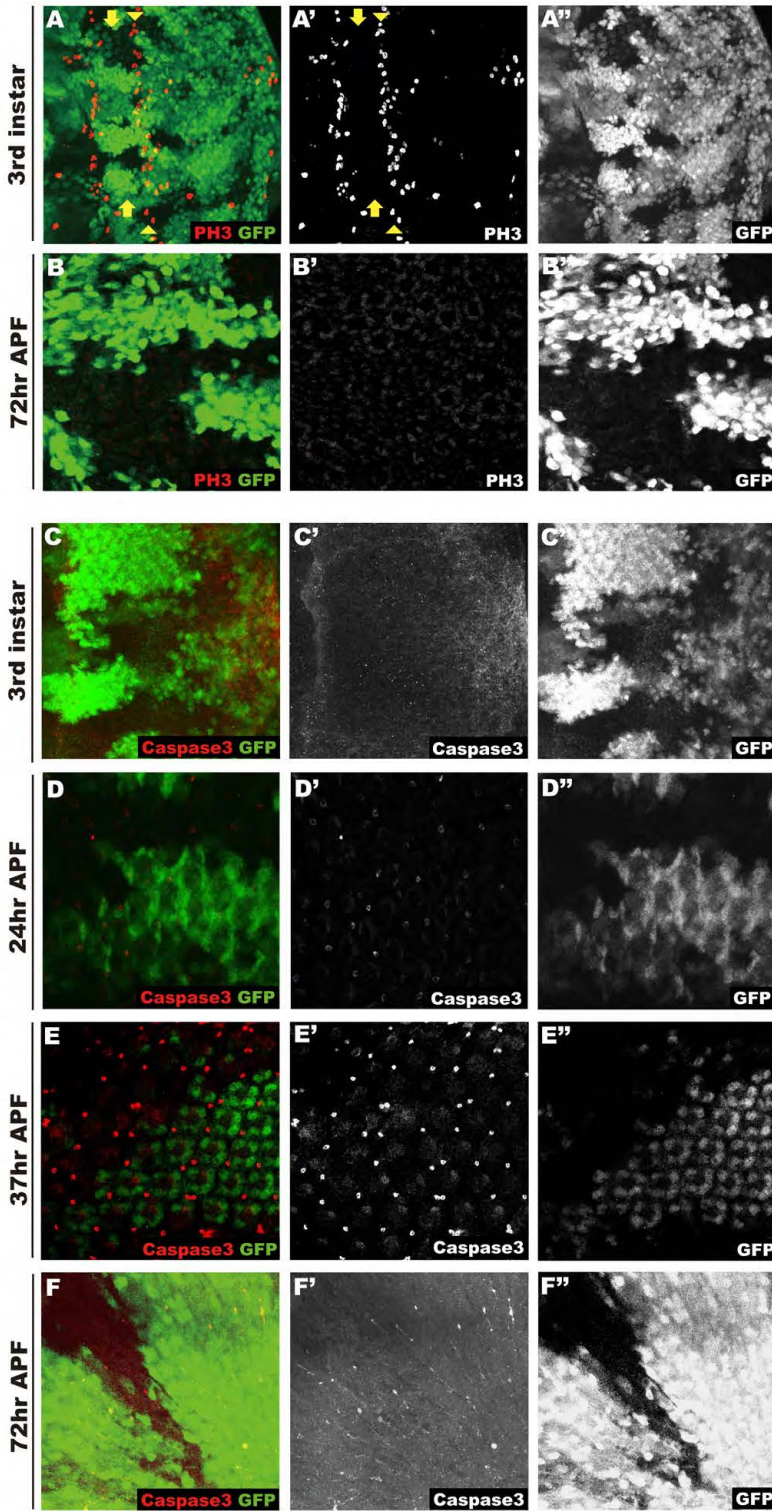
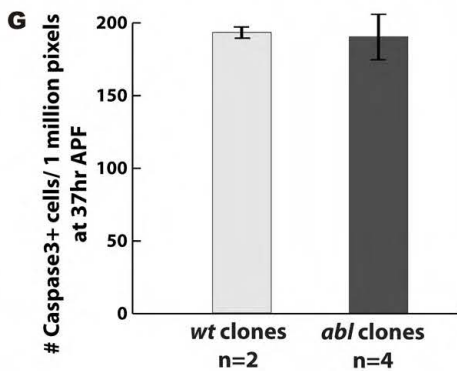
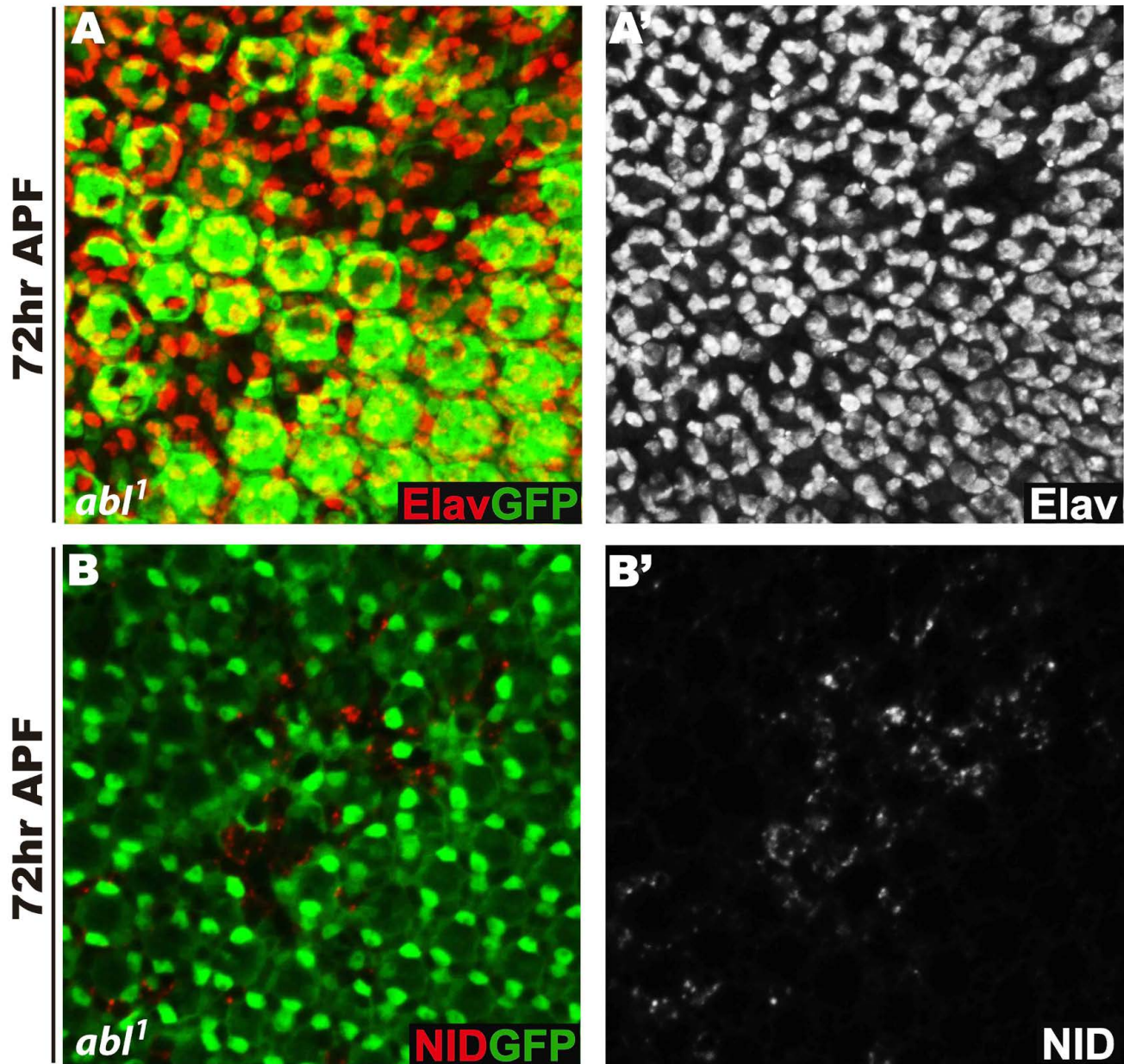


**Fig. S1. Loss of *Abl* does not affect bristle cell number.** Quantification of bristle cell density in wild-type and *Abl* mutant clones in 72 hour APF eye disks. Bristle cells were identified based on their cell shape and stronger Elav staining. There is no significant difference between wild-type and *Abl* mutant groups (Student's *t*-test).



**Fig. S2. Loss of *Abl* does not increase proliferation or apoptosis.** Eye tissue with *Abl* mutant clones stained with anti-phosphohistone-H3 (PH3, red) or anti-cleaved caspase 3 (red) and anti-GFP (green). Lack of GFP marks *Abl* clones. (A-A'') A projection picture of a third instar eye disk. The mitotic cells anterior to the MF (yellow arrows) and in the second mitotic wave (yellow arrowheads) are stained for PH3. Loss of *Abl* does not lead to an increase of mitotic cells. (B-B'') A projection picture of a 72 hour APF eye disk. No mitotic cells are detected in wild-type or *Abl* mutant tissues. (C-C'') A projection picture of a third instar eye disk. Cleaved caspase 3 staining suggests little apoptosis in wild-type or *Abl* mutant tissues. (D-D'') A projection picture of a 24 hour APF eye disk. At this stage in wild-type animals, supernumerary cells begin to be eliminated by apoptosis resulting in a regular lattice of caspase-positive foci. A comparable number of weak caspase-positive foci are seen in *Abl* clones. (E-E'') A projection picture of an eye disk at 37 hours APF, when supernumerary cell death reaches the peak. No photoreceptor cell apoptosis is observed. (F-F'') A projection picture of a 72 hour APF eye disk. No apoptosis is observed in *Abl* clones. (G) Quantification of caspase 3<sup>+</sup> cell density in *Abl* and wild-type clones at 37 hours APF.

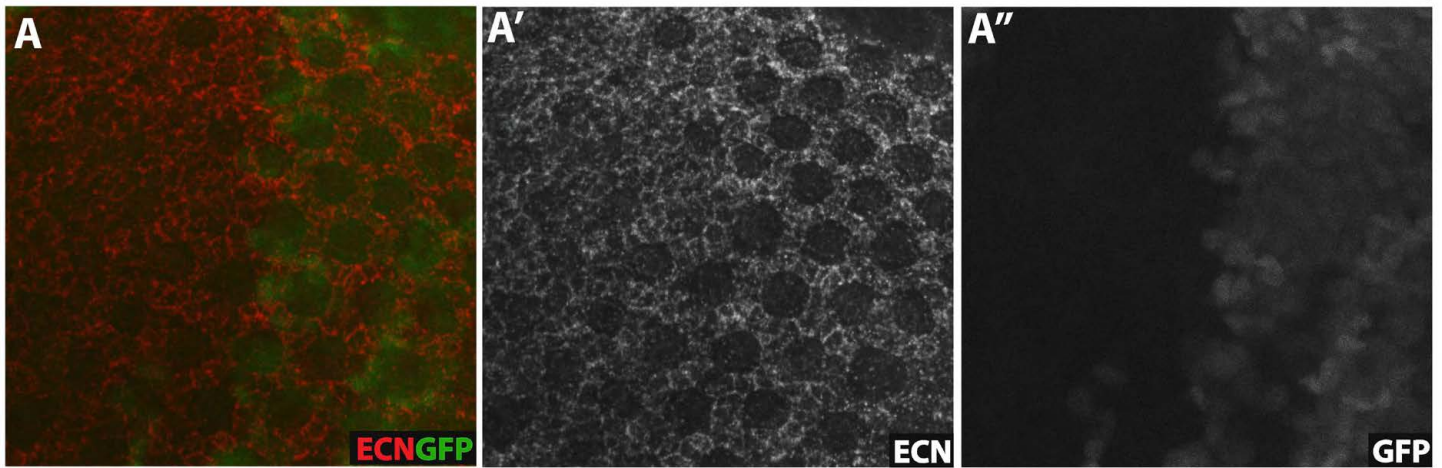




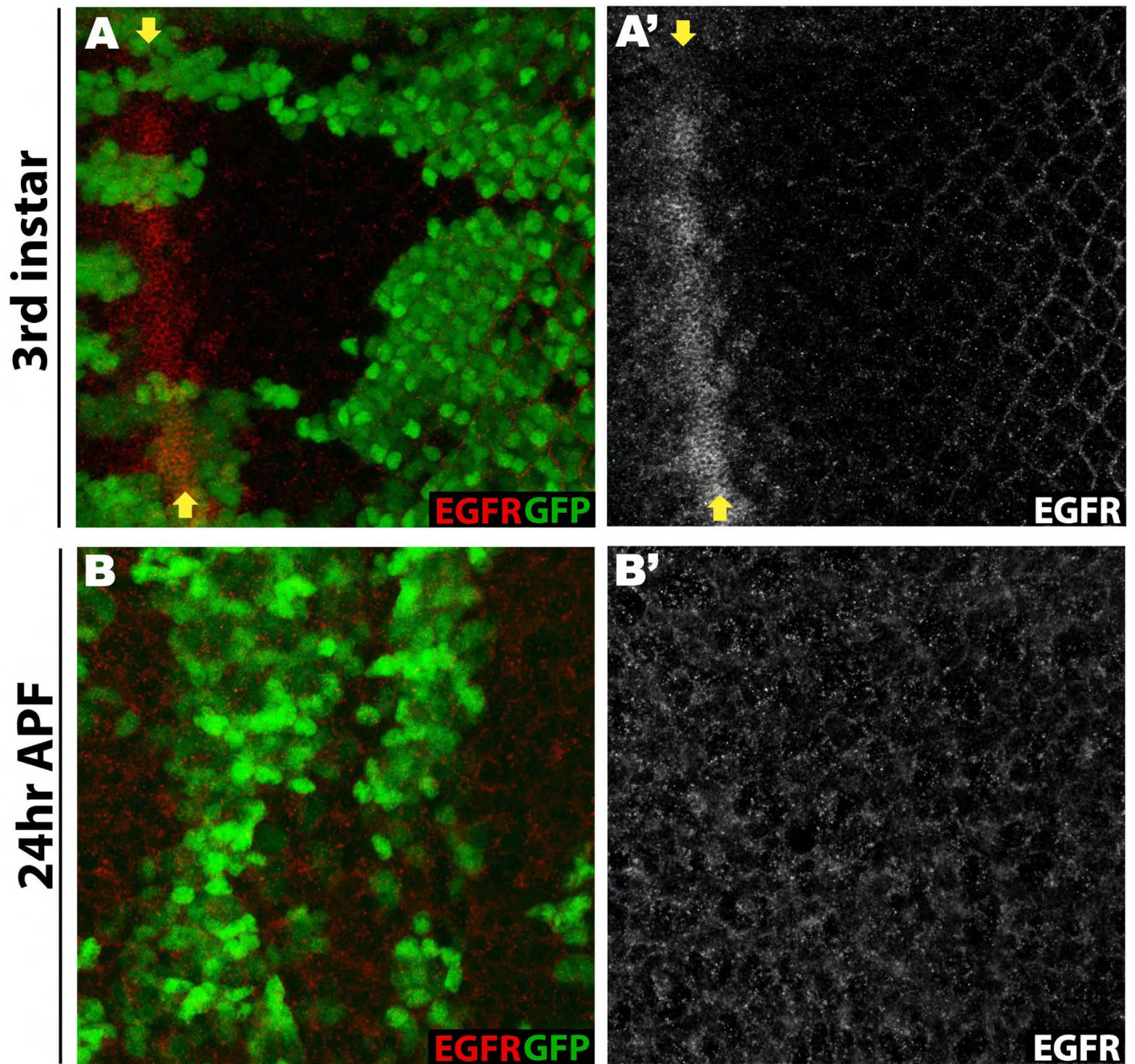
**Fig. S3. Loss of Elav-positive photoreceptors and increased Notch levels in the *Abl*<sup>1</sup> allele.** (A,A') A maximal confocal projection image of a 72 hour APF eye disk with *Abl*<sup>1</sup> mutant clones stained with anti-Elav (red in A) and anti-GFP (green) antibodies. In the clones of *Abl*<sup>1</sup>, the hypomorphic loss-of-function allele of *Abl*, there are fewer Elav<sup>+</sup> cells compared with the wild-type ommatidia. (B,B') The maximal confocal projection image of a 72 hour APF eye disk with *Abl*<sup>1</sup> mutant clones stained with anti-NID (red in B) and anti-GFP (green) antibodies. In the *Abl*<sup>1</sup> clones, the ectopic Notch puncta are evident.



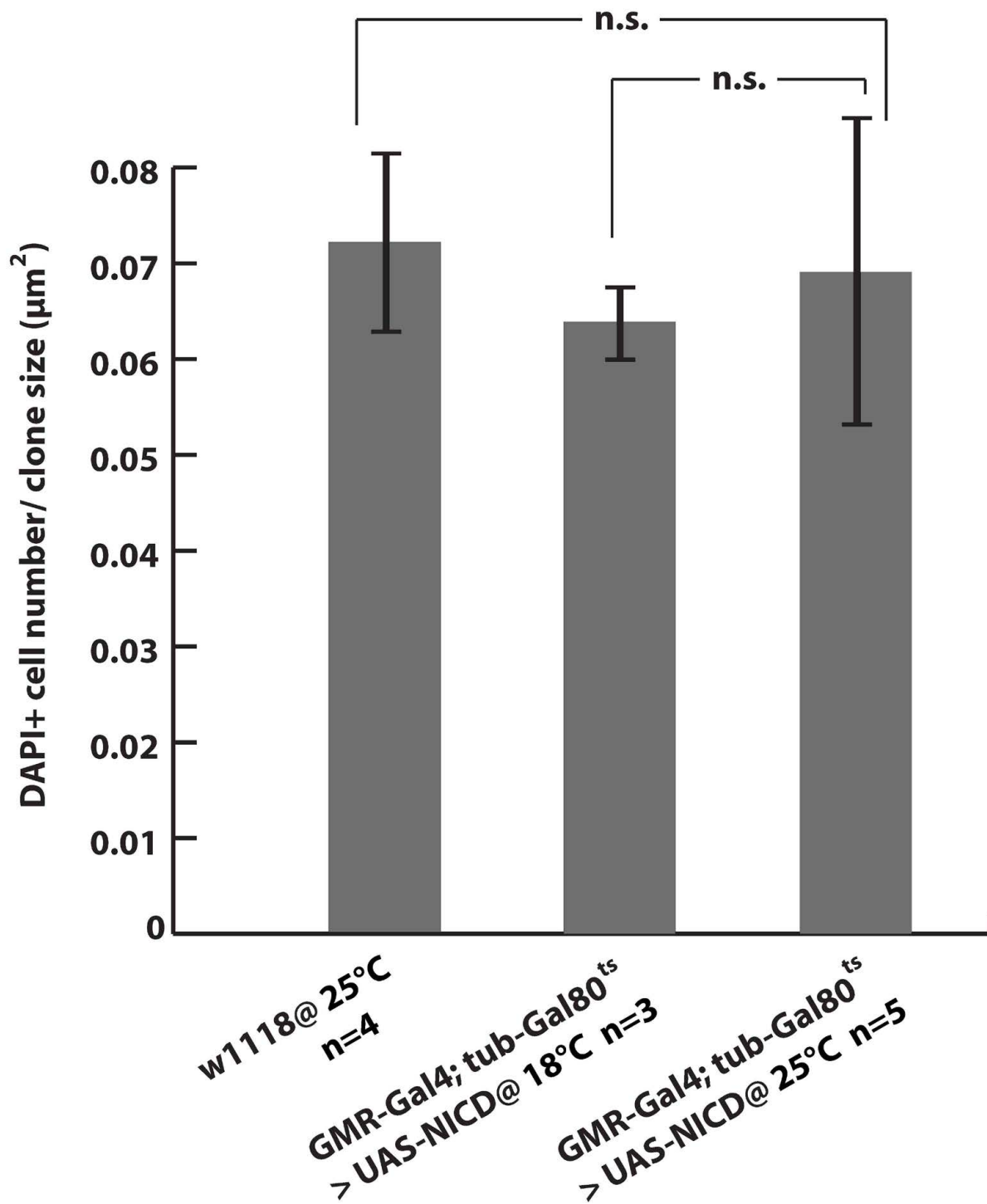
## Surface Notch receptor labeling at 0' time point



**Fig. S4. Cell surface Notch receptor level is not elevated in *Abl* clones.** (A-A'') A single apical z-section of a 24 hour APF eye disk. Surface Notch receptors were labeled by incubating with a mouse antibody against Notch extracellular domain (ECN, red in A) for 15 minutes on ice. GFP (A'') labels the wild-type tissue.

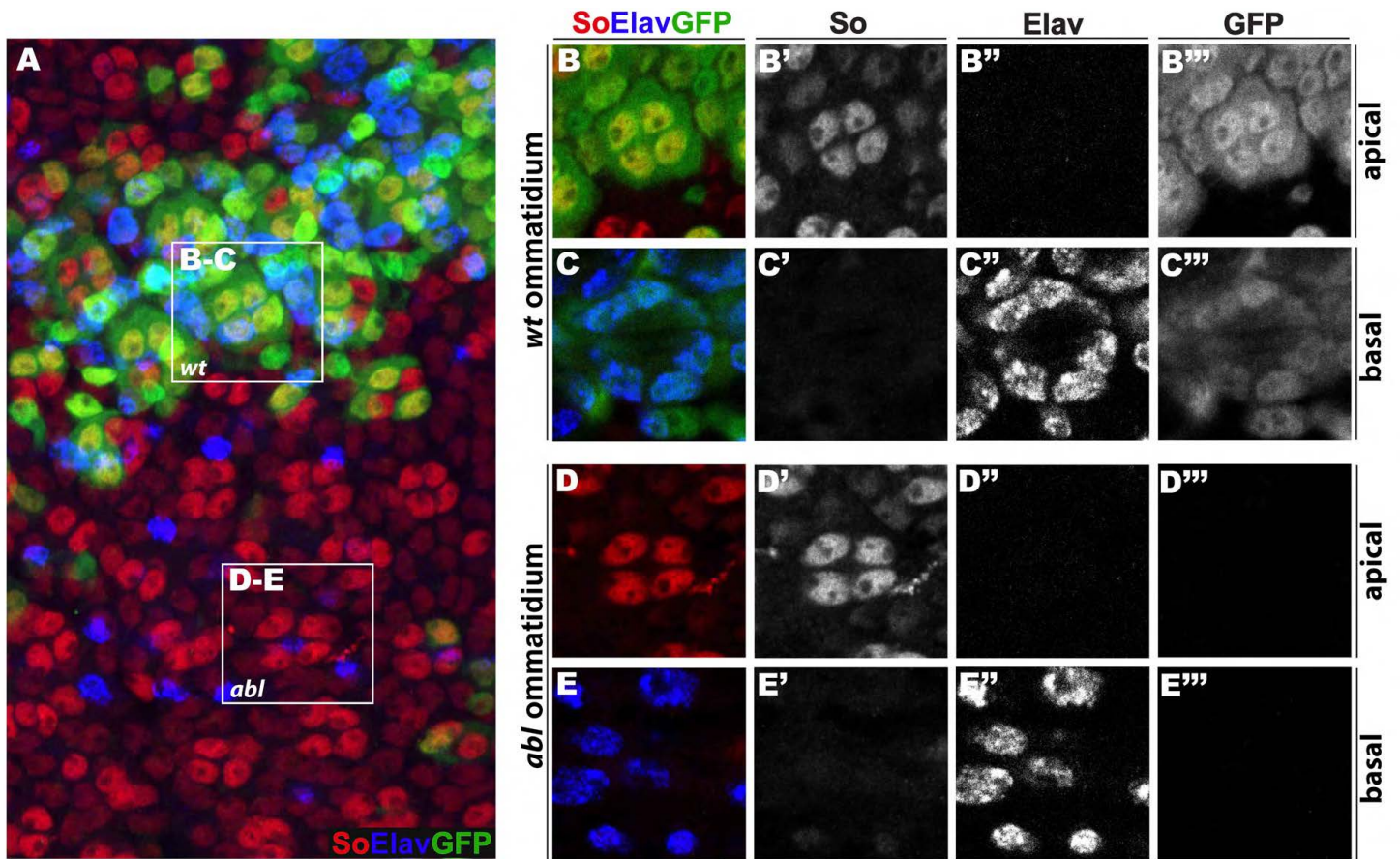


**Fig. S5. Egfr expression is not elevated in *Abl* mutant tissues.** Eye disks were stained with anti-Egfr (red) and anti-GFP (green) antibodies. All images are maximal projections of multiple optimal sections. (A,A') At third instar, while a mild increase of Egfr staining in *Abl* clones at the MF is observed, Egfr levels appear normal in *Abl* clones posterior to the MF. (B,B') Comparable Egfr levels at 24 hours APF in both wild-type and *Abl* mutant tissues.



**Fig. S6. Overexpression of NICD at late pupal stage does not increase overall cell density.** Quantification of DAPI<sup>+</sup> cell density in the eyes of newly eclosed wild-type and *GMR-Gal4; tub-Gal80<sup>ts</sup> >UAS-NICD* adults raised at 18°C or shifted from 18°C to 25°C.





**Fig. S7. *Abl* mutant photoreceptor cells expressing both *So* and *Elav* were not detected.** (A) A maximal projection image of a 72 hour APF eye disks with wild-type (marked by GFP) and *Abl* mutant (marked by the lack of GFP) clones were stained for *So* (red), *Elav* (blue) and GFP (green). (B-E''') Magnified views of a wild-type ommatidium (B-C''') and an *Abl* mutant ommatidium (D-E'''), as outlined in A. (B-C''') An apical section (B-B''') and a basal section (C-C''') of the wild-type ommatidium show that *So* and *Elav* are expressed in different subsets of cells. (D-E''') An apical section (D-D''') and a basal section (E-E''') of the *Abl* mutant ommatidium show that no *So* and *Elav* co-expressing cell was seen.