Legends to suppl. figures

Supplemental Figure 1

A-D. Megalin expression and subcellular localization was preserved in experimental (day9) and control animals (immuno-histological staining for megalin, hematoxylin counter staining). **E-H'.** Exemplary transmission electron micrographs (TEM) of glomerular capillaries of experimental (E, G, H) and control (F) animals. A high power view to evaluate the podocyte foot processes and fp effacement (arrowheads) is shown in E', F', G', and H'; PECs are marked by asterisks.

Supplemental Figure 2

Semi-thin serial sections of a representative glomerulus affected by ablation of PECs. Cellular debris and protein can be observed within Bowman's space. The urinary orifice towards the proximal tubule remains open (original magnification x4000).

Supplemental Figure 3

Fluid intake of 10 experimental animals upon induction of PEC ablation.

Supplemental Figure 4

A-B' Quantification of cellular proliferation within the papilla (A) or the tubular cells of the renal cortex (B). One day before sacrifice, experimental mice received BrdU injections. Proliferating cells were counted on BrdU stained paraffin sections (representative images are shown on A', B'). A significant and relatively short phase of cellular proliferation was observed towards the end of the induction period with Dox. Cellular proliferation quickly reverted to almost normal levels after Dox administration was

stopped. **C-G.** Sequential images of the renal papilla (PAS stained paraffin sections). **C.** No abnormalities are observed on day 4 of Dox administration. **D.** After 7 days of Dox, most of the tubuli contain protein. **E.** On day 14, protein and/or cellular debris is present within the lumen of some tubules. **F.** On day 35, most tubules look normal. Some areas of interstitial fibrosis can be seen (arrows). **G.** On day 40, this example shows no major abnormalities. **H-H''.** Semi thin sections of the kidney after 9 days of Dox treatment. **H.** Higher magnification of the same area showing protein filled tubuli and cellular debris (arrow) (x2000). **H''.** A mitotic figure within a tubular cell (arrow) of a part of a tubule that is partially denuded of cells and filled cellular debris. **I-J'.** Immunofluorescent LTA stainings (Lotus tetragonolobus, green; nuclear Hoechst staining, blue), a marker for proximal tubules, showed to obvious differences between controls (quadruple transgenic animal without dox treatment) and experimental animals 26 days after induction with Dox (x1000). **K-L'.** THP (Tamm Horsfall Protein, red), a marker for the thick ascending loop of Henle, also showed a similar staining pattern to controls. Cellular debris was stained within the lumen of experimental animals (x2000).

Supplemental Figure 5

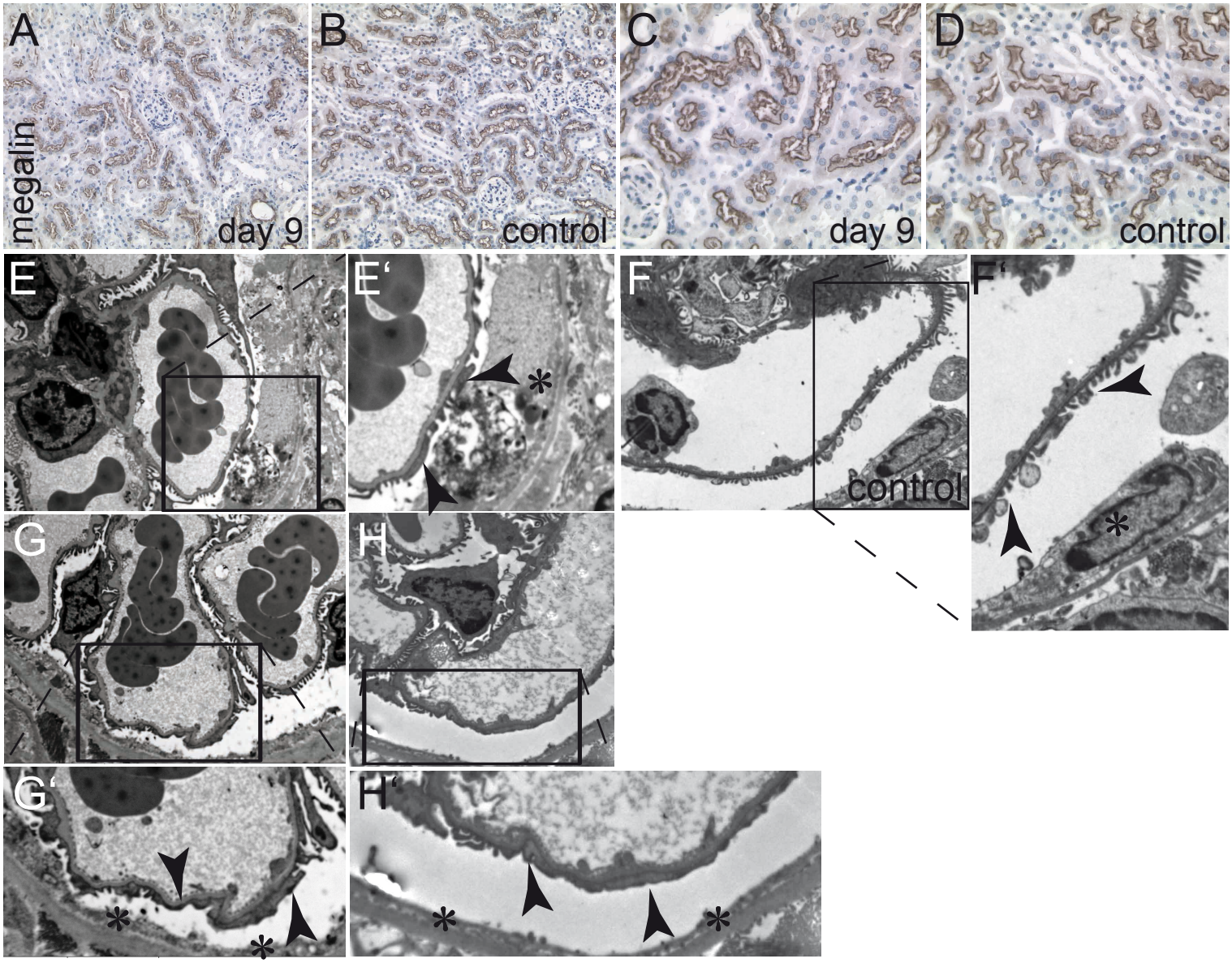
A-D. Immunofluorescent double staining for PEC activation marker CD44 (red) and the global PEC marker claudin-1 (green) at different time points. **A-A''.** Negative control of a quadruple transgenic animal that had not received Dox. PECs show claudin-1 positive tight junctions (arrow) but do not express CD44. **B-B''.** After four days of induction with Dox, CD44 expression can be observed in some PECs co-localizing with claudin-1 (arrows). **C-C''.** After 9 days of Dox, most PECs stain positive for CD44 (arrows). **D-D''.**

At later time points, multi-layered cellular crescents stain intensely positive for CD44 and claudin-1.

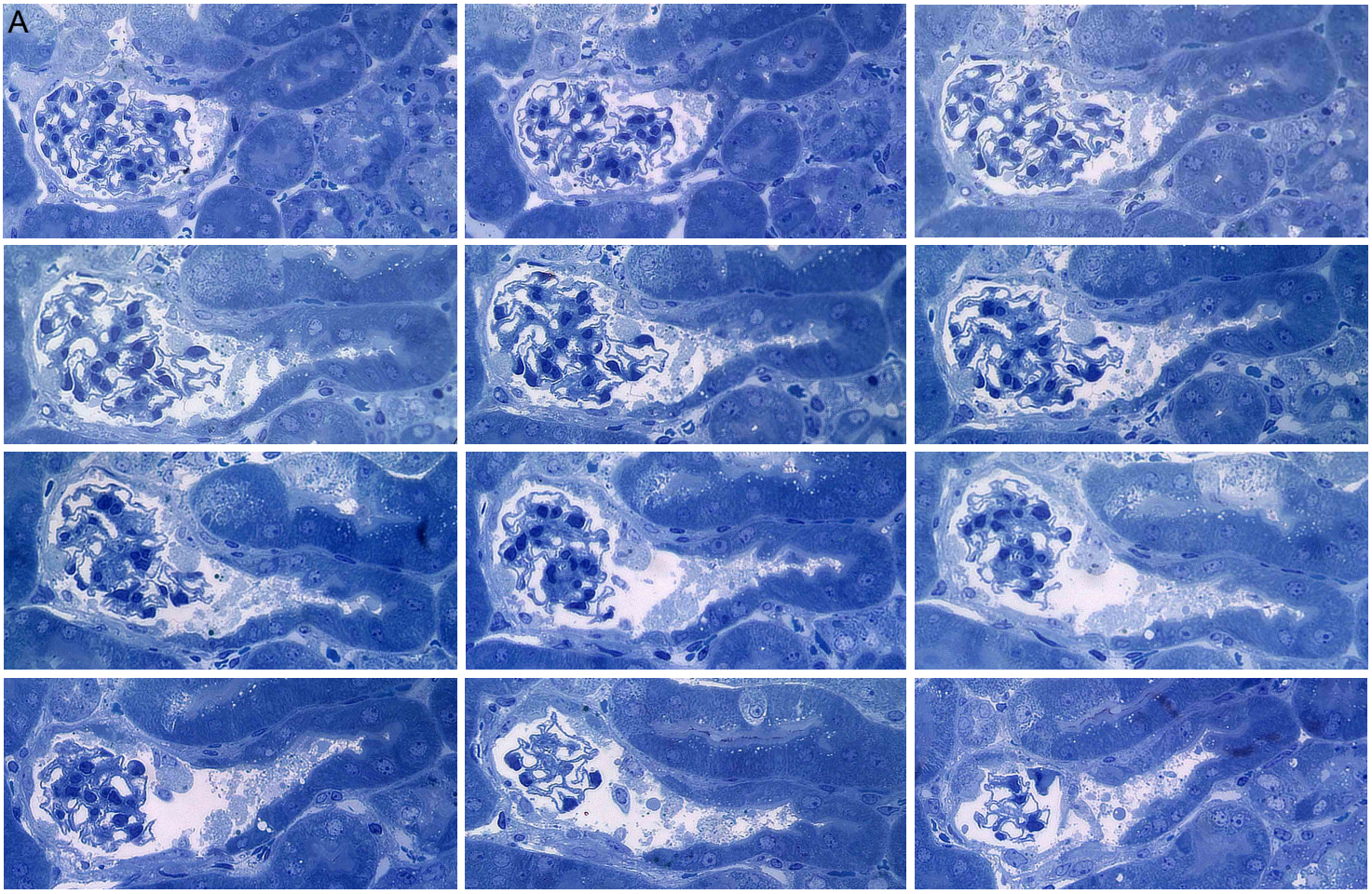
Supplemental Figure 6

A-B. No cellular adhesions were observed between PECs on Bowman's capsule (arrowhead) or podocytes on the capillary tuft (arrow) on any occasion (asterisk, cellular debris; TEM).

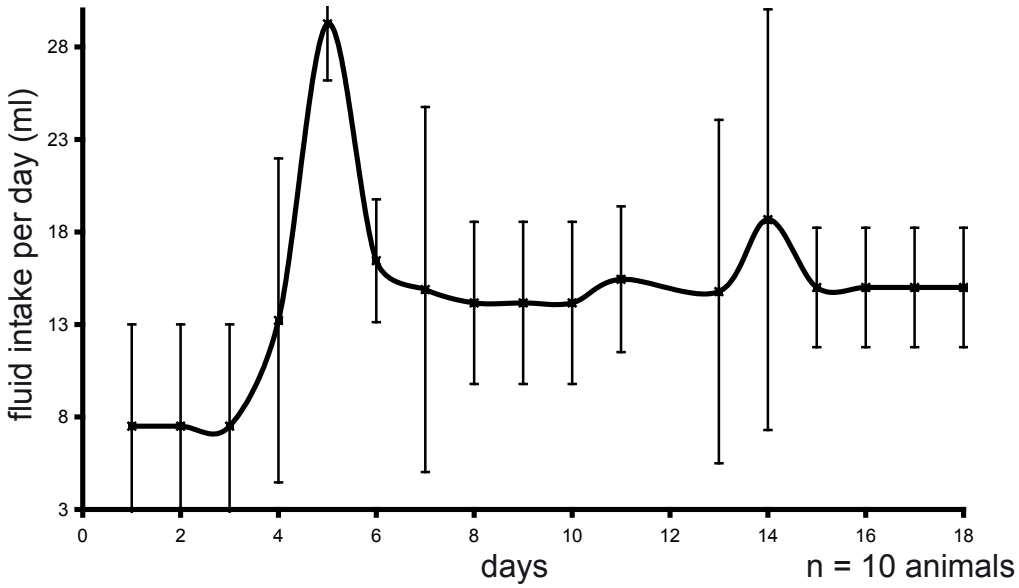
Supplemental Figure 1



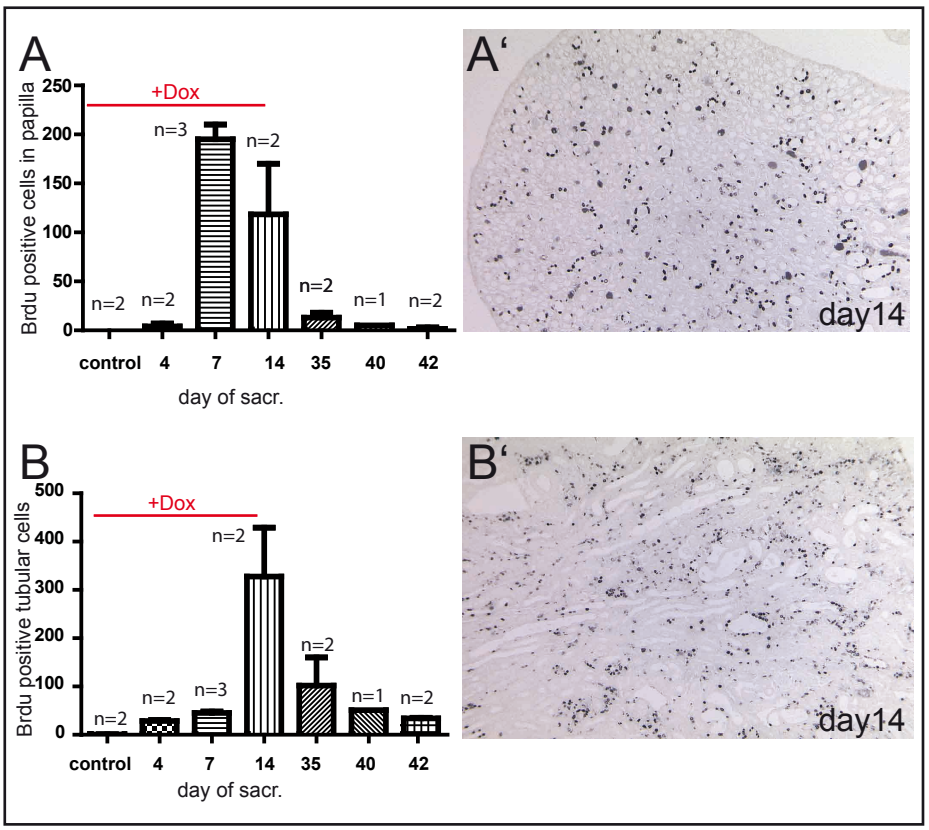
Supplemental Figure 2

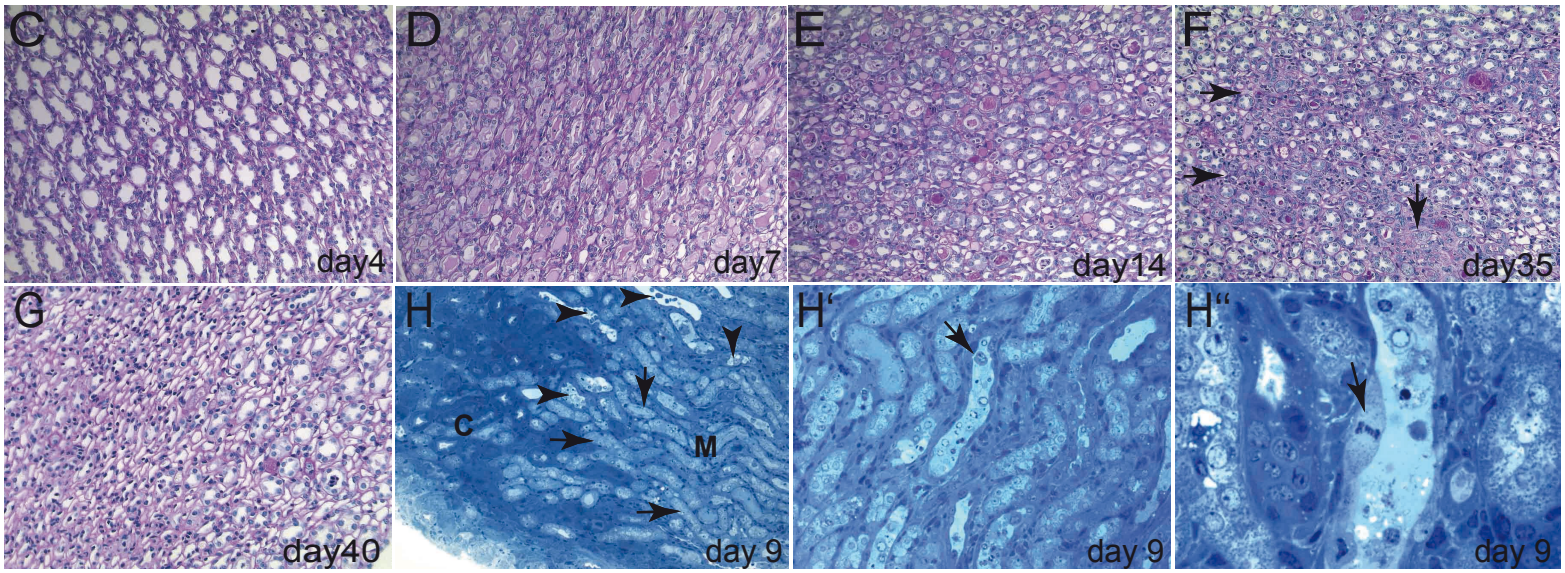


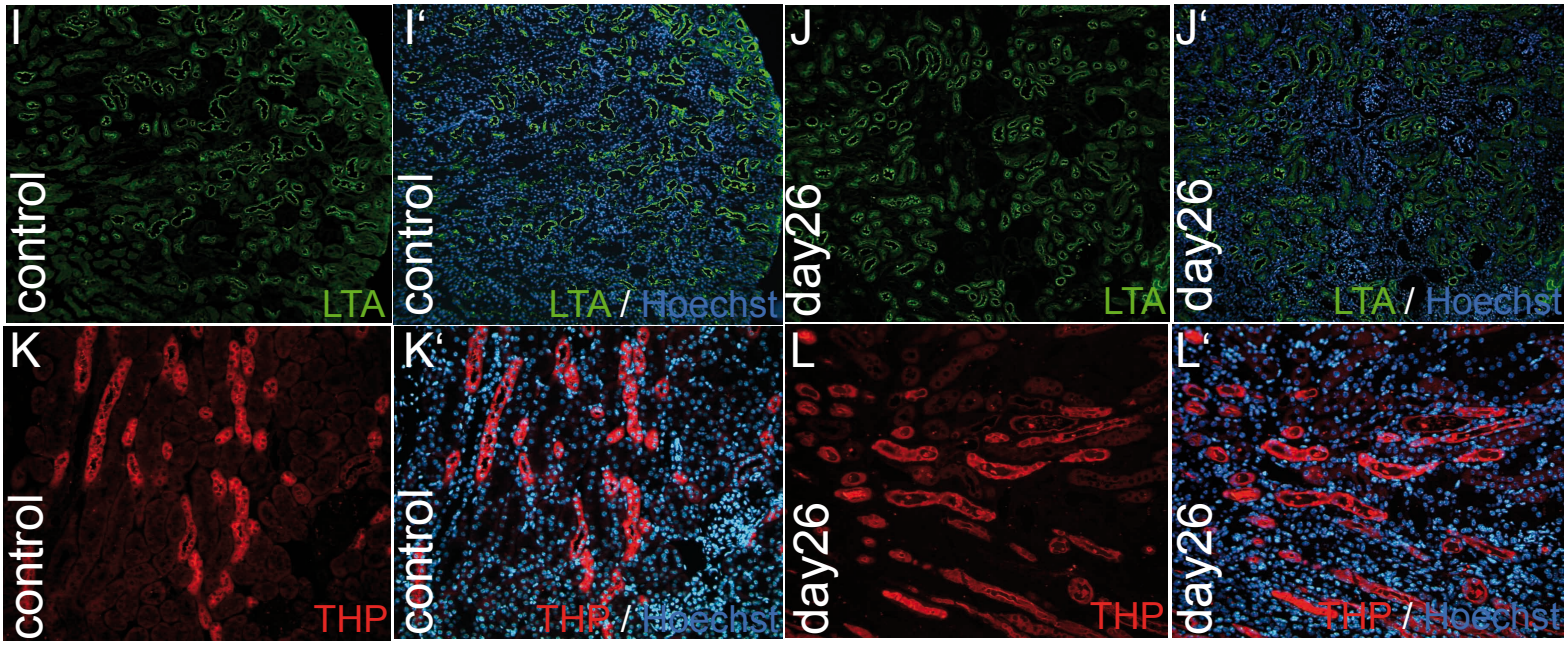
Supplemental Figure 3



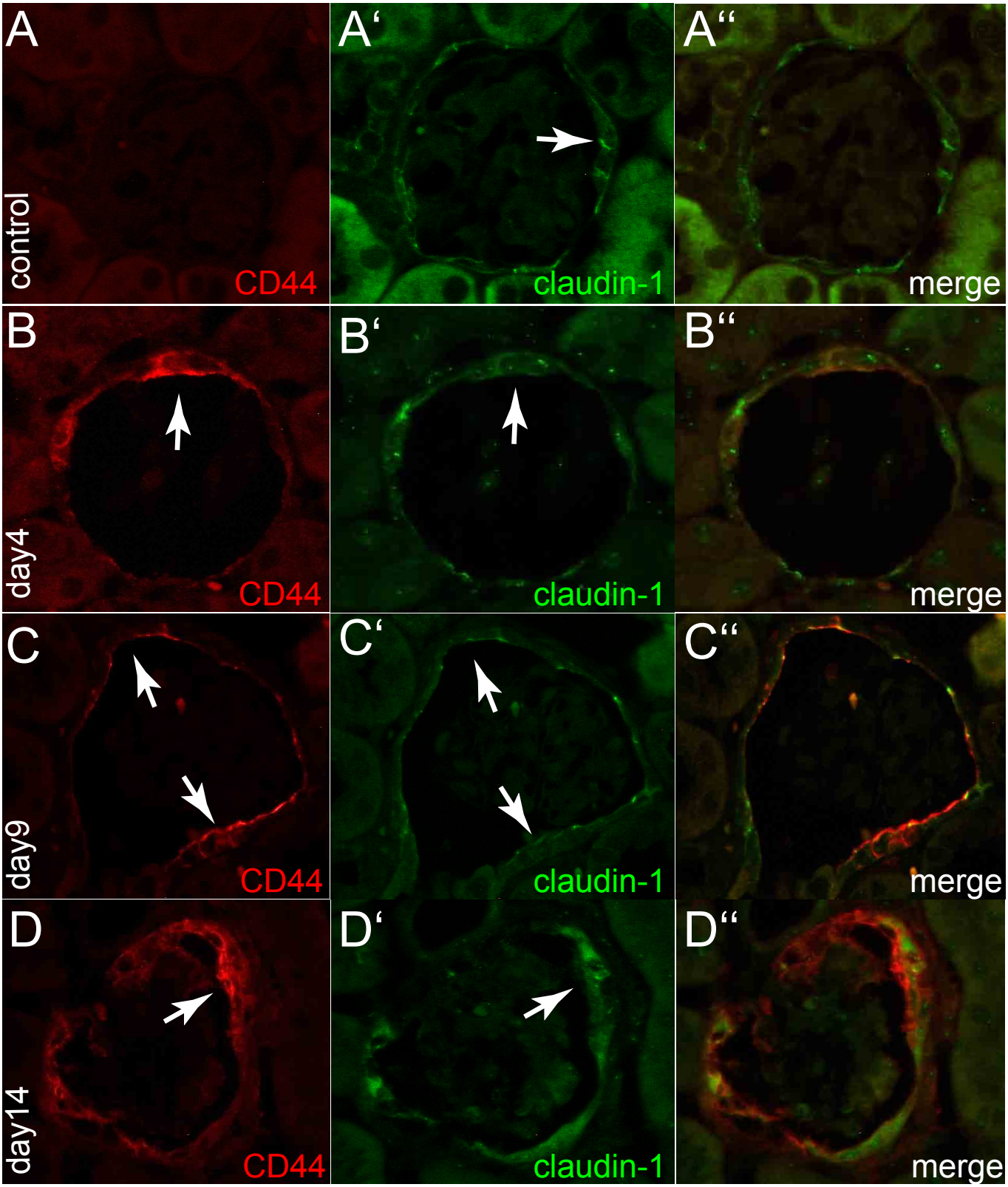
Supplemental Figure 4







Supplemental Figure 5



Supplemental Figure 6