows). Dotted lines outline lymph gland cells and dorsal vessel cardioblasts (DV) visible in a single optical section. 3IL, third instar larvae; emb, embryo.

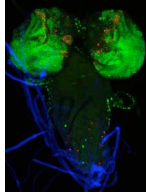
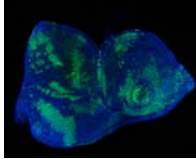
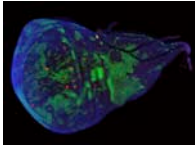
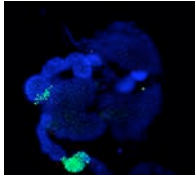
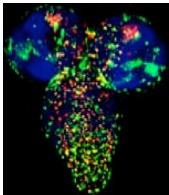
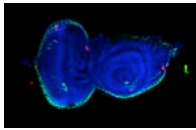
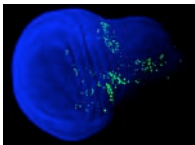
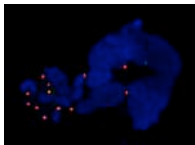
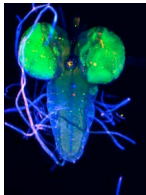
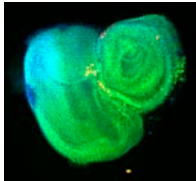

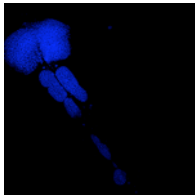
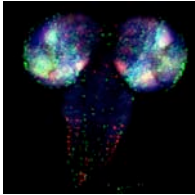
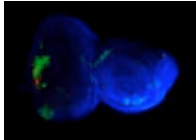
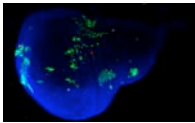
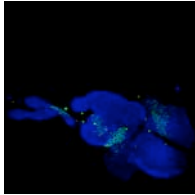

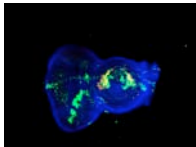
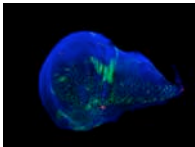
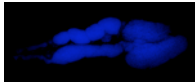
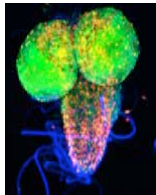
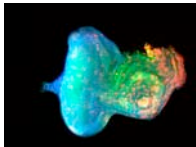
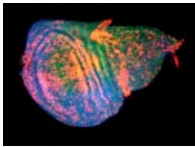
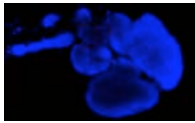
| Supplementary Table 2. G-TRACE expression patterns in the late larval eye-antenna imaginal disc | | | | | | | | | | | | | | | | | | | |
|---|-----------------|------------|------------|---|--------------|------|---------------|------|-----|------|-----|------|-----|------|-----|------|------|------|---|
| Stock ID | NP Identifier | Expression | | | Eye Specific | | Ant. Specific | | PMF | | MF | | AMF | | PPM | | Ant. | | Comment |
| | | None | Ubiquitous | + | RFP | EGFP | RFP | EGFP | RFP | EGFP | RFP | EGFP | RFP | EGFP | RFP | EGFP | RFP | EGFP | |
| 103526 | NP0112 | | | | | | | | | | | | | | | | | | increased clone density in ventral antenna |
| 103535 | NP0131 | | | | | | | | | | | | | | | | | | minor RFP at edges of eye/ant peripodial/disc? |
| 103539 | NP0138 | | | | | | | | | | | | | | | | | | Ant. EGFP in A-1 and A-2 |
| 103544 | NP0158 | | | | | | | | | | | | | | | | | | Ant. RFP/EGFP specific to A-1, A-2; minor, variable EGFP in eye |
| 103546 | NP0168 | | | | | | | | | | | | | | | | | | |
| 103548 | NP0173 | | | | | | | | | | | | | | | | | | |
| 103549 | NP0176 | | | | | | | | | | | | | | | | | | |
| 103553 | NP0188 | | | | | | | | | | | | | | | | | | |
| 103554 | NP0189 | | | | | | | | | | | | | | | | | | |
| 103557 | NP0211 | | | | | | | | | | | | | | | | | | appears RFP downregulated PMF |
| 103558 | NP0219 | | | | | | | | | | | | | | | | | | |
| 103561 | NP0224 | | | | | | | | | | | | | | | | | | variable, RFP in small clusters |
| 103566 | NP0239 | | | | | | | | | | | | | | | | | | RFP in small cell clusters throughout |
| 103568 | NP0244 | | | | | | | | | | | | | | | | | | RFP/EGFP in clusters at A1 ring of antenna |
| 103573 | NP0269 | | | | | | | | | | | | | | | | | | increased clone density in ventral antenna, variable expression |
| 103579 | NP0293 | | | | | | | | | | | | | | | | | | possible EGFP in anterior antenna |
| 103585 | NP0319 | | | | | | | | | | | | | | | | | | |
| 103586 | NP0324 | | | | | | | | | | | | | | | | | | |
| 103592 | NP0346 | | | | | | | | | | | | | | | | | | few sporadic EGFP clones |
| 103697 | NP0552 | | | | | | | | | | | | | | | | | | variable, RFP in small clusters, primarily in antenna |
| 103701 | NP0662 | | | | | | | | | | | | | | | | | | near ventral(?) optic stalk |
| 103704 | NP0675 | | | | | | | | | | | | | | | | | | |
| 103707 | NP0680 | | | | | | | | | | | | | | | | | | |
| 103715 | NP0699 | | | | | | | | | | | | | | | | | | |
| 103718 | NP0708 | | | | | | | | | | | | | | | | | | |
| 103726 | NP0723 | | | | | | | | | | | | | | | | | | ventral EGFP in antenna, RFP unclear |
| 103729 | NP0727 | | | | | | | | | | | | | | | | | | |
| 103730 | NP0729 | | | | | | | | | | | | | | | | | | specific expression in A1, eye, glia, express EGFP |
| 103780 | NP0829 | | | | | | | | | | | | | | | | | | variable, RFP in small clusters, primarily in antenna |
| 103783 | NP0837 | | | | | | | | | | | | | | | | | | variable, RFP in small clusters |
| 103795 | NP0864 | | | | | | | | | | | | | | | | | | variable, RFP in small clusters, peripodial? |
| 103797 | NP0870 | | | | | | | | | | | | | | | | | | RFP expression high in antenna and eye, glia |
| 103799 | NP0873 | | | | | | | | | | | | | | | | | | variable, RFP in small clusters, primarily in antenna |
| 103802 | NP0882 | | | | | | | | | | | | | | | | | | variable, RFP in small clusters |
| 103803 | NP0883 | | | | | | | | | | | | | | | | | | |
| 103810 | NP0898 | | | | | | | | | | | | | | | | | | RFP high in dorsal antenna; variable RFP in small clusters |
| 103811 | NP0902 | | | | | | | | | | | | | | | | | | RFP/EGFP expressed in three clusters in the A2 region |
| 103815 | NP0911 | | | | | | | | | | | | | | | | | | |
| 103830 | NP0949 | | | | | | | | | | | | | | | | | | |
| Other Gal4 lines | | | | | | | | | | | | | | | | | | | |
| BL 2721 | 5015 | | | | | | | | | | | | | | | | | | RFP expression PMF? |
| BL 8699 | Hemese | | | | | | | | | | | | | | | | | | |
| BL 1767 | howl[248] | | | | | | | | | | | | | | | | | | |
| BL 7071 | G115 | | | | | | | | | | | | | | | | | | |
| BL 8860 | Bv[MS1096] | | | | | | | | | | | | | | | | | | |
| BL 2736 | 5108 | | | | | | | | | | | | | | | | | | |
| BL 6902 | Dot | | | | | | | | | | | | | | | | | | RFP/EGFP in the ventral side of the antenna disc |
| BL 3750 | c355 | | | | | | | | | | | | | | | | | | |
| BL 7011 | Collagen | | | | | | | | | | | | | | | | | | RFP/EGFP cluster in A3 |
| BL 8641 | daughterless | | | | | | | | | | | | | | | | | | |
| BL 6773 | Grunge | | | | | | | | | | | | | | | | | | |
| PG142 | hand | | | | | | | | | | | | | | | | | | Majority of clones posterior to the furrow |
| PG144 | cut (?) | | | | | | | | | | | | | | | | | | RFP marks AB/A1 in antenna |
| PG33 | svr (?) | | | | | | | | | | | | | | | | | | |
| PG50 | N (?) | | | | | | | | | | | | | | | | | | |
| BL 3039 | patcher[MD2371] | | | | | | | | | | | | | | | | | | Restricted to anterior-most antenna and Bolwig's nerve |
| | Peroxidasin | | | | | | | | | | | | | | | | | | RFP/EGFP in hemocytes |
| BL 2017 | patched[559.1] | | | | | | | | | | | | | | | | | | Verticle stripe at A/P boundary marked in antenna |
| | serpent-Hemo | | | | | | | | | | | | | | | | | | RFP/EGFP in circulating hemocytes |
| | Ubx | | | | | | | | | | | | | | | | | | RFP is expressed in dorsal margin of eye; anterior-most region in antenna |
| | upd[E132] | | | | | | | | | | | | | | | | | | RFP is expressed near the optic stalk; EGFP is expressed in ventral region of eye/antenna |
| LEGEND | | | | | | | | | | | | | | | | | | | |
| No expression | | | | | | | | | | | | | | | | | | | |
| RFP expression | | | | | | | | | | | | | | | | | | | |
| EGFP expression | | | | | | | | | | | | | | | | | | | |
| sporadic | | | | | | | | | | | | | | | | | | | |
| Ant. Antenna | | | | | | | | | | | | | | | | | | | |
| PMF posterior to the morphogenetic furrow | | | | | | | | | | | | | | | | | | | |
| MF morphogenetic furrow | | | | | | | | | | | | | | | | | | | |
| AMF anterior to the morphogenetic furrow | | | | | | | | | | | | | | | | | | | |
| PPM peripodial membrane | | | | | | | | | | | | | | | | | | | |

| Supplementary Table 3. G-TRACE expression patterns in the late larval wing imaginal disc | | | | | | | | | | | | | |
|--|-----------------|------------|------------|------|-------------|------|-------|------|-------------|------|-----|------|--|
| Stock ID | NP Identifier | Expression | | | Compartment | | Pouch | | Hinge/Notum | | PPM | | Comment |
| | | None | Ubiquitous | EGFP | RFP | EGFP | RFP | EGFP | RFP | EGFP | RFP | EGFP | |
| 103526 | NP0112 | | | * | | | | | | | | | minor RFP in pouch, possible proneural clusters |
| 103528 | NP0114 | | | | | | | | | | | | minor, variable |
| 103535 | NP0131 | | | * | | | | | | | | | |
| 103539 | NP0138 | | | * | | | | | | | | | minor, variable |
| 103544 | NP0158 | | | | | | | | | | | * | |
| 103546 | NP0168 | | * | | | | | | | | | | expressd in trachea |
| 103548 | NP0173 | | | | | | | | | | | | |
| 103549 | NP0176 | | * | | | | | | | | | | |
| 103553 | NP0188 | | * | | | | | | | | | | variable Pouch RFP expression in small clusters |
| 103554 | NP0189 | | * | | | | | | | | | | minor RFP in pouch, possible proneural clusters |
| 103557 | NP0211 | | * | | | | | | | | | | higer RFP in pouch?, unclear |
| 103558 | NP0219 | | * | | | | | | | | | | may have low RFP in hinge/notum |
| 103561 | NP0224 | | | | | | | | | | | | |
| 103566 | NP0239 | | * | | | | | | | | | | |
| 103568 | NP0244 | | | | | | | | | | | | EGFP in tracheal |
| 103573 | NP0269 | | * | | | | | | | | | | RFP/EGFP in trachea |
| 103579 | NP0293 | | * | | | | | | | | | | |
| 103585 | NP0319 | | | | | | | | | | | | |
| 103586 | NP0324 | | | | | | | | | | | | |
| 103592 | NP0346 | | | | | | | | | | | | possible trachea EGFP, few PPM clones |
| 103697 | NP0652 | | | | | | | | | | | | minor RFP in pouch, possible proneural clusters |
| 103701 | NP0662 | | | | | | | | | | | | RFP/EGFP in trachea |
| 103704 | NP0675 | | | | | | | | | | | | |
| 103707 | NP0680 | | * | | | | | | | | | | minor RFP in pouch, possible proneural clusters |
| 103715 | NP0699 | | | | | | | | | | | | RFP expression primarily in pouch along A/P boundary |
| 103718 | NP0708 | | | | | | | | | | | | |
| 103726 | NP0723 | | | | | | | | | | | | |
| 103729 | NP0727 | | * | | | | | | | | | | expressd in trachea |
| 103730 | NP0729 | | * | | | | | | | | | | minor, variable RFP |
| 103780 | NP0829 | | * | * | | | | | | | | | RFP specific to hinge regions |
| 103783 | NP0837 | | * | * | | | | | | | | | increased EGFP clone density at anterior compartment edge? |
| 103795 | NP0864 | | * | * | | | | | | | | | minor, variable RFP |
| 103797 | NP0870 | | * | * | | | | | | | | | minor, variable RFP |
| 103799 | NP0873 | | * | * | | | | | | | | | minor, variable RFP throughout, strong RFP cluster in notum |
| 103802 | NP0882 | | * | * | | | | | | | | | minor, variable RFP throughout |
| 103803 | NP0883 | | * | * | | | | | | | | | minor, variable RFP throughout |
| 103811 | NP0902 | | | | | | | | | | | | |
| 103815 | NP0911 | | * | * | | | | | | | | | |
| 103830 | NP0949 | | * | * | | | | | | | | | |
| Other Gal4 lines | | | | | | | | | | | | | |
| BL 2721 | 5015 | | | * | | | | | | | | | |
| BL 8699 | Hemese | | | | | | | | | | | | |
| BL 1767 | how[24B] | | | * | | | | | | | | | |
| BL 7031 | G115 | | | | | | | | | | | | |
| BL 8860 | Bx[MS1096] | | | | | | | | | | | | |
| BL 2736 | 5108 | | | | | | | | | | | | |
| BL 6902 | Dot | | | | | | | | | | | | |
| BL 3750 | c355 | | * | * | | | | | | | | | |
| BL 7011 | Collagen | | | | | | | | | | | | |
| BL 8641 | daughterless | | * | * | | | | | | | | | |
| BL 1553 | Dpp | | | | | | | | | | | | RFP expressed at A/P boundary. EGFP expressed in anterior compartment. |
| BL 6773 | Grunge | | | | | | | | | | | | |
| | hand | | | | | | | | | | | | |
| | hedgehog | | | | | | | | | | | | Posterior compartment |
| PG142 | | | | | | | | | | | | | RFP/EGFP restricted to notum; expressed in trachea. |
| PG14 | dome | | | * | | | | | | | | | Low sample |
| PG33 | | | | | | | | | | | | | RFP/EGFP in trachea |
| PG50 | | | | | | | | | | | | | |
| BL 3039 | pannier[MD237] | | | | | | | | | | | | |
| | Peroxidasin | | | | | | | | | | | | RFP/EGFP in hemocytes |
| BL 2017 | patched[559,1] | | | | | | | | | | | | RFP expressed in A/P boundary. EGFP expressed in anterior compartment. |
| | serpent-Hemo | | | | | | | | | | | | |
| | serpent | | | | | | | | | | | | |
| | Ubx | | | * | | | | | | | | | RFP expressed in trachea |
| | upd[E132] | | | | | | | | | | | | |
| LEGEND | | | | | | | | | | | | | |
| | No expression | | | | | | | | | | | | Lines not scored: 103810, Antp-gal4, qcm-gal4, BL 854 |
| | RFP expression | | | | | | | | | | | | |
| | EGFP expression | | | | | | | | | | | | |
| | sporadic | | * | | | | | | | | | | |
| | PPM | | | | | | | | | | | | peripodial membrane |

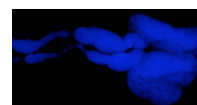
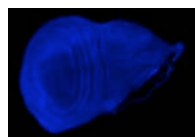
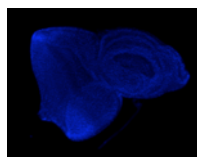
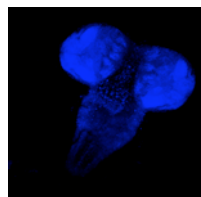
| Supplementary Table 4. G-TRACE expression patterns in the late larval lymph gland | | | | | | | | | | | | | | | Comment | | |
|---|-----------------|------------|------------|-----|---------|-----|-----------|-----|----------|-----|------|-----|------|-----|---------|----|---|
| Stock ID | NP Identifier | Expression | | | | | | | | | | | | | | | |
| | | None | Ubiquitous | | Primary | | Secondary | | Tertiary | | DV | | PC | | | SS | |
| | | RFP | EGFP | RFP | EGFP | RFP | EGFP | RFP | EGFP | RFP | EGFP | RFP | EGFP | RFP | EGFP | | |
| 103526 | NP0112 | | | | | | | | | | | | | | | | minor, variable |
| 103528 | NP0114 | | | | | | | | | | | | | | | | |
| 103535 | NP0131 | | | | | | | | | | | | | | | | |
| 103539 | NP0138 | | * | | | | | | | | | | | | | | minor, variable |
| 103544 | NP0158 | | | | | | | | | | | | | | | | |
| 103546 | NP0168 | | | | | | | | | | | | | | | | |
| 103548 | NP0173 | | | | | | | | | | | | | | | | |
| 103549 | NP0176 | | | | | | | | | | | | | | | | |
| 103553 | NP0188 | | | | | | | | | | | | | | | | variable in lymph gland lobes |
| 103554 | NP0189 | | | | | | | | | | | | | | | | RFP in seven-up subset |
| 103557 | NP0211 | | | | | | | | | | | | | | | | |
| 103558 | NP0219 | | | | | | | | | | | | | | | | minor expression in primary lobe/cortical zone? |
| 103561 | NP0224 | | | | | | | | | | | | | | | | |
| 103566 | NP0239 | | | | | | | | | | | | | | | | |
| 103568 | NP0244 | | | | | | | | | | | | | | | | expression in stringy stuff and ring gland |
| 103573 | NP0269 | | | | | | | | | | | | | | | | |
| 103586 | NP0324 | | | | | | | | | | | | | | | | possibly in circulating hemocytes |
| 103592 | NP0346 | | | | | | | | | | | | | | | | |
| 103697 | NP0652 | | | | | | | | | | | | | | | | |
| 103701 | NP0662 | | | | | | | | | | | | | | | | |
| 103704 | NP0675 | | * | | | | | | | | | | | | | | |
| 103707 | NP0680 | | | | | | | | | | | | | | | | |
| 103715 | NP0699 | | | | | | | | | | | | | | | | possible SS expression |
| 103726 | NP0723 | | | | | | | | | | | | | | | | |
| 103729 | NP0727 | | * | | | | | | | | | | | | | | |
| 103730 | NP0729 | | | | | | | | | | | | | | | | |
| 103780 | NP0829 | | | | | | | | | | | | | | | | minor, variable |
| 103783 | NP0837 | | | | | | | | | | | | | | | | minor, variable |
| 103795 | NP0864 | | | | | | | | | | | | | | | | RFP mostly in primary, minor in tertiary; mature cells? |
| 103797 | NP0870 | | * | | | | | | | | | | | | | | |
| 103799 | NP0873 | | * | | | | | | | | | | | | | | |
| 103802 | NP0882 | | * | | | | | | | | | | | | | | minor, variable |
| 103803 | NP0883 | | | | | | | | | | | | | | | | |
| 103810 | NP0898 | | | | | | | | | | | | | | | | RFP pattern unclear; inconsistent |
| 103811 | NP0902 | | | | | | | | | | | | | | | | |
| 103815 | NP0911 | | | | | | | | | | | | | | | | |
| 103830 | NP0949 | | | | | | | | | | | | | | | | EGFP also in ring gland |
| Other Gal4 lines | | | | | | | | | | | | | | | | | |
| BL 2721 | 5015 | | | | | | | | | | | | | | | | |
| BL 8699 | Hemese | | | | | | | | | | | | | | | | RFP/EGFP expression may be in cortical zone |
| | Antp | | | | | | | | | | | | | | | | Expressed in PSC |
| BL 1767 | how[24B] | | | | | | | | | | | | | | | | |
| BL 7031 | G115 | | | | | | | | | | | | | | | | |
| BL 8860 | Bx(MS1096) | | | | | | | | | | | | | | | | |
| BL 2736 | 5108 | | | | | | | | | | | | | | | | |
| BL 6902 | Dot | | | | | | | | | | | | | | | | RFP expressed in the PSC |
| BL 3750 | c355 | * | | | | | | | | | | | | | | | |
| BL 7011 | Collagen | | | | | | | | | | | | | | | | RFP/EGFP in cortical zone |
| BL 8641 | daughterless | * | | | | | | | | | | | | | | | RFP low in hemocytes relative to DV, etc. |
| BL 6773 | Grunge | | | | | | | | | | | | | | | | |
| | hand | | | | | | | | | | | | | | | | |
| | hedehog | | | | | | | | | | | | | | | | RFP is in pericardial cells? |
| PG142 | | | | | | | | | | | | | | | | | RFP/EGFP restricted to mature hemocytes |
| PG14 | dome | | | | | | | | | | | | | | | | RFP expressed in medullary zone |
| PG33 | | | | | | | | | | | | | | | | | |
| PG50 | | | | | | | | | | | | | | | | | |
| BL 3039 | pannier[MD237] | | | | | | | | | | | | | | | | RFP/EGFP restricted to mature hemocytes |
| | Peroxidasin | | | | | | | | | | | | | | | | RFP/EGFP restricted to mature hemocytes |
| BL 2017 | patched[559.1] | | | | | | | | | | | | | | | | |
| | serpent-Hemo | | | | | | | | | | | | | | | | Possible EGFP in primary lobe expression |
| | serpent | | | | | | | | | | | | | | | | RFP/EGFP possibly in pericardial cells |
| | Ubx | | | | | | | | | | | | | | | | |
| | upd[E132] | | | | | | | | | | | | | | | | |
| LEGEND | | | | | | | | | | | | | | | | | |
| | No expression | | | | | | | | | | | | | | | | Lines not scored: 103579, 103585, 103718, BL 1553, gcm-gal4, BL 854 |
| | RFP expression | | | | | | | | | | | | | | | | |
| | EGFP expression | | | | | | | | | | | | | | | | |
| | sporadic | * | | | | | | | | | | | | | | | |
| | DV | | | | | | | | | | | | | | | | dorsal vessel |
| | PC | | | | | | | | | | | | | | | | pericardial cells |
| | SS | | | | | | | | | | | | | | | | stringy stuff, a long, thin cellular structure associated with secondary and tertiary lobes |

| | |
|-----------------------|---|
| Supplementary Table 5 | Primers sequences for amplification of the <i>Ubi p63E</i> promoter |
| Forward | 5' GAG AAT TCT GTC CGT ATC CTT TAG GC 3' |
| Reverse | 5' GAG GTA CCT TGG ATT ATT CTG CGG GA 3' |

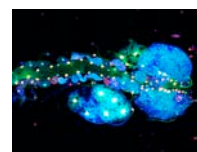
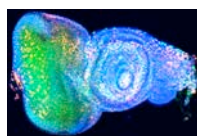
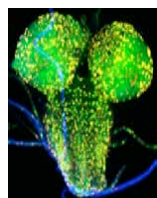
G-TRACE expression patterns in four tissues

| Gal4 line | brain | eye-antenna | wing | lymph gland |
|-----------|---|---|--|---|
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| 103535 |  |  |  |  |
| 103539 |  |  |  |  |
| 103544 |  |  |  |  |
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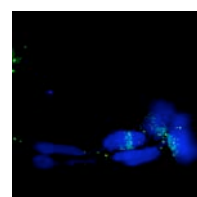
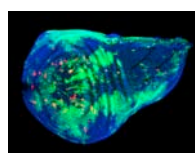
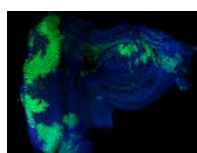
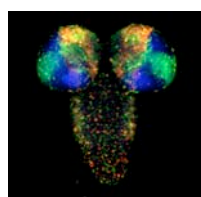
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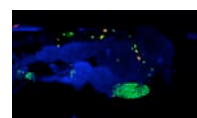
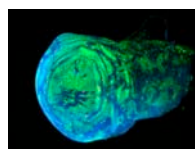
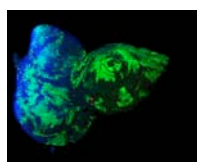
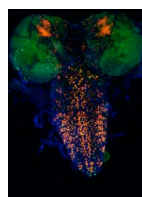
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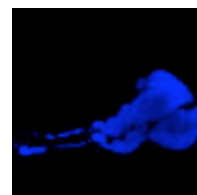
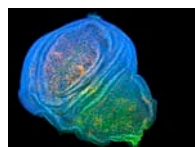
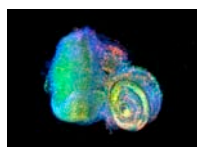
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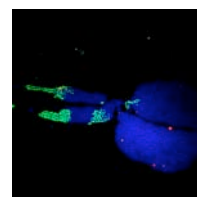
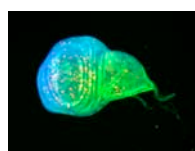
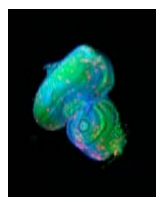
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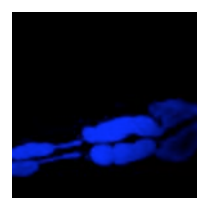
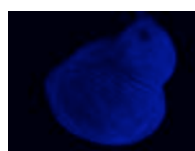
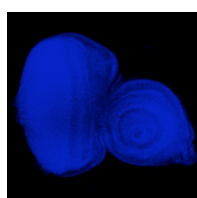
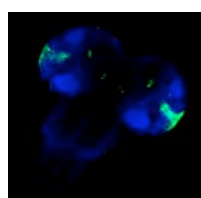
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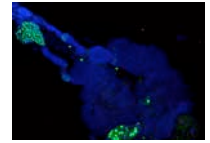
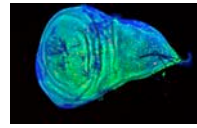
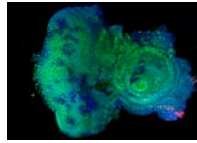
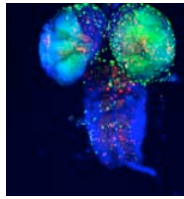
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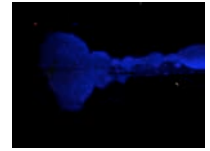
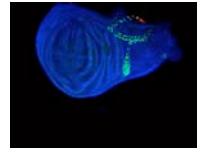
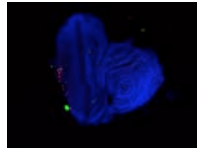
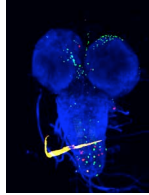
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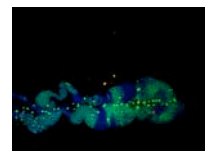
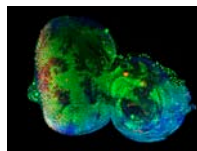
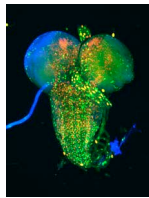
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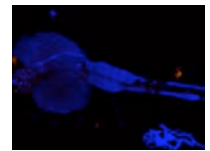
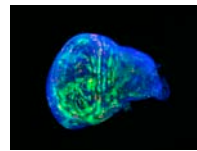
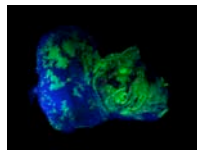
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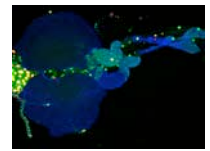
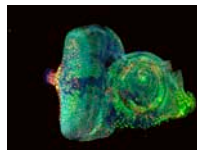
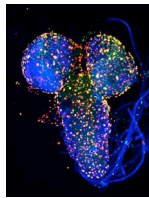
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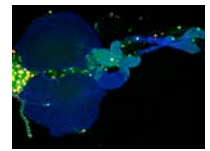
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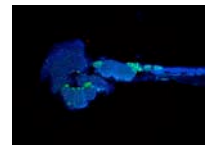
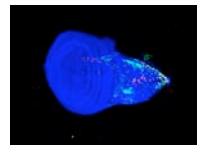
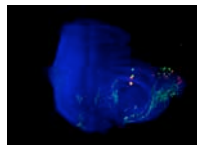
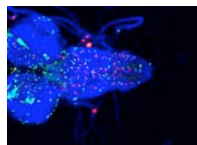
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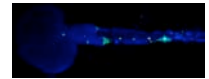
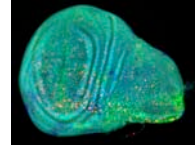
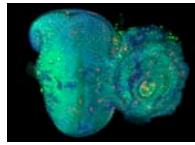
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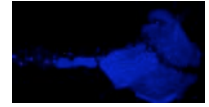
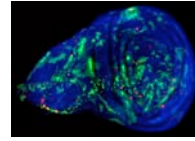
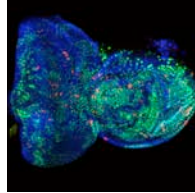
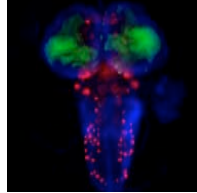
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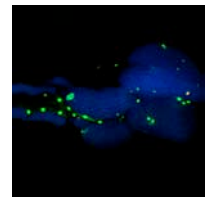
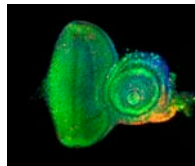
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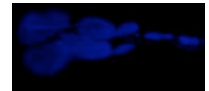
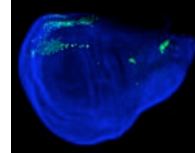
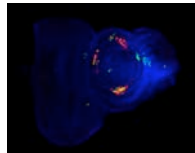
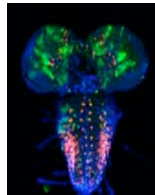
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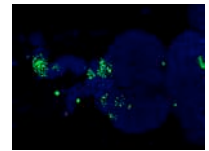
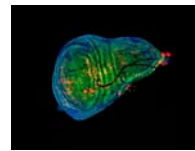
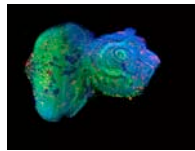
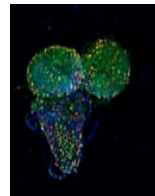
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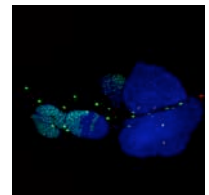
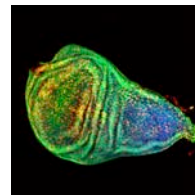
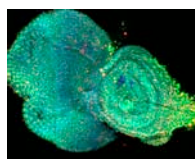
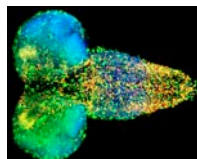
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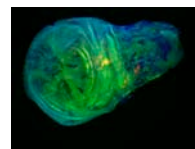
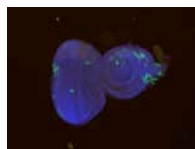
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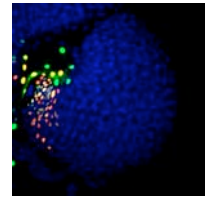
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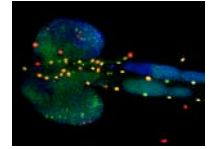
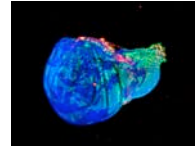
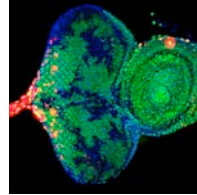
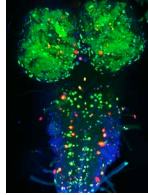
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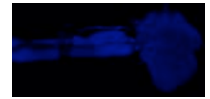
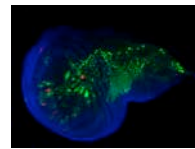
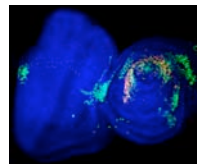
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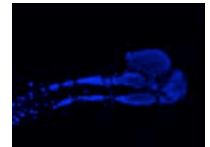
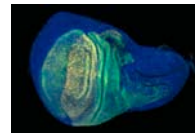
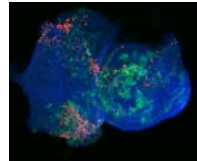
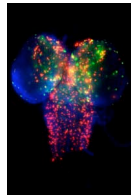
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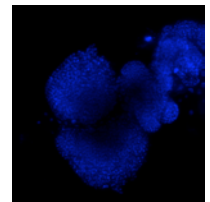
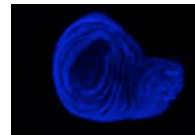
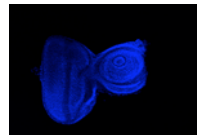
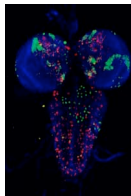
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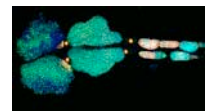
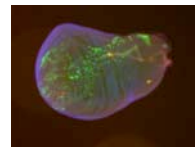
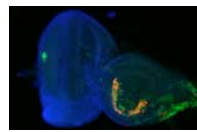
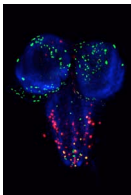
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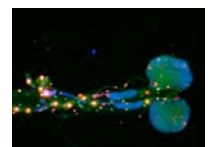
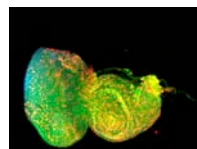
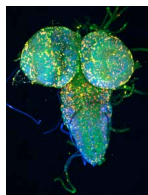
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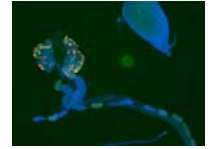
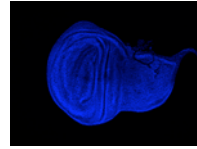
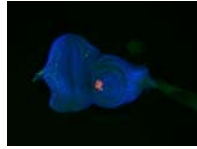
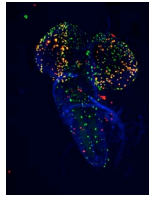
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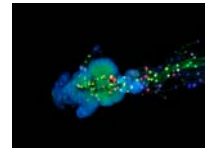
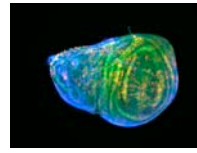
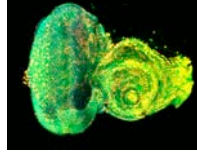
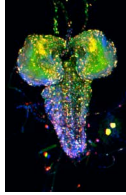
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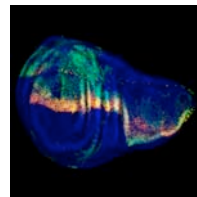
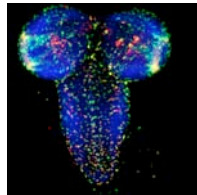
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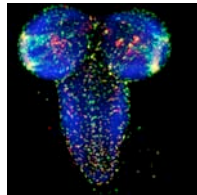
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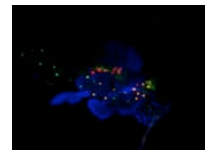
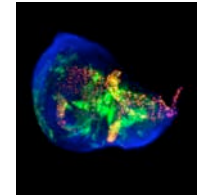
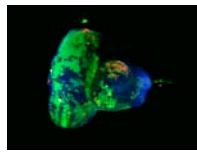
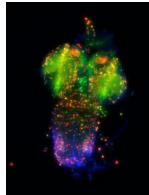
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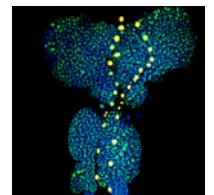
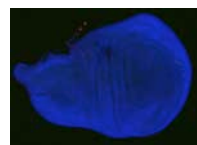
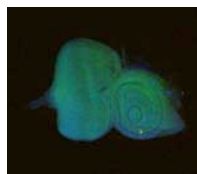
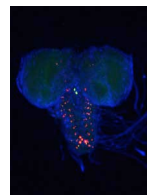
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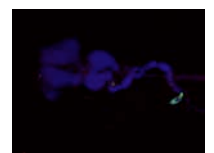
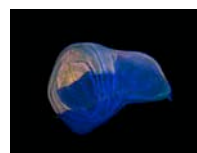
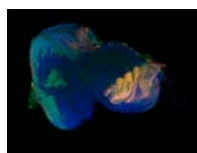
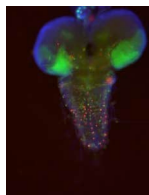
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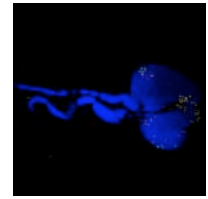
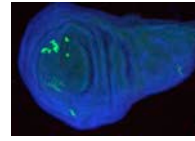
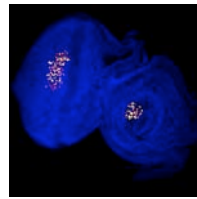
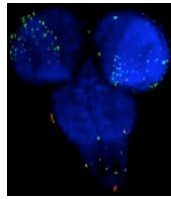
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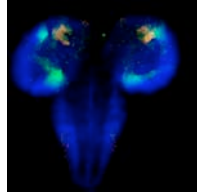
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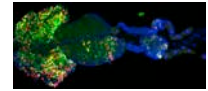
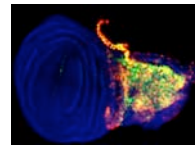
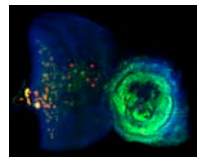
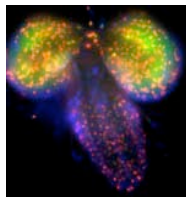
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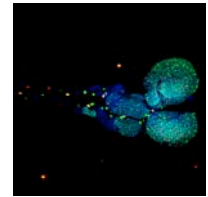
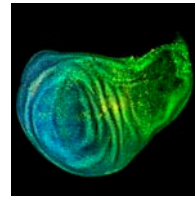
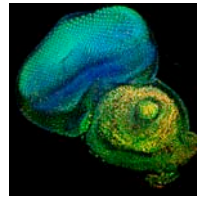
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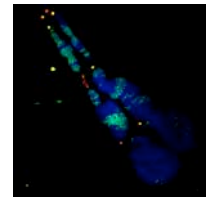
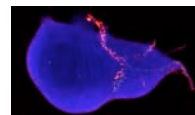
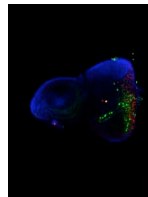
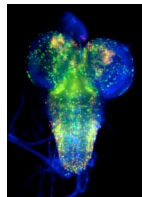
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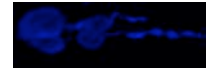
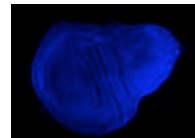
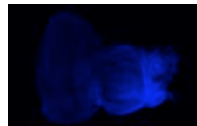
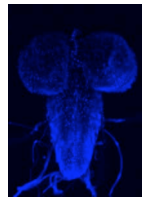
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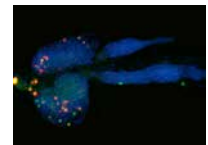
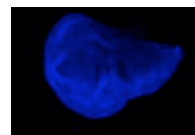
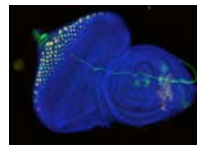
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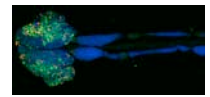
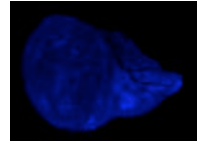
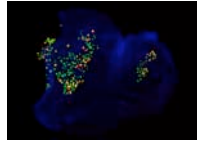
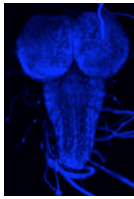
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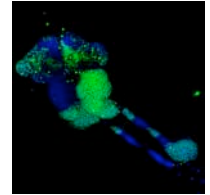
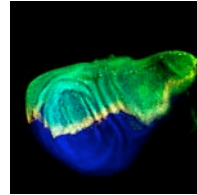
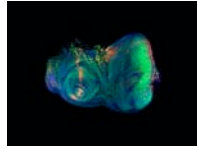
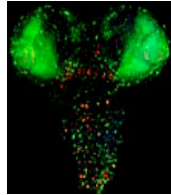
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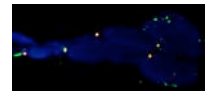
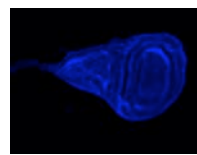
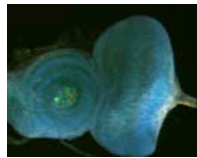
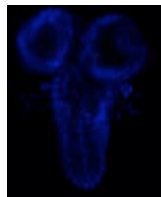
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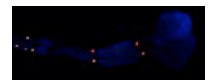
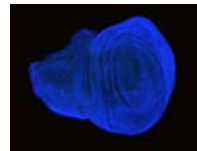
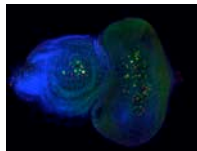
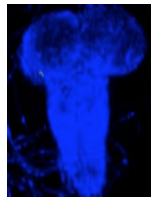
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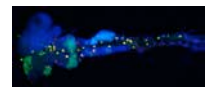
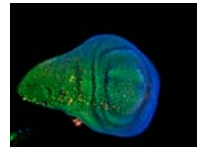
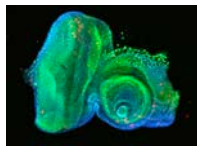
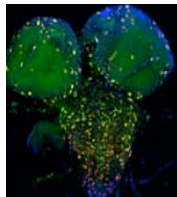
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Srp-Hemo



Ubx



upd

