

### **Supplementary Figure 1**

Immunoblotting for total Cx43 protein levels in whole cell extracts from MCF7 cells treated with vehicle, R-pep, or ACT.

### **Supplementary Figure 2**

(A) Immunoblotting for LC3B processing in MCF7 cells treated with vehicle, R-pep, or ACT, in the presence or absence of chloroquine (100  $\mu$ M). (B) Immunoblotting for pAKT and pERK1/2 in whole cell extracts from MCF7 cells treated with vehicle, R-pep, or ACT.

### **Supplementary Figure 3.**

(A) MCF10A cells were treated with R-pep (200  $\mu$ M), or ACT1 (200  $\mu$ M) and assessed for Immunofluorescence staining and imaging of Cx43 (green). Wheat germ agglutinin (WGA) in red was used to stain cell membranes. (B) MCF10A cells were treated with R-pep (200  $\mu$ M) or ACT1 (200  $\mu$ M) and assessed for gap-FRAP.

### **Supplementary Figure 4.**

Connexin 43 activity and expression after ACT1 treatment in BT474 cells. BT474 cells were treated with vehicle, R-pep (200  $\mu$ M), or ACT1 (200  $\mu$ M) and assessed for (A) gap-FRAP. Dunnett's Multiple Comparison Test was used to determine statistical significance \* =  $p < 0.05$  vs Vehicle or R-Pep;  $\pm$  SEM (B) Immunofluorescence staining and imaging of Cx43 (green) in BT474 cells treated with R-pep or ACT1. Wheat germ agglutinin (WGA) in red was used to stain cell membranes.

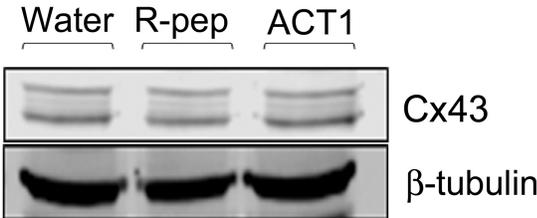
### **Supplementary Figure 5.**

p27 expression levels are not altered by ACT1. Whole cell extracts isolated from MCF10A, MCF7, and BT474 cells treated with R-pep (100  $\mu$ M), or ACT1 (100  $\mu$ M) were immunoblotted for p27.

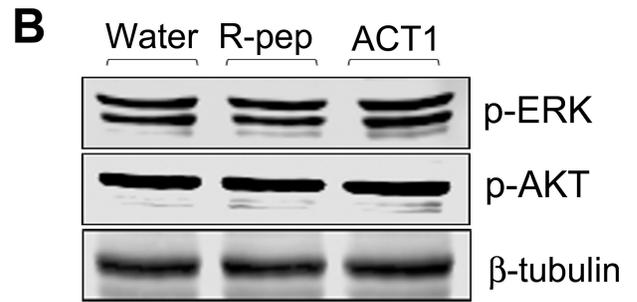
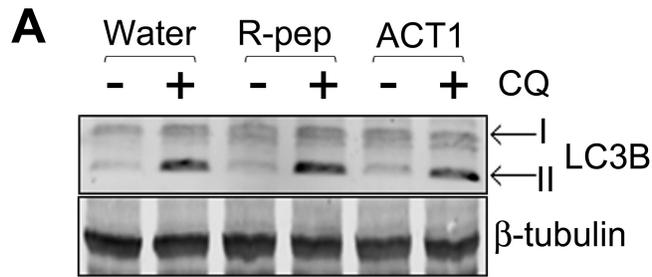
**Supplementary Figure 6.**

Differential expression of Cx26 and Cx46 in non-transformed breast epithelial cells and breast cancer cell lines. Whole cell extracts isolated from MCF10A, MCF7, BT474, and MDA MB 231 cells were immunoblotted for Cx26 and Cx46.

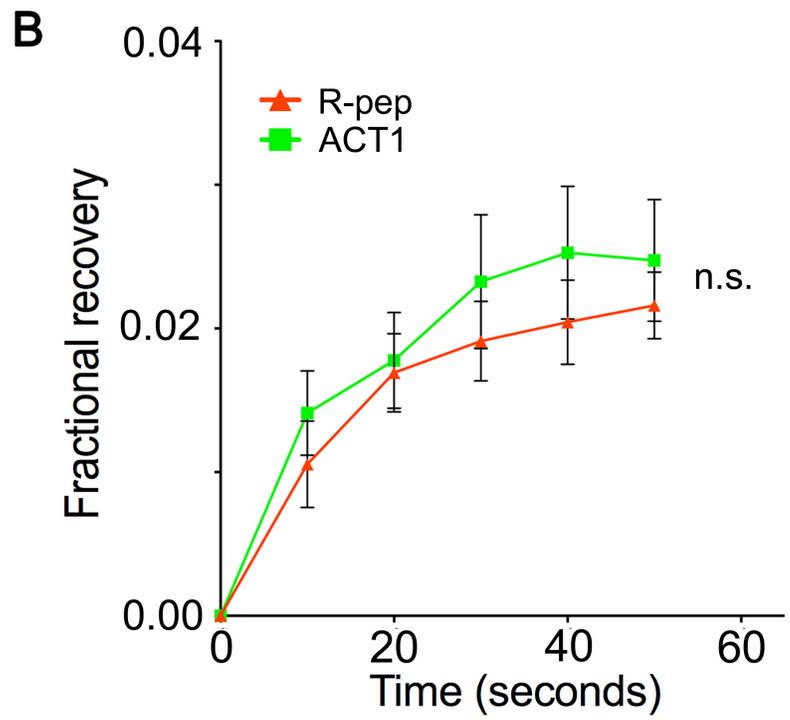
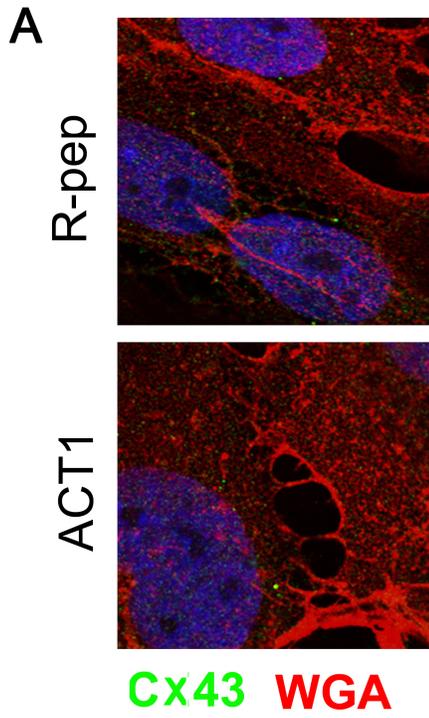
# Supplementary Figure 1



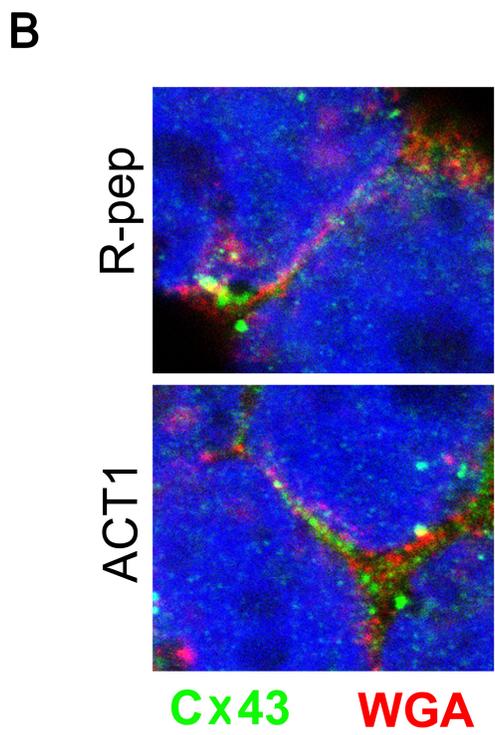
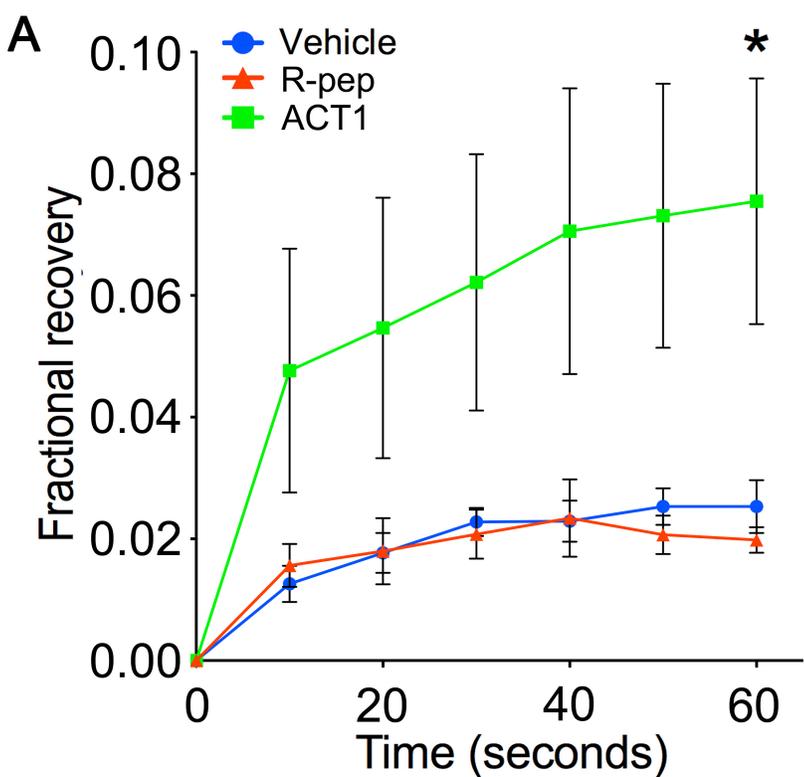
# Supplementary Figure 2



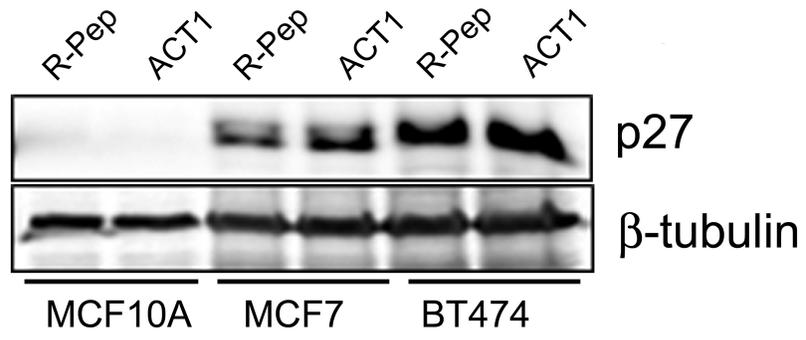
# Supplementary Figure 3



# Supplementary Figure 4



# Supplementary Figure 5



# Supplementary Figure 6

