Supplemental Data Figures

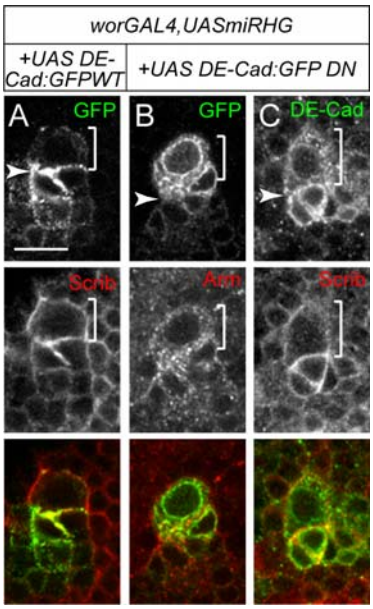


Figure S1, Related to Figure 5: PI3-kinase regulates levels of DE-Cadherin along the MB NB cortex
(A-C) Single channel images of MB NBs with colored overlay below. Wild type DE-Cad:GFP accumulates along newly generated MB NB:GMC contact sites (arrowhead). Expression of dominant negative DE-Cad:GFP in NBs disrupts endogenous DE-Cad and Armadillo (Arm).

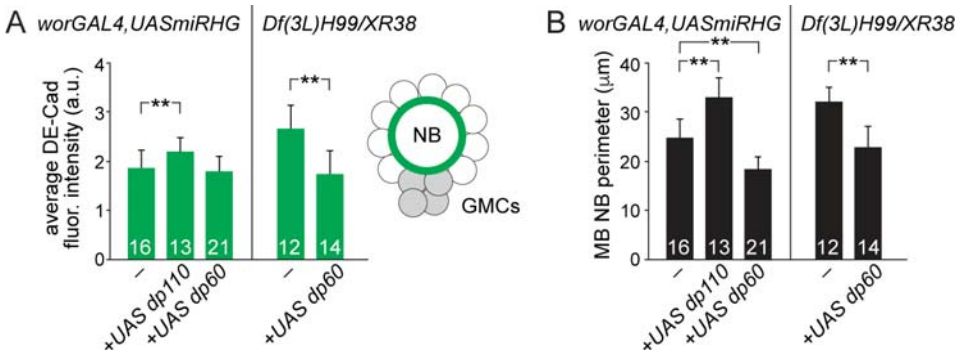
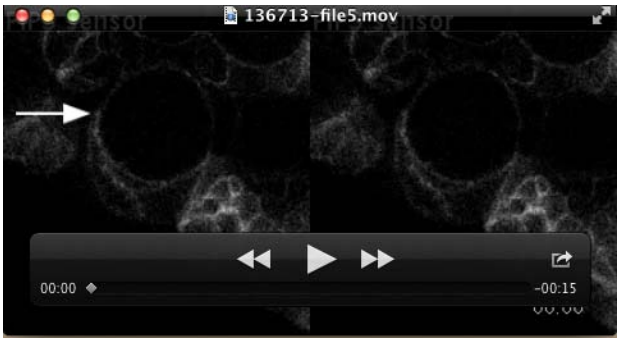


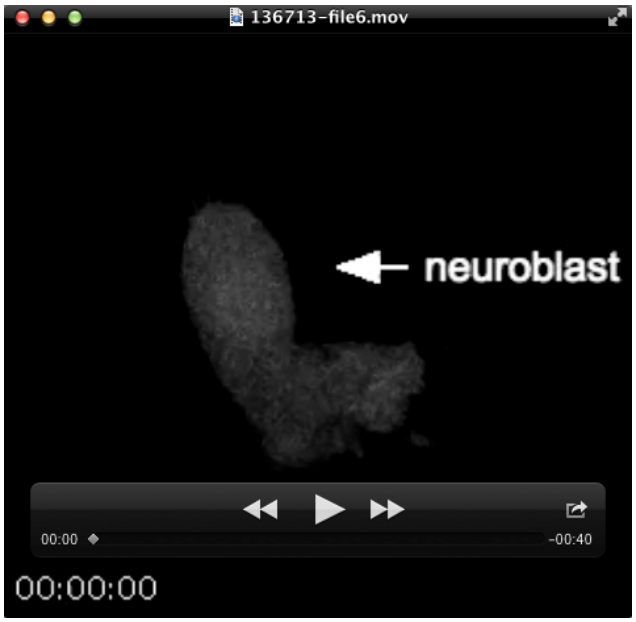
Figure S2, Related to Figure 5: PI3-kinase regulates levels of DE-Cadherin along the MB NB cortex

(A) Quantification of the average DE-cad fluorescence intensity per unit length of membrane across genotypes. Refer to methods for more info on fluorescence measurements. (B) Quantification of average length of the MB NB perimeter across genotypes. Column numbers equals number of MB NBs scored. **p-value <.001, two-tailed t-test.

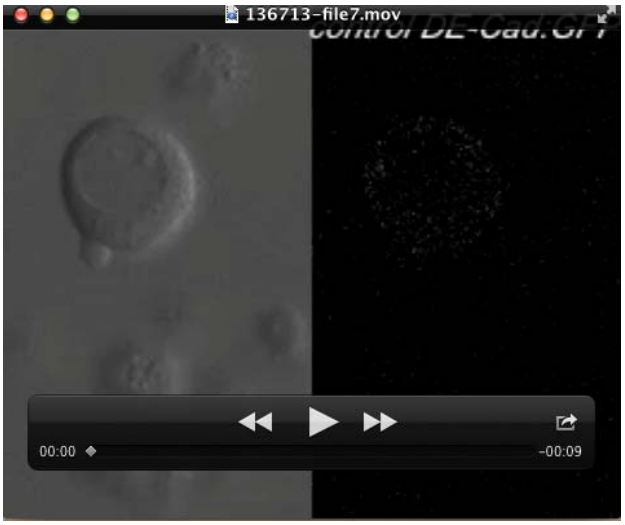
Movie 1, Related to Figure 4: PIP3 enrichment along the developing cleavage furrow in an asymmetrically dividing NB in primary culture
Time-lapse movie of a larval NB dividing in culture. The Venus fluorescent protein sequence is split into a N-terminal and a C-terminal half, each half fused to the PIP3-specific binding sequence of the GRP1-PH domain. Co-expressed as UAS-transgenes using worGal4, the N- and C-terminal Venus-GRP1-PH fragments are recruited to PIP3-rich plasma membrane domains where they complement to form fluorescent Venus-PIP3 reporter molecule. Single focal plane, imaged every 73 secs. Time stamp is mins:secs. First three of seven cell divisions shown.



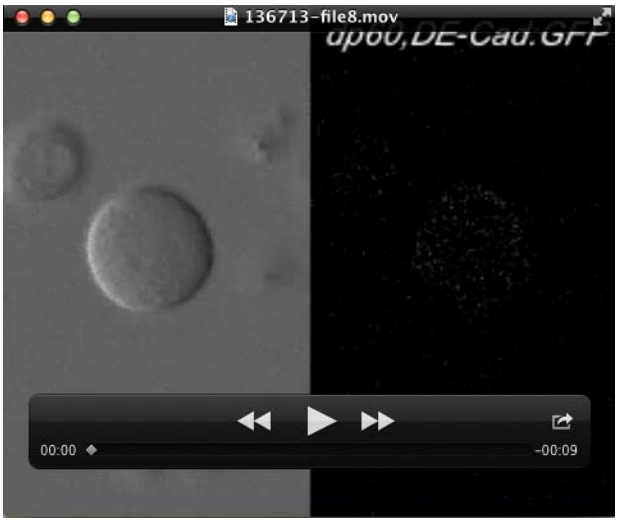
Movie 2, Related to Figure 4: PIP3 enrichment along the developing cleavage furrow in an asymmetrically dividing NB from a brain explant
Time-lapse movie of a dividing larval NB in a brain explant. The Venus fluorescent protein sequence is split into a N-terminal and a C-terminal half, each half fused to the PIP3-specific binding sequence of the GRP1-PH domain. Co-expressed as UAS-transgenes using worGal4, the N- and C-terminal Venus-GRP1-PH fragments are recruited to PIP3-rich plasma membrane domains where they complement to form fluorescent Venus-PIP3 reporter molecule. Single focal plane, imaged every 15 secs. Time stamp is mins:secs. White arrow denotes NB and yellow arrow denotes PIP3 sensor enrichment along the cleavage furrow.



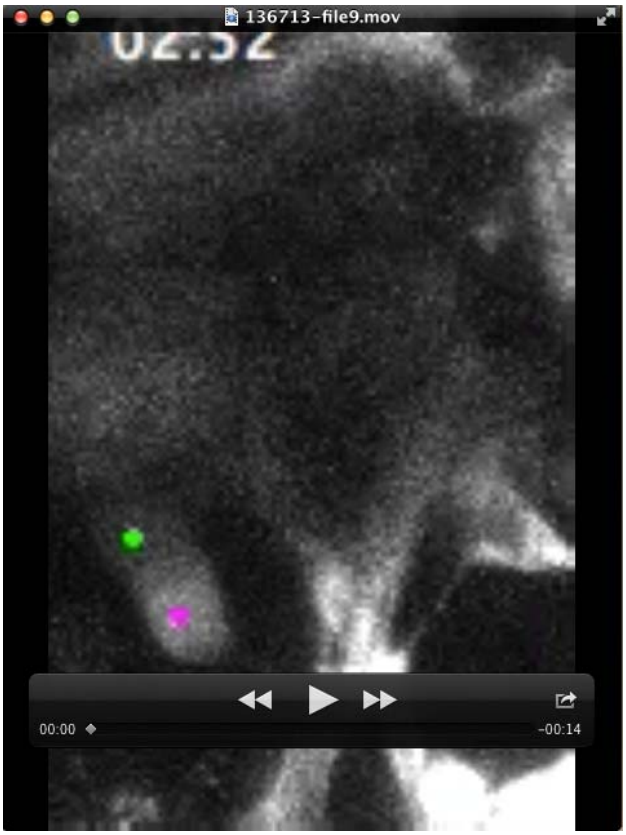
Movie 3, Related to Figure 4: PIP3 enrichment along the developing cleavage furrow in an asymmetrically dividing NB in primary culture
Time-lapse movie of a larval NB dividing in culture. GRP1-PH domain is fused to GFP and expressed using the tubulin promoter. Time stamp is mins:secs.



Movie 4, Related to Figure 6: DE-Cadherin localizes along newly formed NB:GMC contact sites following NB cell division
Time-lapse movie of a larval NB dividing in culture. DE-Cad:GFP localizes to the newly generated NB:GMC contact site. Single 1μm Z-plane, imaged every 120 secs. Time stamp is mins:secs and starts at abscission (00:00). First of eight cell divisions shown. Genotype: *wornGAL4,UAS-DE-Cadherin:GFP*.



Movie 5, Related to Figure 6: Localization of DE-Cadherin along newly formed NB:GMC contact sites requires PI3-kinase
Time-lapse movie of a larval NB dividing in culture. Single 1μm Z-plane, imaged every 128 secs. Time stamp is mins:secs and starts at abscission (00:00). First of three cell divisions shown. Genotype: *wornGAL4,UAS-dp60,UAS-DE-Cadherin:GFP*.



Movie 6, Related to Figure 7: MB NBs physically separate from their GMC daughters over time.
Time-lapse movie of a *pcna:GFP* expressing MB NB (green dot) and its recently born GMC daughter (purple dot) in a one-day-old *miRHG* adult brain. Maximum intensity projections (28x1.7μm Z-planes). Time stamp hrs:mins.