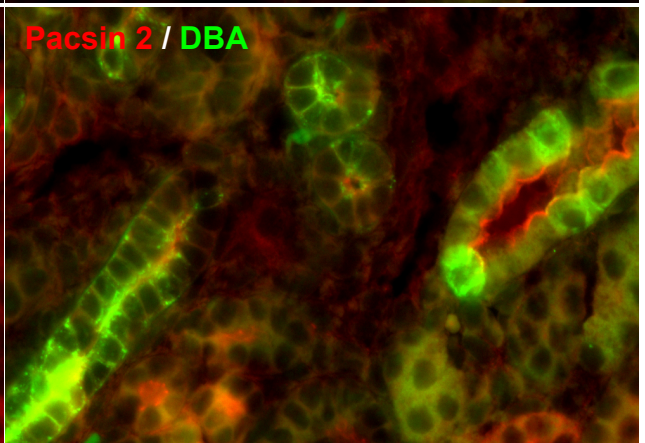
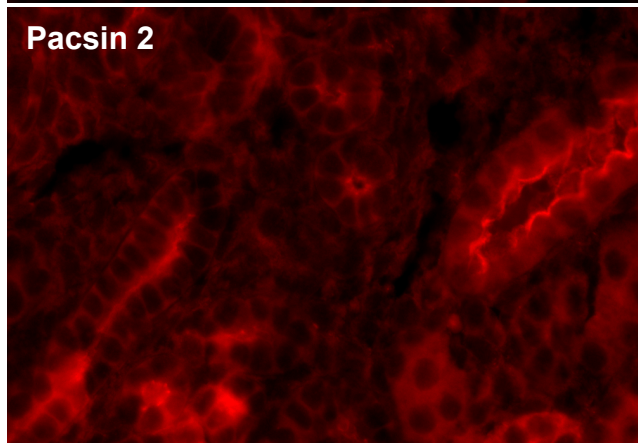
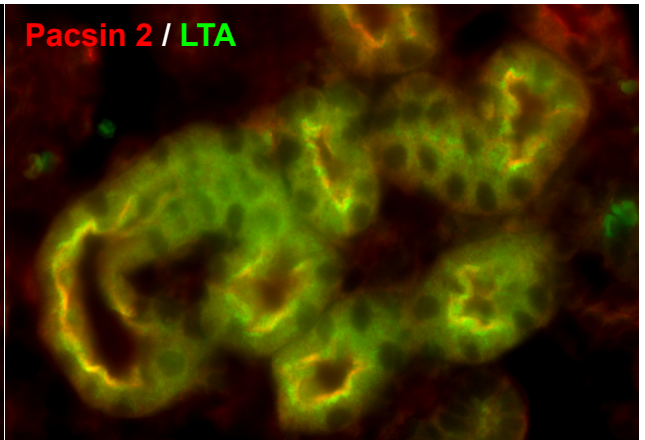
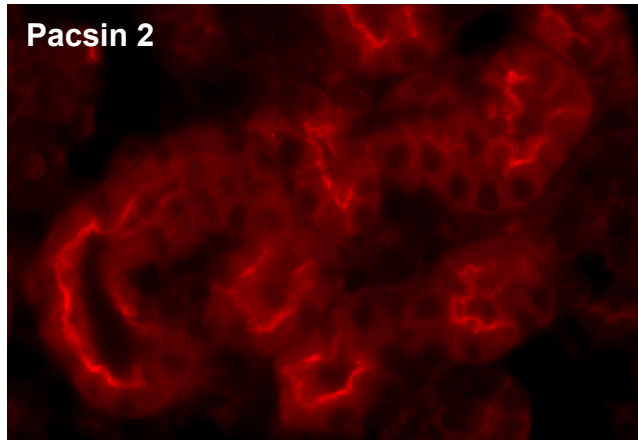
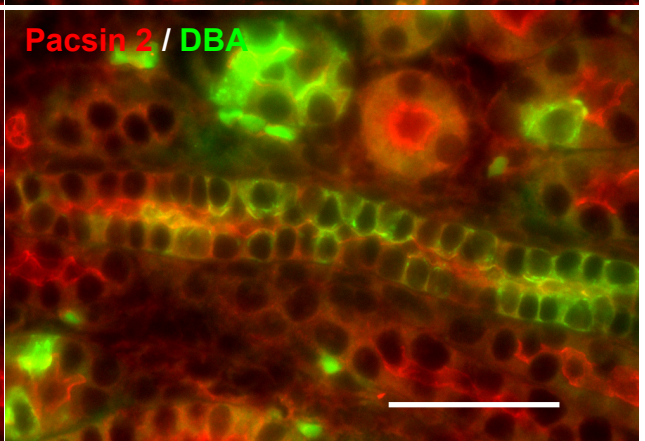
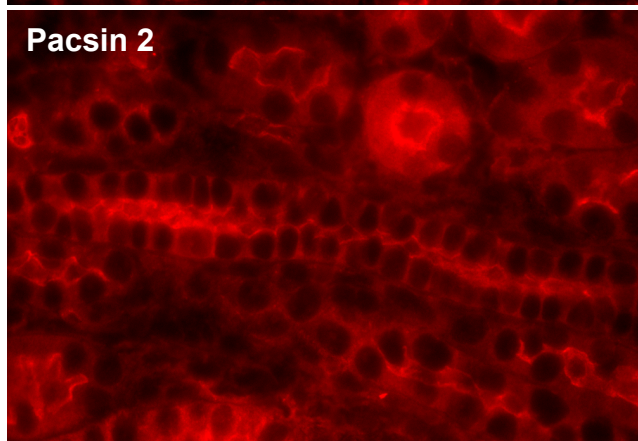
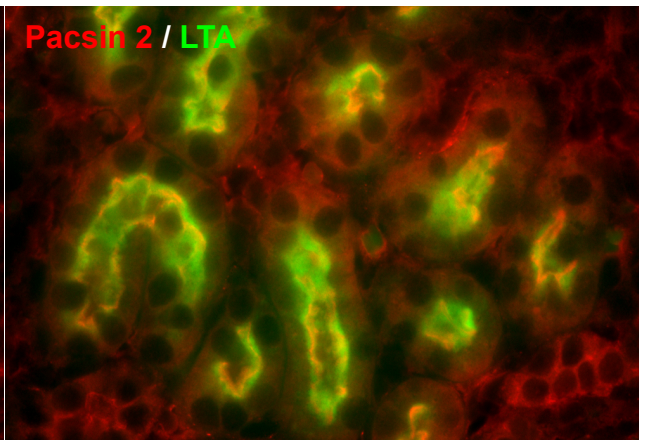
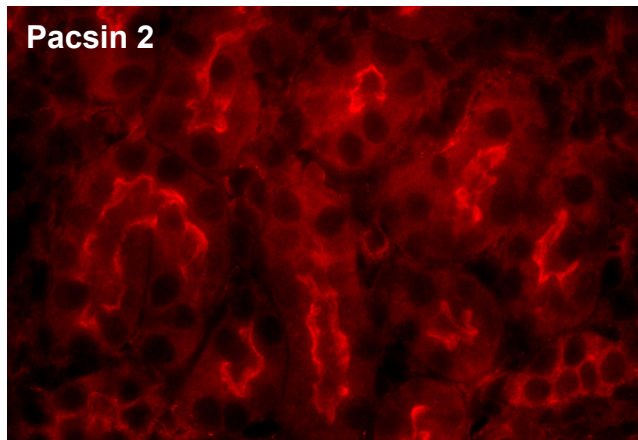


Supplementary Figure 1

Eembryonic day 15.5

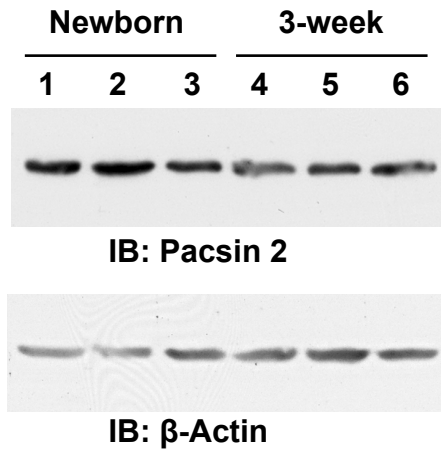


Eembryonic day 18.5

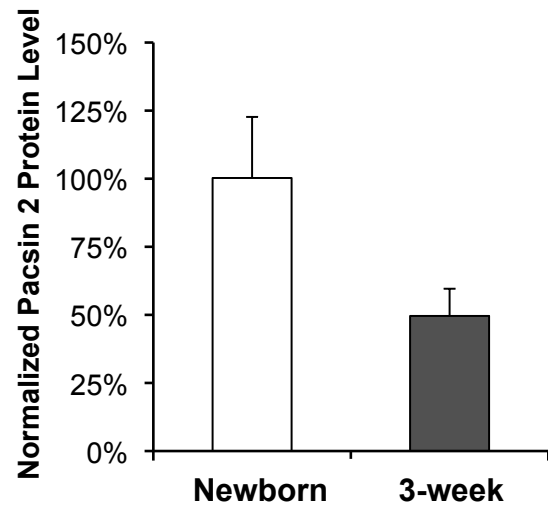


Supplementary Figure 2

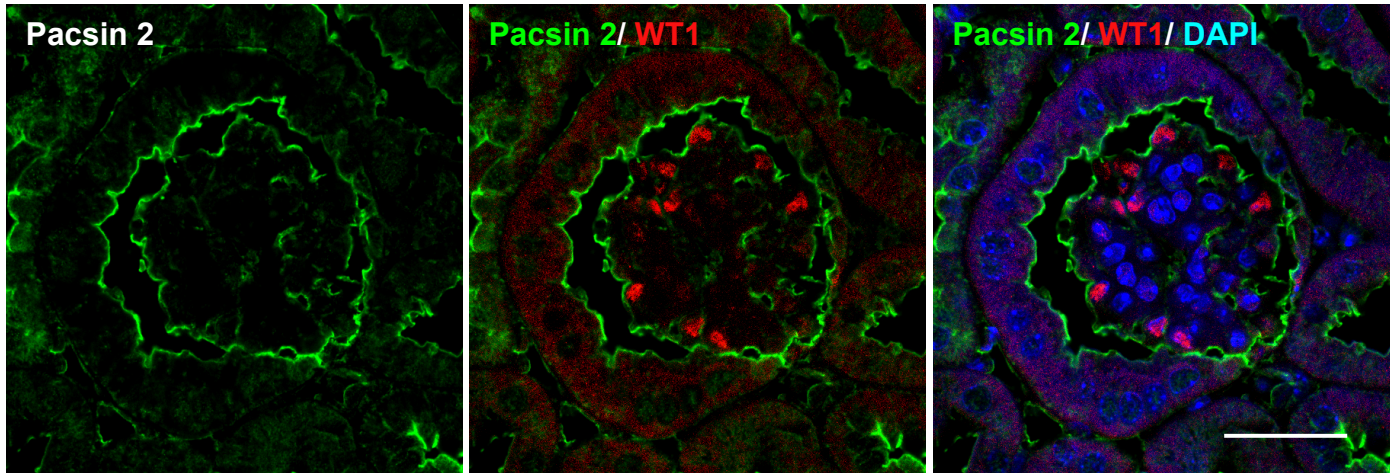
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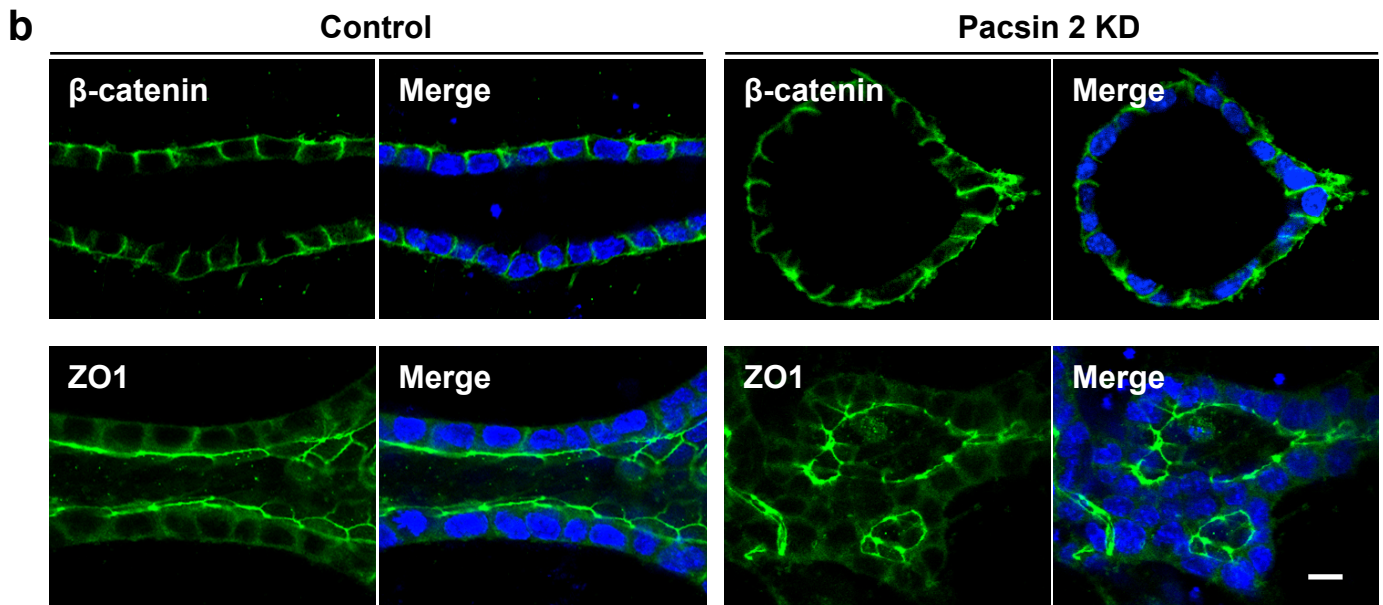
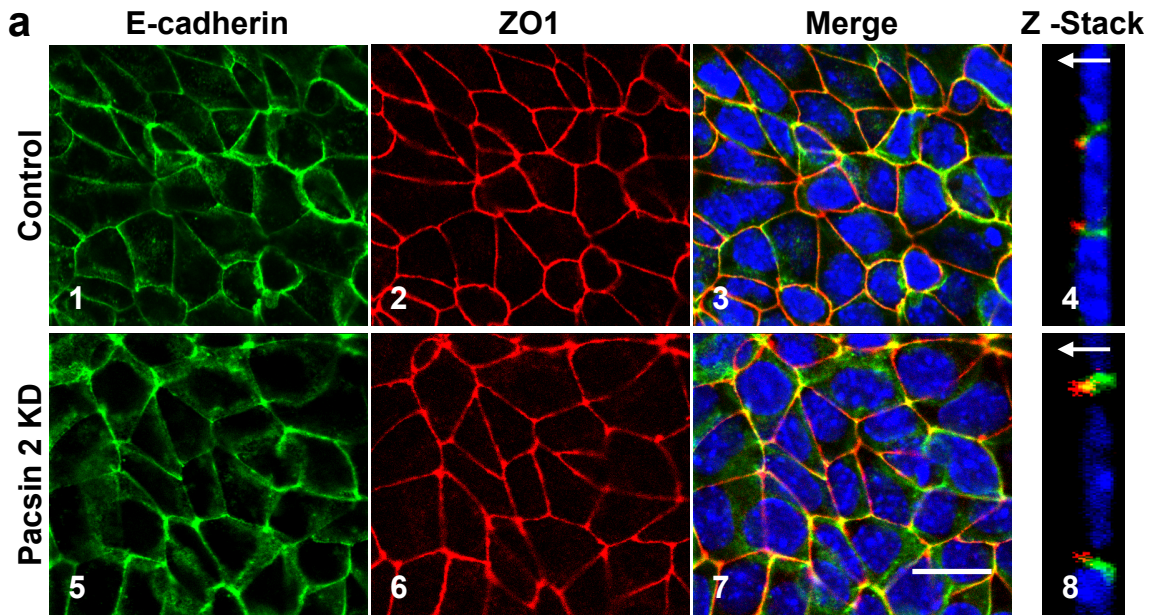
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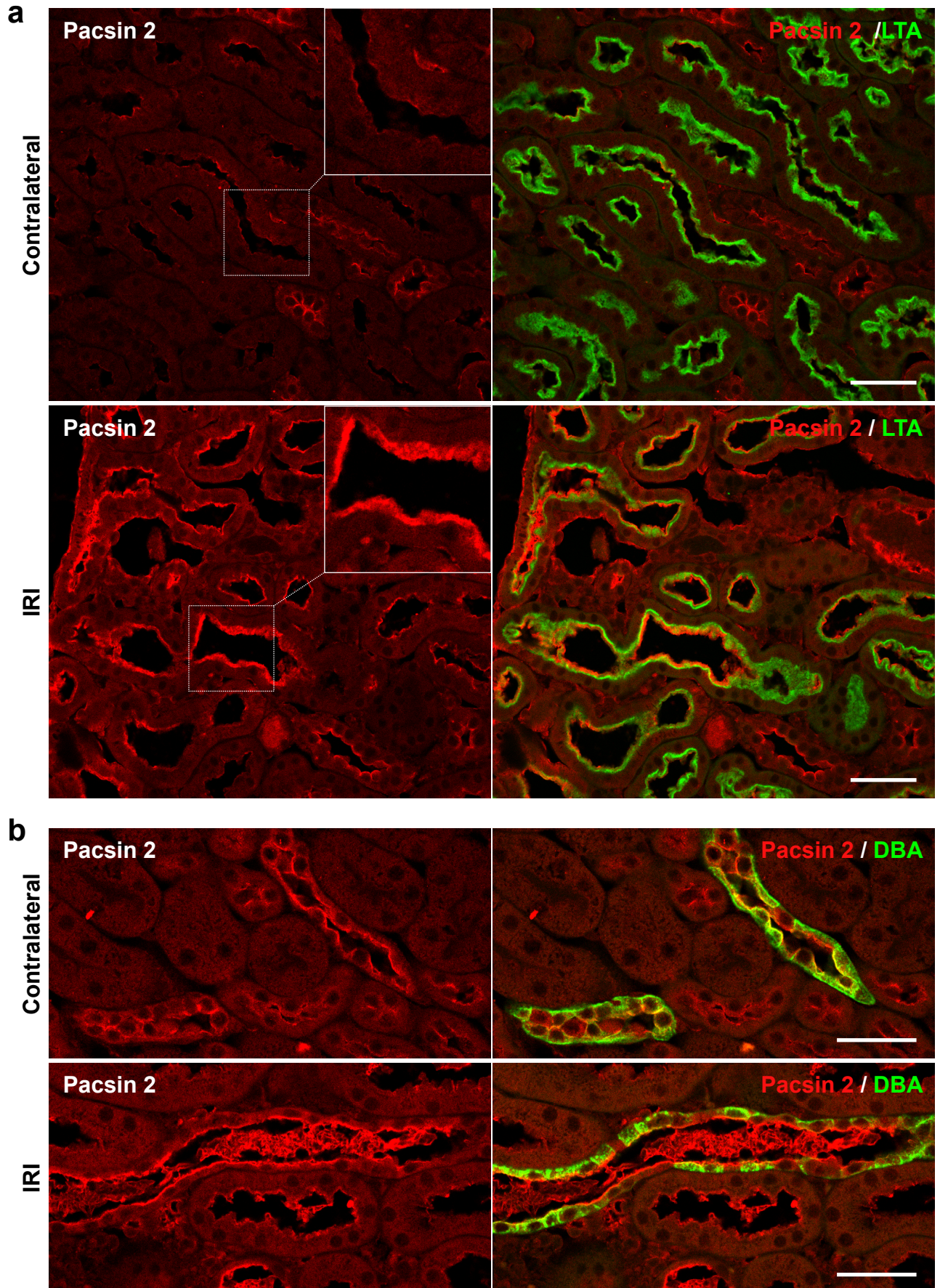
Supplementary Figure 3



Supplementary Figure 4



Supplementary Figure 5



Supplementary Fig. 1. Strong Pacsin 2 expression in apical membrane of LTA⁺ proximal and DBA⁺ collecting tubules in embryonic day (a) 15.5 and (b) 18.5 kidneys. Scale bar stands for 50 μ m.

Supplementary Fig. 2. (a) Western blot revealed a remarkable reduction of Pacsin 2 in 3-week old kidneys compared to the newborn kidneys. (b) The Pacsin 2 protein levels were normalized to β -Actin in each kidney; and the newborn kidneys were used for the reference and set at 100%. Error bars represent \pm standard deviation. (n=3). The significance was calculated by Student's T-test. P< 0.05.

Supplementary Fig. 3. Confocal images show that Pacsin 2 is expressed in the parietal epithelial cells of the Bowman's capsule and in the plasma membrane of the podocytes in the glomerular tufts in adult 3-months old mouse kidneys. Scale bar stands for 50 μ m. 60X magnification.

Supplementary Fig. 4. Pacsin 2 knockdown does not affect the apical-basal polarity. (a) Pacsin 2 knockdown and control mIMCD3 cells exhibit normal tight-junctions and cell-cell adhesions as analyzed by confocal microscopy. (1-3, 5-7) X-Y images. (4, 8) Z-stack images. Tight-junctions are labeled with ZO1 while cell-cell adhesions are stained with E-cadherin. Scale bar stands for 10 μ m. (b) In 3D collagen gels, both ZO1 and β -Catenin preserved a normal localization in structures formed by Pacsin 2 knockdown mIMCD3 cells, compared to tubules formed by control mIMCD3 cells in a tubulogenesis assay. Scale bar stands for 10 μ m.

Supplementary Fig. 5. Pacsin 2 expression in normal and ischemia-reperfusion injured (IRI) kidneys. (a) Pacsin 2 expression is significantly upregulated in LTA⁺ proximal tubules ischemic kidney comparing with non-ischemic kidneys, especially in the brush border (insert). Insets show enlarged images of respective boxed areas. (b) Apical Pacsin 2 expression is also increased in DBA⁺ collecting tubules in ischemic kidneys. Scale bar stands for 50 μ m.