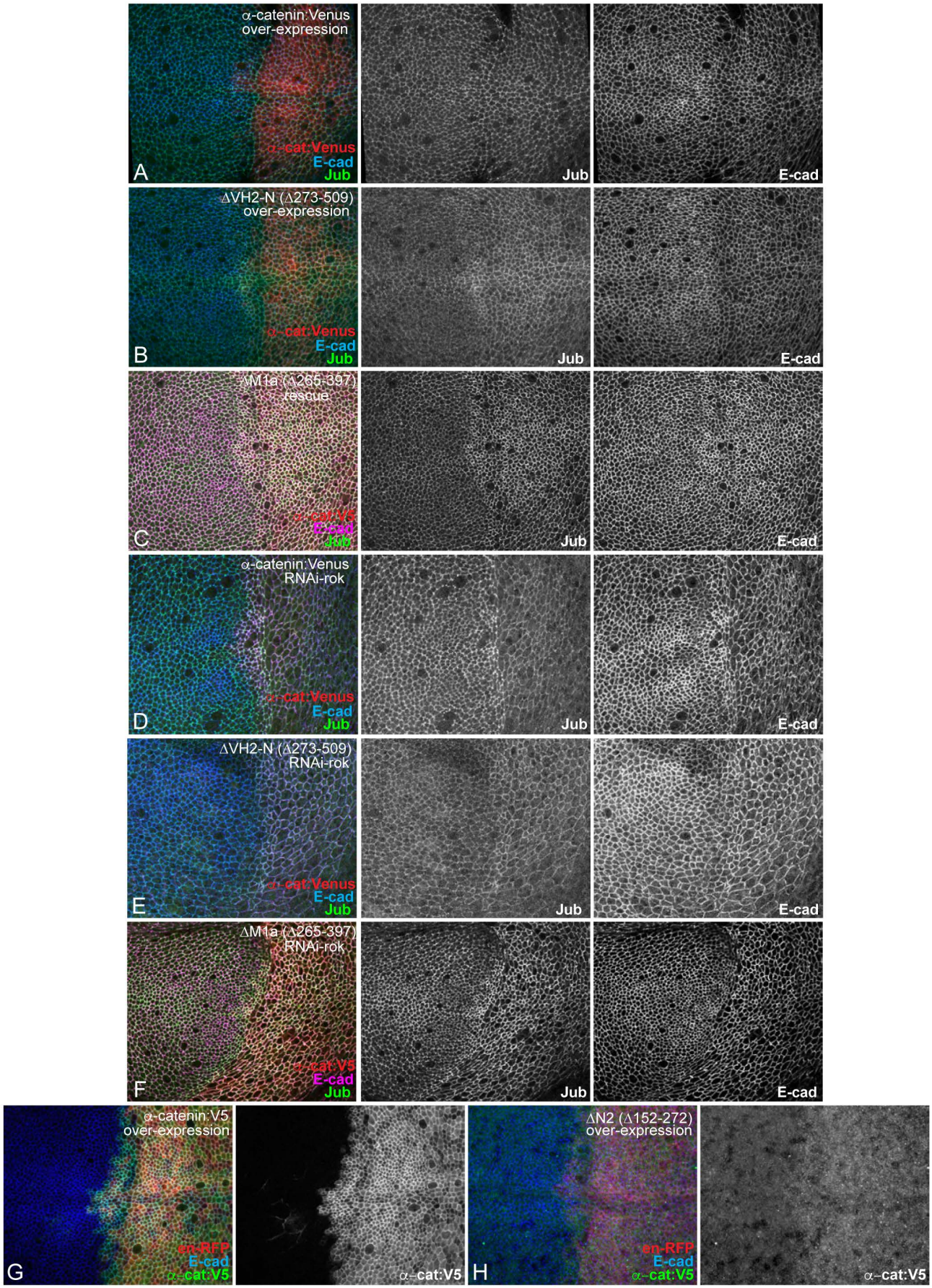

α-catenin:Venus over-expression
α-cat:Venus
E-cad
Jub
A
Jub
E-cad
ΔVH2-N (Δ273-509) over-expression
α-cat:Venus
E-cad
Jub
B
Jub
E-cad
ΔM1a (Δ265-397) rescue
α-cat:V5
E-cad
Jub
C
Jub
E-cad
α-catenin:Venus RNAi-rok
α-cat:Venus
E-cad
Jub
D
Jub
E-cad
ΔVH2-N (Δ273-509) RNAi-rok
α-cat:Venus
E-cad
Jub
E
Jub
E-cad
ΔM1a (Δ265-397) RNAi-rok
α-cat:V5
E-cad
Jub
F
Jub
E-cad
α-catenin:V5 over-expression
en-RFP
E-cad
α-cat:V5
G
α-cat:V5
ΔN2 (Δ152-272) over-expression
en-RFP
E-cad
α-cat:V5
H
α-cat:V5

Fig S1. Additional analysis of the influence of α-catenin deletions on Jub localization

Confocal images of wing imaginal discs, showing localization of E-cadherin (magenta/white or blue/white), Jub (green/white), and a marker for posterior cells (red). UAS-α-catenin constructs were expressed in posterior cells in these experiments, under *en-Gal4* control. Panels to the right show individual channels of the image. A) Expresses full-length Venus-tagged α-catenin. B) Expresses Venus-tagged ΔVH2-N α-catenin. C) Expresses UAS-RNAi α-catenin and V5-tagged ΔM1a α-catenin. D) Expresses UAS-RNAi α-catenin and full-length Venus-tagged α-catenin, plus UAS-RNAi-rok. E) Expresses UAS-RNAi α-catenin and Venus-tagged ΔVH2-N α-catenin, plus UAS-RNAi-rok. F) Expresses UAS-RNAi α-catenin and V5-tagged ΔM1a α-catenin, plus UAS-RNAi-rok. G) Expresses full-length V5-tagged α-catenin. H) Expresses V5-tagged ΔN2 α-catenin.

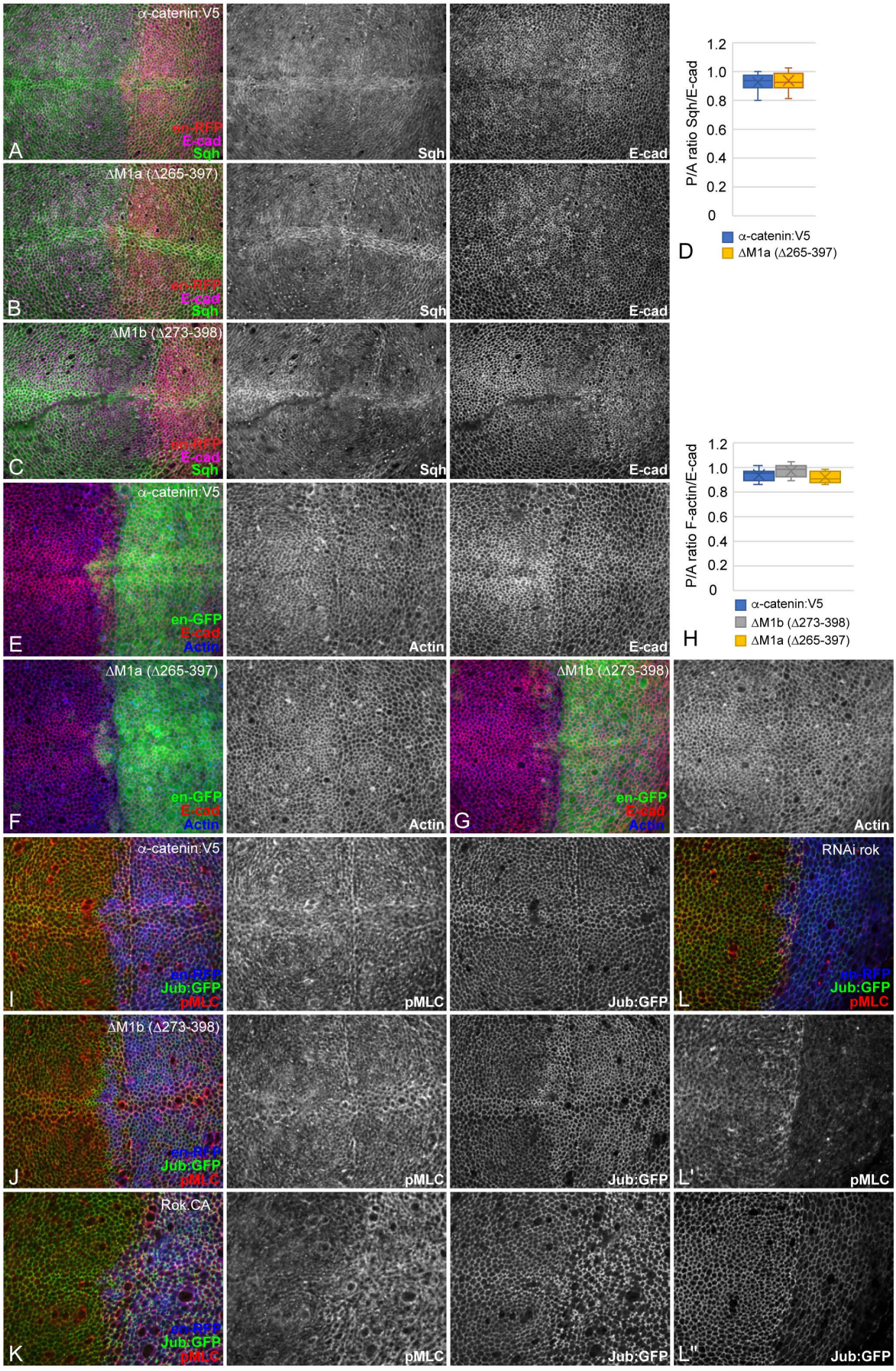
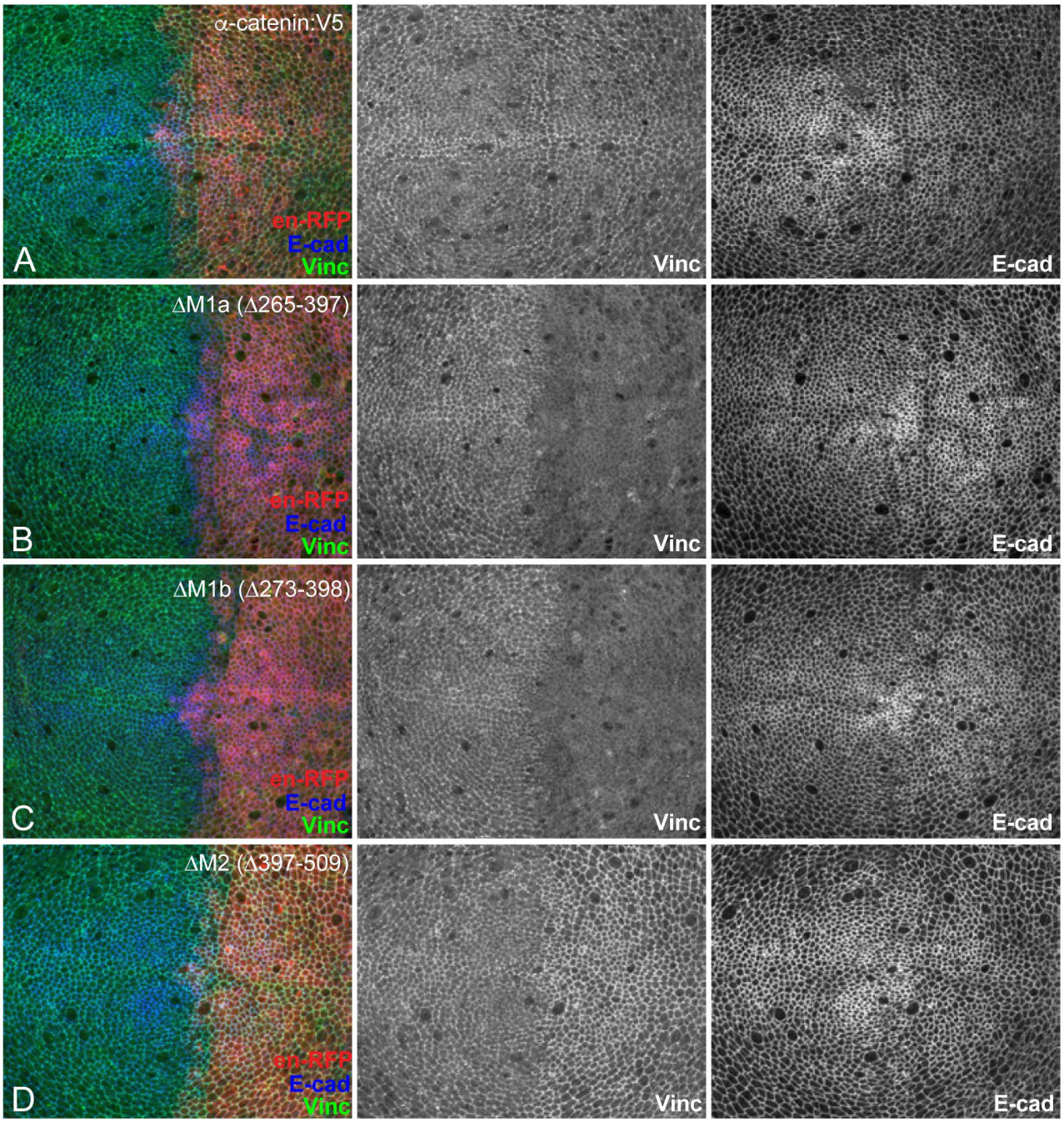


Fig S2. α-catenin deletions do not influence actin or myosin levels

A-C) Confocal images of wing imaginal discs, showing localization of E-cad (magenta/white), myosin light chain (Sqh, green/white), and a marker for posterior cells (red). UAS-RNAi α-catenin and UAS-α-catenin constructs were co-expressed in posterior cells in these experiments, under *en-Gal4* control. Panels to the right show individual channels of the image. A) Expresses full-length V5-tagged α-catenin. B) Expresses V5-tagged ΔM1a α-catenin. C) Expresses V5-tagged ΔM1b α-catenin. D) Quantitation of junctional myosin (Sqh, normalized to E-cad) in posterior cells as compared to anterior cells, in discs expressing the indicated constructs, displayed in a box plot. N = 10(full length), 9(ΔM1a). E-G) Confocal images of wing imaginal discs, showing localization of E-cad (red/white), F-actin (from phalloidin stain, blue/white), and a marker for posterior cells (green). UAS-RNAi α-catenin and UAS-α-catenin constructs were co-expressed in posterior cells in these experiments, under *en-Gal4* control. Panels to the right show individual channels of the image. E) Expresses full-length V5-tagged α-catenin. F) Expresses V5-tagged ΔM1a α-catenin. G) Expresses V5-tagged ΔM1b α-catenin. H) Quantitation of junctional F-actin (normalized to E-cad) in posterior cells as compared to anterior cells, in discs expressing the indicated constructs, displayed in a box plot. N = 12(full length), 13(ΔM1b), 8(ΔM1a). I-L) Confocal images of wing imaginal discs, showing localization of Jub:GFP (green/white), phospho-myosin light chain (pMLC, red/white), and a marker for posterior cells (blue). I,J) V5-tagged UAS-α-catenin full-length (I) or ΔM1b (J) were co-expressed with UAS-RNAi α-catenin; K) express activated Rok (Rok.CA); L) express rok RNAi, in posterior cells under *en-Gal4* control. Panels to the right (I-K) or below (L) show individual channels of the image.



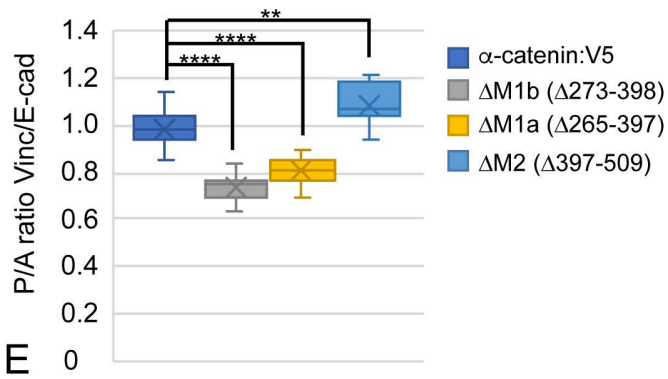


Fig S3. Analysis of the influence of α-catenin deletions on Vinculin localization

Confocal images of wing imaginal discs, showing localization of E-cadherin (blue/white), Vinculin:GFP (Vinc, green/white), and a marker for posterior cells (red). UAS-α-catenin constructs were expressed in posterior cells in these experiments, under *en-Gal4* control. Panels to the right show individual channels of the image. A) Expresses UAS-RNAi α-catenin and full-length V5-tagged α-catenin. B) Expresses UAS-RNAi α-catenin and V5-tagged ΔM1a α-catenin. C) Expresses UAS-RNAi α-catenin and V5-tagged ΔM1b α-catenin. D) Expresses UAS-RNAi α-catenin and V5-tagged ΔM2 α-catenin. E) Quantitation of Vinc (normalized to E-cadherin) in posterior cells as compared to anterior cells, in discs expressing the indicated constructs, displayed in a box plot. N = 11(full length), 14(ΔM1b), 14(ΔM1a), 13(ΔM2).

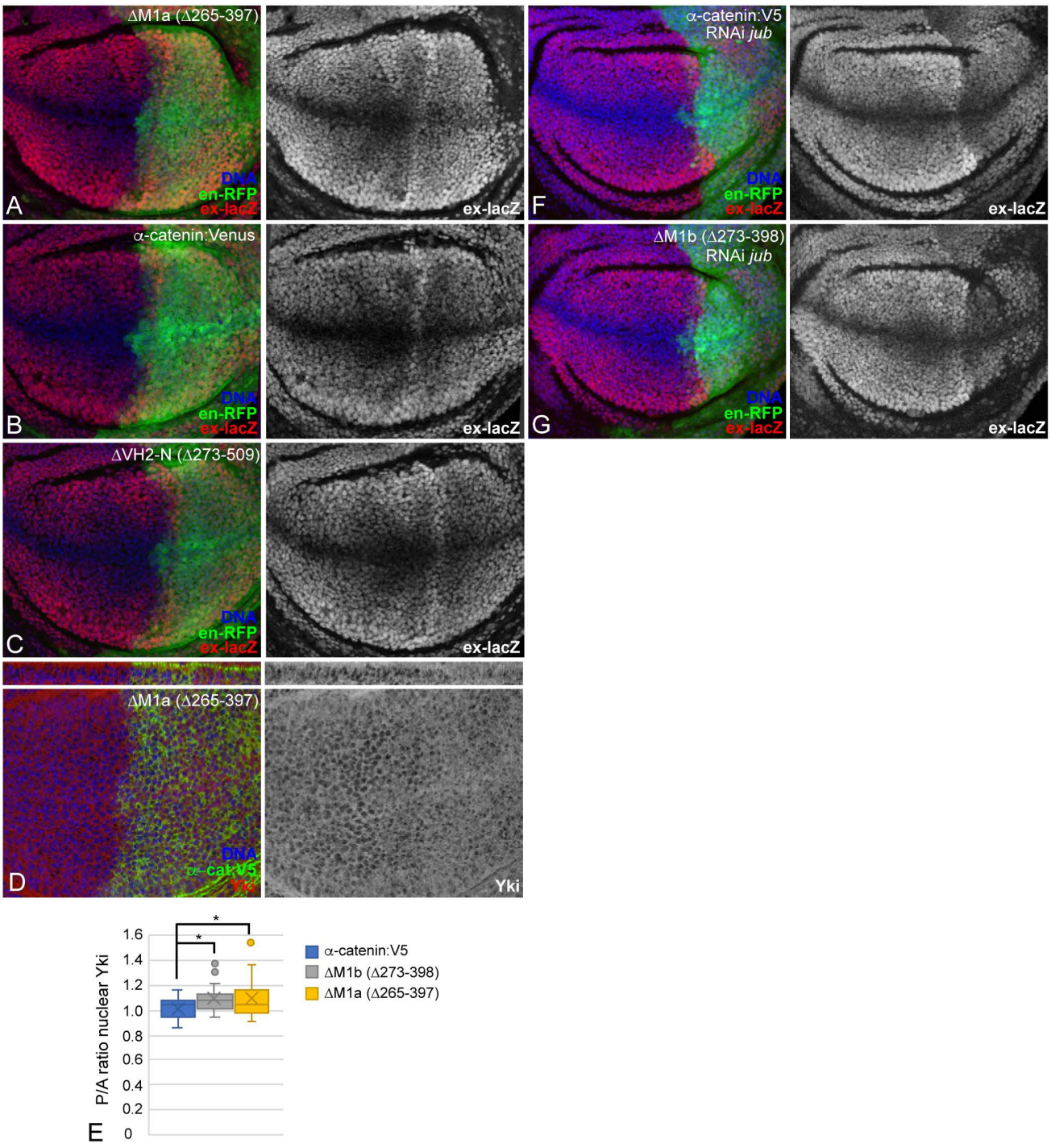


Figure S4. Additional analysis of the influence of α-catenin deletions on Yki activity

A-C) Confocal images of wing imaginal discs, stained for DNA (blue), ex-lacZ (red/white), and a marker for posterior cells (RFP, green). UAS-RNAi α-catenin and a UAS-α-catenin rescue construct were co-expressed in posterior cells in these experiments, under *en-Gal4* control. A) Expresses V5-tagged ΔM1a α-catenin. B) Expresses full-length Venus-tagged α-catenin. C) Expresses Venus-tagged ΔVH2-N α-catenin. D) Confocal image of wing imaginal disc, stained for DNA (blue), Yki (red/white), and a marker for posterior cells (green). UAS-RNAi α-catenin and V5-tagged ΔM1a α-catenin were co-expressed in posterior cells, under *en-Gal4* control.

Thin panel above shows vertical sections through the wing imaginal disc. Panel to the right show individual Yki channel of the image. E) Quantitation of nuclear Yki (defined by DNA staining) in posterior cells as compared to anterior cells, in discs expressing the indicated constructs, displayed in a box plot. N = 14(full length), 10(ΔM1a), 12 (ΔM1b). F,G) Confocal images of wing imaginal discs, stained for DNA (blue), ex-lacZ (red/white), and a marker for posterior cells (RFP, green). UAS-RNAi jub and a UAS-α-catenin construct were co-expressed in posterior cells in these experiments, under *en-Gal4* control. F) Expresses full length V5-tagged α-catenin. G) Expresses V5-tagged ΔM1b α-catenin.