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Supporting Information Figure S1. Representative images of renal cellular epithelial cell wall (ROS) and renal cellular epithelial cell (ROS-PE) are shown. The bars represent the mean  $\pm$  SD of three independent experiments, and the values are the means and standard deviations of three independent experiments. Figure S2. Neutralizing effects of anti-CD26 and anti-CD29 antibodies on renal cell wall functions. A. Anti-CD45 antibody was applied to the renal cell wall (ROS) and renal epithelial (ROS-PE) as well as the renal cell wall (ROS-PE). The activated protein (AAP) in the AAP (Figure 3D) was detected by serum incubation at 4, 12 and 24 h. The results are shown as mean  $\pm$  SD of three independent experiments, and the values are the means and standard deviations of three independent experiments. B. Anti-CD44 and anti-CD31 antibodies were applied to the renal cell wall (ROS) and renal epithelial (ROS-PE) as well as the septum of the kidney (ROS-PE). The results are shown as mean  $\pm$  SD of three independent experiments, and the values are the means and standard deviations of three independent experiments. C. Anti-CD54 and anti-CD54B antibodies were applied to the renal cell wall (ROS) and renal epithelial (ROS-PE) as well as the septum of the kidney (ROS-PE). The results are shown as mean  $\pm$  SD of three independent experiments, and the values are the means and standard deviations of three independent experiments. Figure S3. Anti-CD44 and anti-CD59 antibodies are effective in inhibiting the growth and differentiation of renal cell livers. A. Immunoblot analysis for anti-CD44 and anti-CD59 antibodies on the renal cell wall (ROS) and renal epithelial (ROS-PE). The anti-CD44 antibody was applied at a concentration of 0.5 mg/ml (control) to the acinar sub-basilar artery, the spleen and the lower segment of the right bilateral perimuscle. The results are shown as mean  $\pm$  SD of three independent experiments. B. Immunoblot analysis for anti-CD44 antibody on the renal cell wall (ROS) and renal epithelial (ROS-PE) as well as the septum of the kidney (ROS-PE). The results are shown as mean  $\pm$  SD of three independent experiments, and the values are the means and standard deviations of three independent experiments. Figure S4. Anti-CD44 and anti-CD59 antibodies inhibit the growth of ROS-PE cells in vitro and in vivo. Discussion The role of CD44 in the development and maintenance of the renal cell wall is well established. CD44 is a member of the adhesion complex family, including the mouse CD44 family, the human surface antigen receptor-gamma CD44, and its kin, polyubiquitin-1 (P-S1). CD44 is part of the adhesion complex family. It is frequently involved in the migration of septated cells, such as the kidney and kidney epithelial cells (JECs) and renal epithelial cells (ROS). However, it is not well known how CD44 is involved in the development of the renal cell wall, or the maintenance of the renal cell wall. Our results of the anti-CD44 antibody in ROS-PE and anti-CD59 antibodies show that these antibodies are able to inhibit the development of ROS-PE cells in vitro and in vivo without any side effects. These results suggest that anti-CD44 antibodies are effective against ROS-PE cells, but not ROS-PE cells. The anti-CD59 antibody is also effective in inhibiting the ROS-PE cells. This antibody is an activated protein kinase antibody which binds the internal or external proteins of the cell. The results ob-

tained were consistent with the results obtained with the anti-CD44 antibody. The results demonstrate that an activated CD44 antibody can bind the proteins of ROS-PE cells and ROS-PE cells, but not ROS-PE cells. The results also suggest that an activated CD59 antibody can bind these proteins of ROS-PE cells and ROS-PE cells, but not of ROS-PE cells. The immunoblot analysis for anti-CD44 antibody- specific antibodies on the renal cell wall showed that the incub