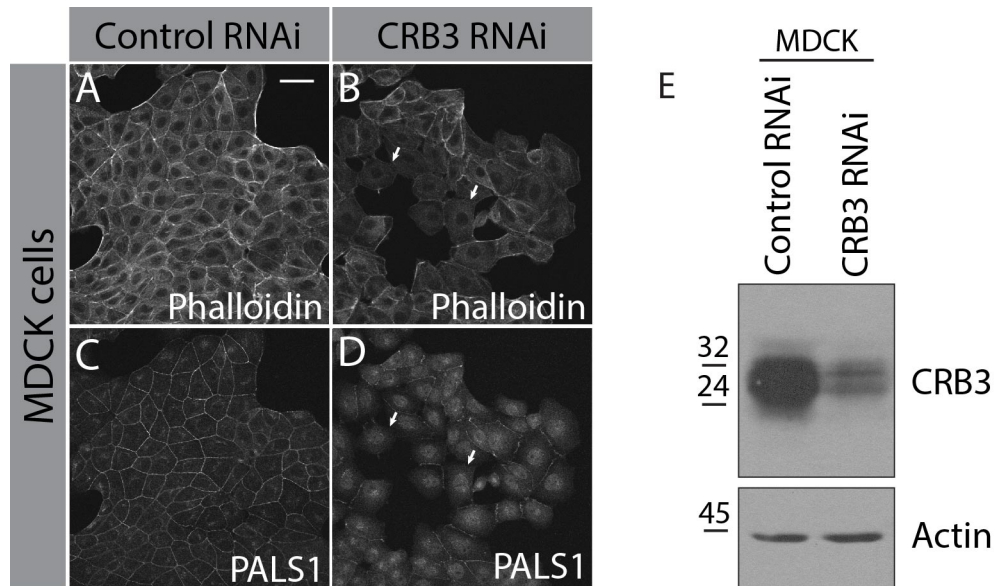
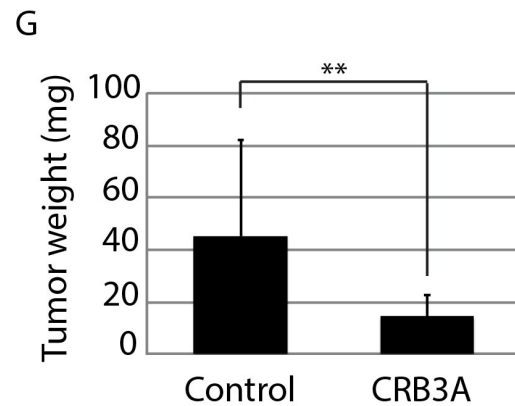
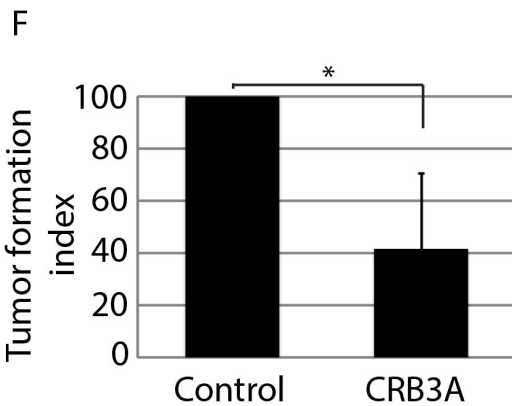
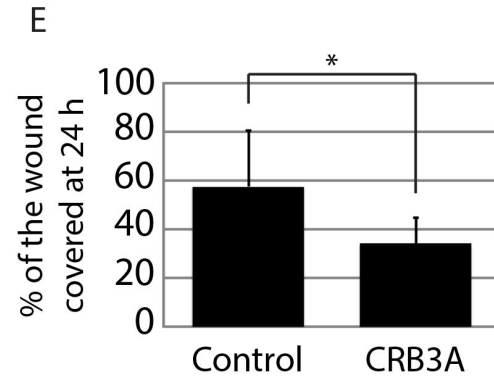
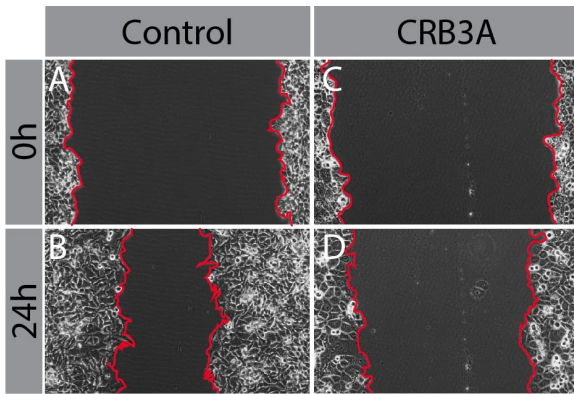


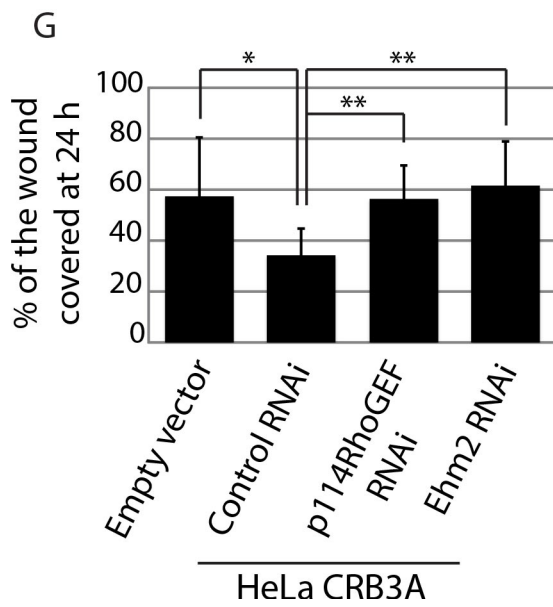
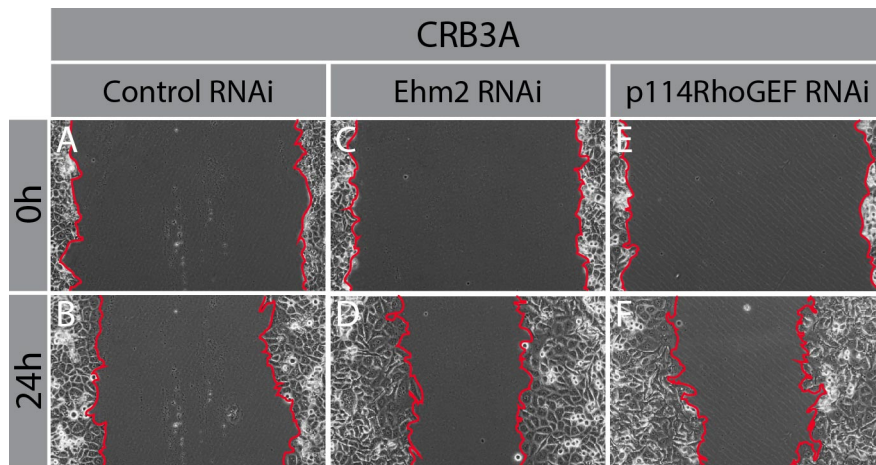
**FIG S1** CRB3A plays a broad role in actin network organization and epithelial cell morphology. (A) Western blot analysis of CRB3A expression (anti-CRB3 antibodies) in HEK 293T, MCF7 and MDA-MB-231 cells expressing or not Myc-tagged CRB3A. (B-G) Phase contrast images of control (empty vector) or Myc-CRB3A-expressing MCF7, MDA-MB-231 and HEK 293T cells. Scale bar in B represents 30  $\mu$ m and also applies to C-G. (H-S) F-actin staining (Phalloidin; H-M) or immunostaining using an anti-Myc antibody (N-S) performed on MCF7, MDA-MB-231 and HEK 293T cells transfected with the empty vector (control) or a plasmid encoding Myc-CRB3A (CRB3A). Scale bar in H represents 20  $\mu$ m and also applies to I-S.



**FIG S2** CRB3 contributes to actin organization in MDCK cells. (A-D) Phalloidin-mediated F-actin labeling (A, B) or immunostaining of PALS1 (C, D) performed on MDCK cells transfected with a control siRNA (control RNAi) or a siRNA targeting CRB3 (CRB3 RNAi). Arrows show cells partially detaching from the colony. Scale bar in A represents 40  $\mu$ m and also applies to B-D. (E) Western blot analysis of endogenous CRB3 expression levels in MDCK transfected with a control siRNA (control RNAi) or a siRNA targeting CRB3 (CRB3 RNAi).



**FIG S3** CRB3A limits cell migration and tumorigenic growth. (A-D) Monolayer of control or Myc-CRB3A-expressing HeLa cells were imaged immediately after wounding (0 h ; A, C), and then 24 h later (24 h ; B, D). (E) Histogram showing the percentage of the wound covered by control or Myc-CRB3A-expressing HeLa cells after 24 h. (F) Control and Myc-CRB3A-expressing HeLa cells were injected in nude mice (n = 24 injection sites). The number of tumor formed relative to the total number of injection sites (tumor formation index; expressed as percentage) is shown in the histogram. Three independent experiments were performed, and error bars represent standard deviation. (G) Histogram showing the average weight of tumors formed by control or Myc-CRB3A expressing HeLa cells. Statistical significance:  $p < 0.05$  \*,  $p < 0.01$  \*\*.



**FIG S4** Ehm2 and p114RhoGEF act downstream of CRB3A to limit migration. (A-F) Wound healing assays performed on Myc-CRB3A-expressing HeLa cells transfected with a scrambled siRNA (Control RNAi), a siRNA targeting Ehm2 (Ehm2 RNAi) or a siRNA against p114RhoGEF (p114RhoGEF RNAi). The percentage of the wound covered after 24 h was quantified and plotted in the histogram depicted in (G). Statistical significance:  $p < 0.05$  \*,  $p < 0.01$  \*\*.