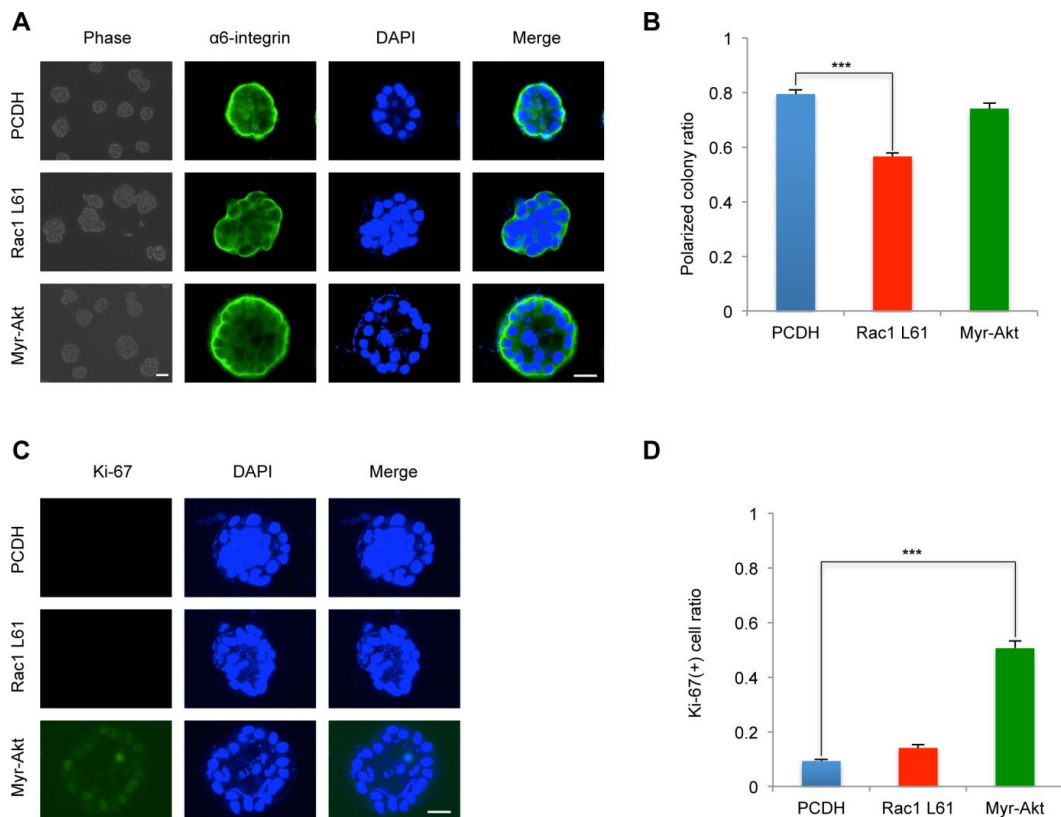
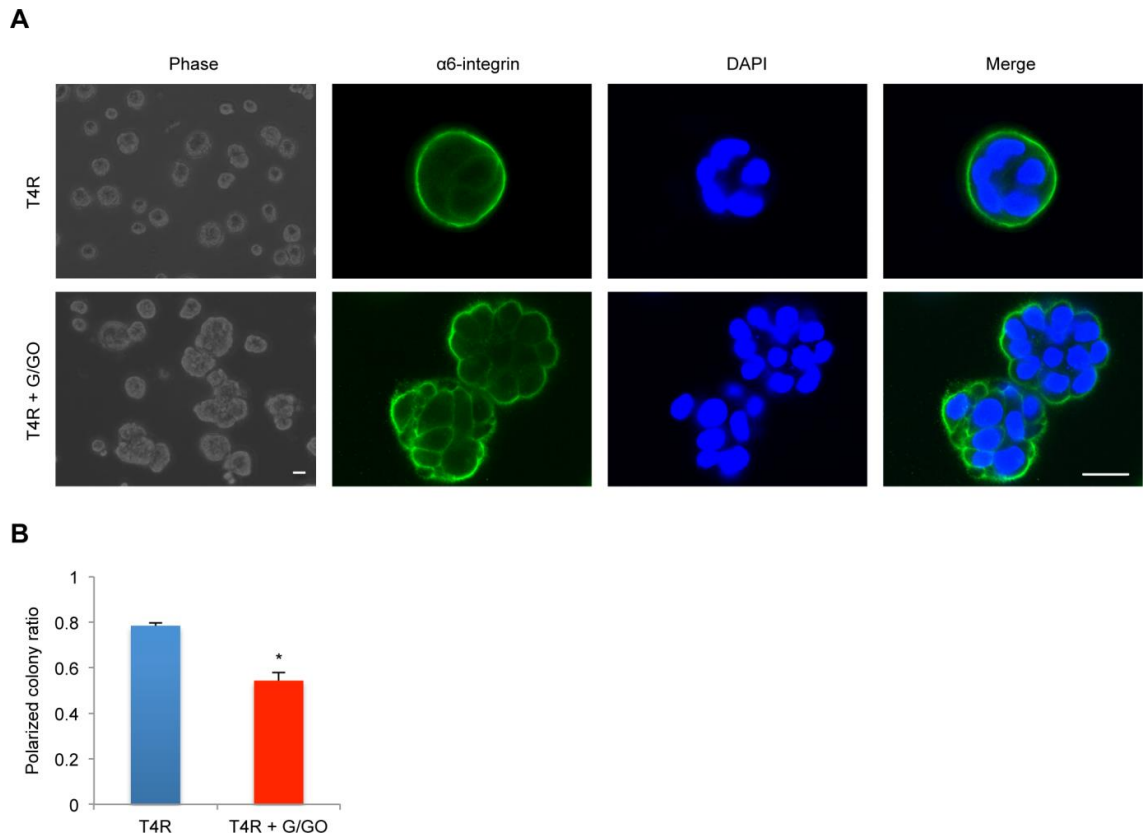


**Fig. S1. Introduction of constitutively activate RAC1 disrupts basal polarity of S1 cells in 3D culture.** (A) Representative phase (*left*) and confocal (3 *right*) images show the morphology and  $\alpha 6$ -integrin staining of RAC1 L61- and Myr-Akt-activated S1 cells. Blue: DAPI; Green:  $\alpha 6$ -integrin; Scale bars: 20 $\mu$ m. (B) Graphic representation of polarity, as determined by basal  $\alpha 6$ -integrin, in cells obtained from (A). Presented data are the percentage of polarized colonies from three experiments and are the mean $\pm$ s.e.m. with n=3. Statistically significant values are indicated with \*\*\*p<0.001. (C) Representative phase (*left*) and fluorescent (2 *right*) images of Ki-67 staining to determine cell proliferation. Blue: DAPI; Green: Ki-67; Scale bars: 20 $\mu$ m. (D) Graphic representation of cell proliferation of data from (C). The proliferation rate was significantly increased in Myr-Akt-activated S1 cells. Presented data are the mean ratio (Ki-67 positive:total cells)  $\pm$  s.e.m. of stained cells with n = 3. Statistically significant values are indicated with \*\*\*p<0.001.



**Fig. S2. Introducing constitutively activate RAC1 disrupts basal polarity of MCF-10A cells in 3D culture.** (A) Representative phase (*left*) and confocal (*3 right*) images show the morphology and  $\alpha 6$ -integrin staining of RAC1 L61- and Myr-Akt-activated MCF-10A cells. Blue: DAPI; Green:  $\alpha 6$ -integrin; Scale bars: 20 $\mu$ m. (B) Graphic representation of polarity, assessed by basal  $\alpha 6$ -integrin, from data obtained in (A). Presented data are the percentage of polarized colonies from three experiments and are the mean $\pm$ s.e.m. with n=3. Statistically significant values are indicated with \*\*\*p<0.001. (C) Representative phase (*left*) and fluorescent (*2 right*) images of Ki-67 staining to determine cell proliferation. Blue: DAPI; Green: Ki-67; Scale bars: 20 $\mu$ m. (D) Graphic representation of cell proliferation of data from (C). The proliferation rate was significantly increased in Myr-Akt-activated MCF-10A cells. Presented data are the mean $\pm$ s.e.m. of stained cells in Ki-67 positive:total with n=3. Statistically significant values are indicated with \*\*\*p< 0.001.



**Fig. S3. Elevating ROS levels disrupts tissue polarity in T4R cells.** (A) Representative phase (*left*) and confocal (*3 right*) images of  $\alpha 6$ -integrin staining in control or G/GO-treated T4R cells after 6 days of 3D culture. Blue: DAPI; Green:  $\alpha 6$ -integrin; Scale bars: 20 $\mu$ m. (B) Graphic representation of polarized colonies as assessed by  $\alpha 6$ -integrin staining. Polarity is disrupted in G/GO treated T4R cells. Presented data are the mean $\pm$ s.e.m. with n=3. Statistically significant values are indicated with \*\*\*p<0.001.