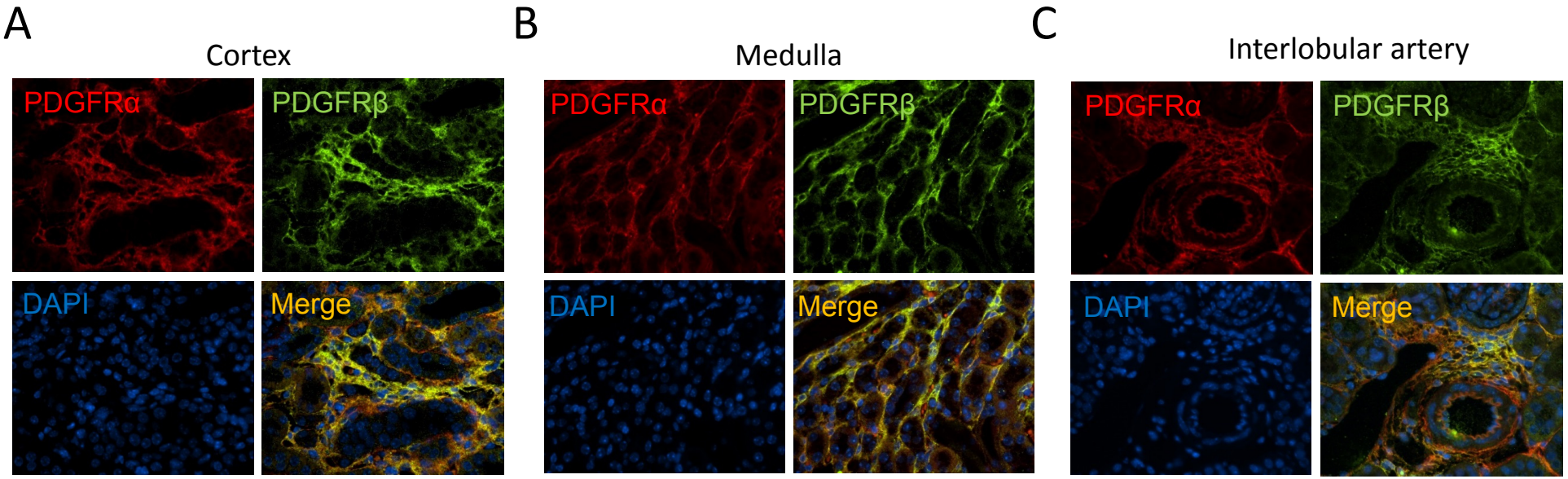
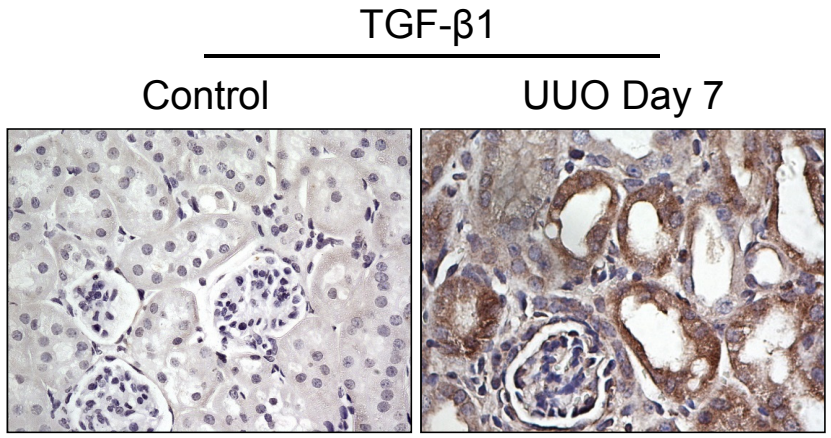
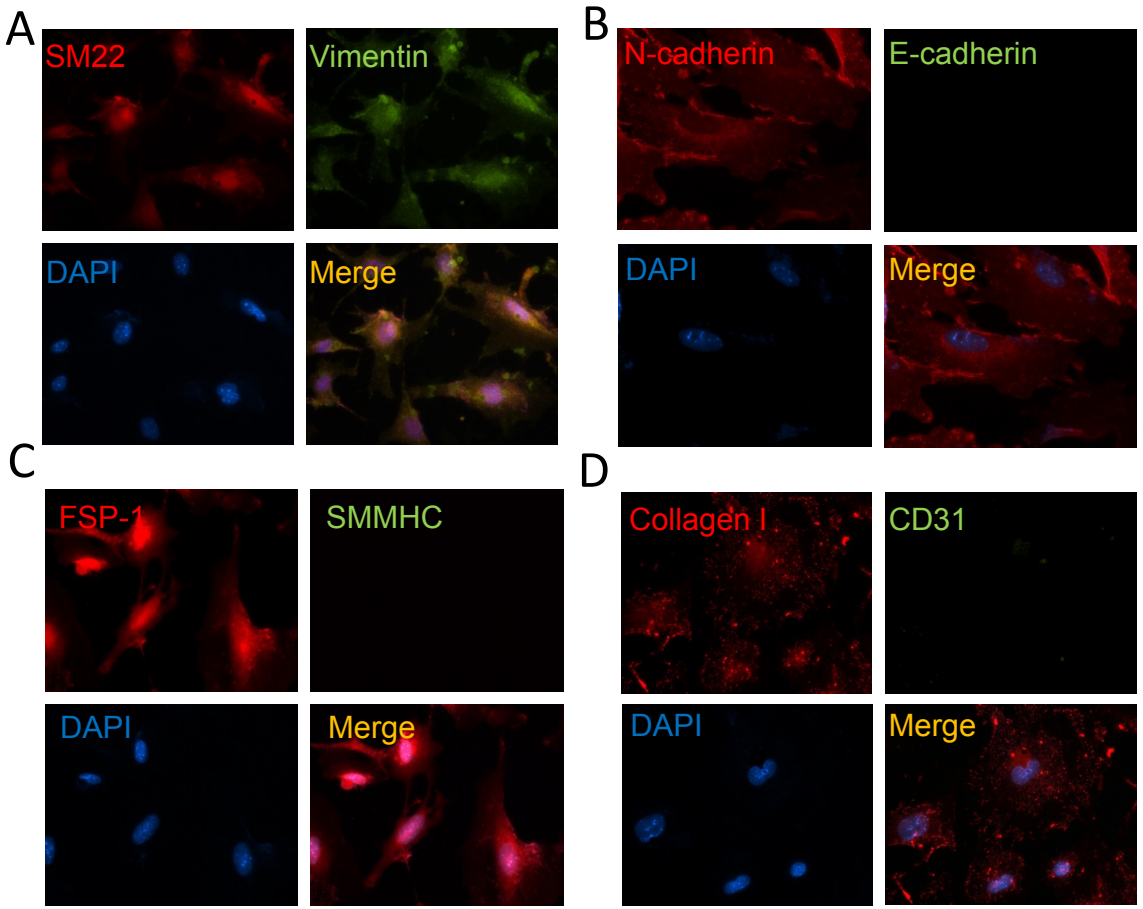


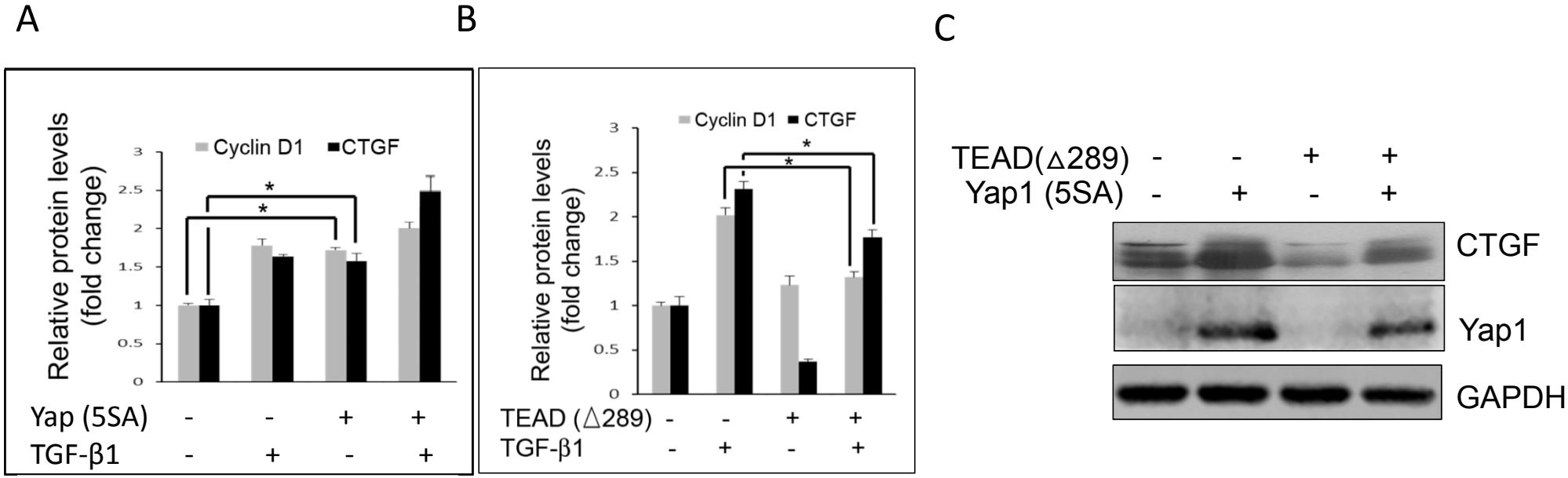
Supplemental figure 1. PDGFRα positive cells are co-localized with PDGFRβ positive cells. Double immunofluorescent staining of PDGFRα (red) and PDGFRβ (green) was performed in obstructed kidneys 7 days after UUO. The representative pictures shown were from the tubulointerstitial area of cortex (A), medulla (B), and interlobular artery (C). n =3.



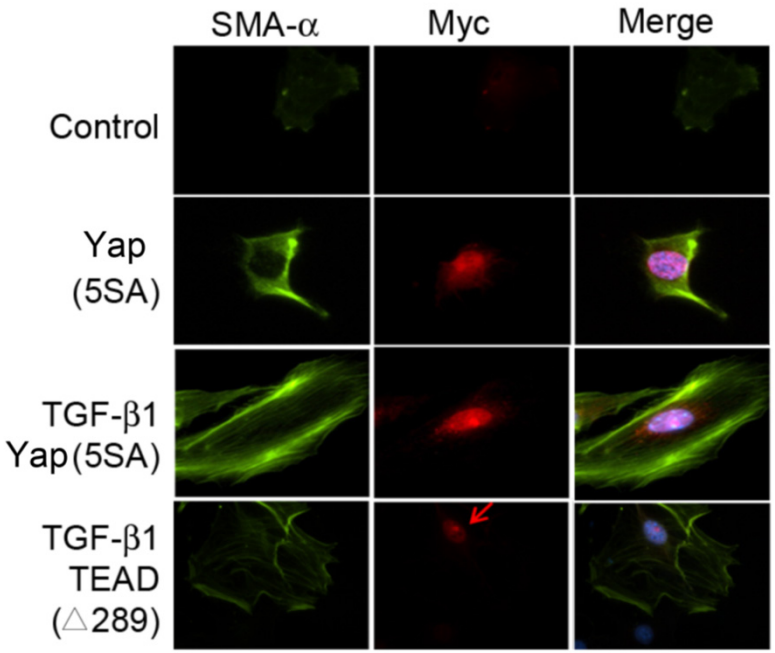
Supplemental figure 2. UUO induces TGF-β1 expression. Representative pictures show the immunohistochemical staining of TGF-β1 in kidneys at 7 days after UUO (n = 5).



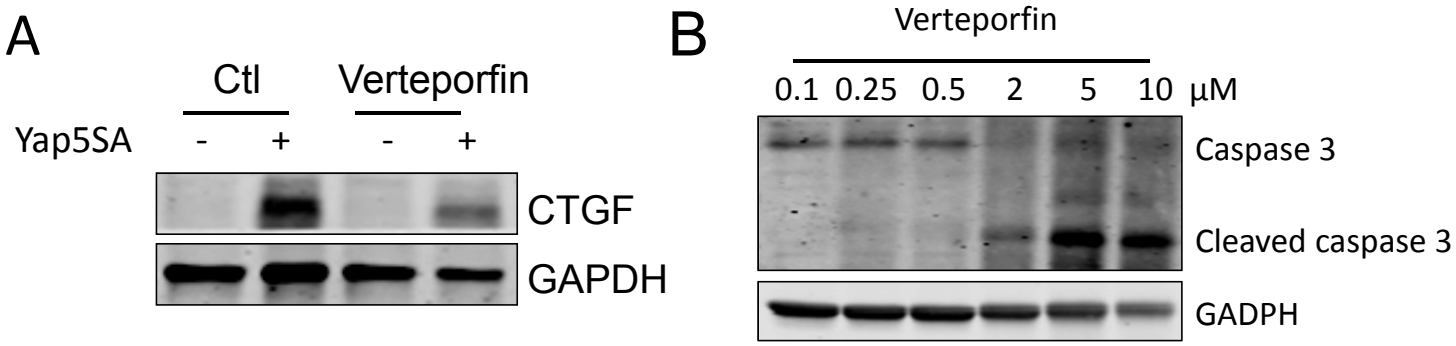
Supplemental figure 3. Characterization of the primary kidney fibroblasts. Primary fibroblasts were isolated from mouse kidneys and characterized with double immunofluorescent staining. The different cell markers, SM22/Vimentin (A), N-caderin/E-cadherin; FSP-1/SMMHC (C); and Collagen I/CD31 (D), were determined. Representative data from 3 repeated experiments are shown.



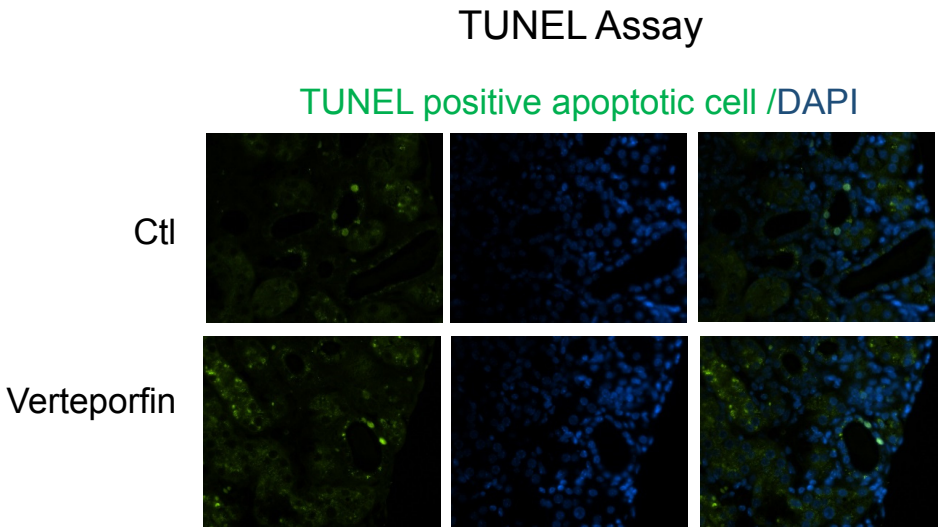
Supplemental figure 4. Yap mediates TGF-β1-induced fibroblast activation. A. Overexpression of constitutive active Yap increases cyclin D1 and CTGF expression in fibroblasts. Density analysis of the Western blots is shown. B. Overexpression of dominant negative TEAD (Δ289) suppressed the expressions of Cyclin D1 and Yap target CTGF. The corresponding density analysis of the Western blots is shown (*, $p < 0.05$; n = 3 repeats). C. Overexpression of dominant negative TEAD (Δ289) suppressed Yap-induced expression of CTGF.



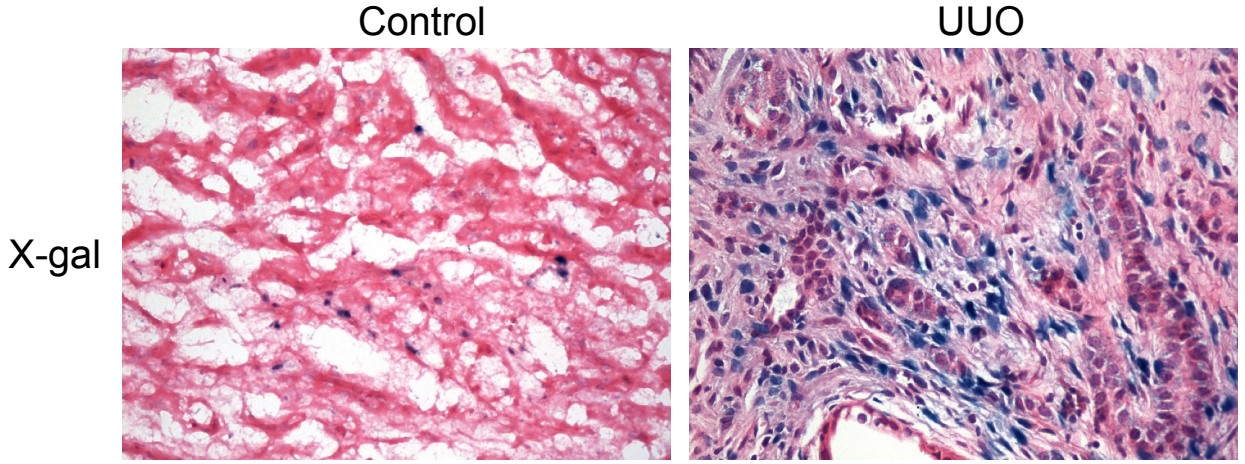
Supplemental figure 5. Yap inhibition blocks TGF-β1-induced SMA-α expression in fibroblast. Fibroblasts were transfected with myc-Yap(5SA) or myc-TEAD(Δ289). The cell morphology and SMA-α expression were detected by immunofluorescent staining.



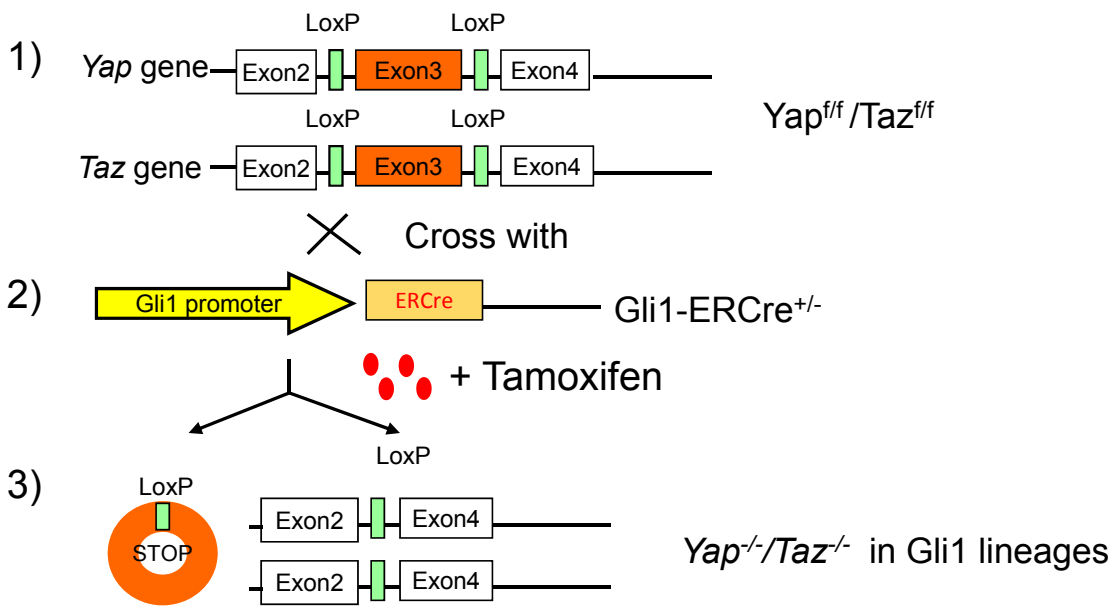
Supplemental figure 6. A. Verteporfin inhibits Yap5SA-induced CTGF production. Mouse fibroblasts were infected with Yap5SA lentivirus to express constitutive active Yap in the presence of DMSO (control) or Verteporfin (0.25 μM), the CTGF expression was determined by Western blot. **B**. High dose of Verteporfin induces cells apoptosis. Mouse fibroblasts were treated with different doses of Verteporfin for 24 hrs, the activated caspase 3 activity was determined by Western blot. Represent data of two experiments.



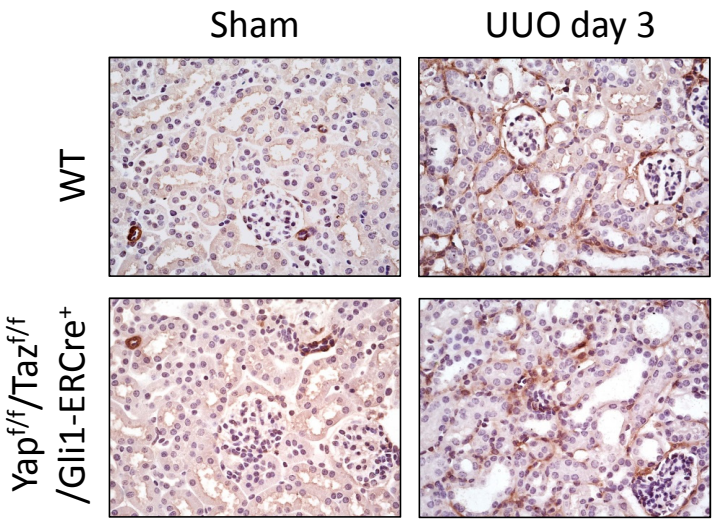
Supplemental figure 7. Verteporfin treatment has no effect on apoptosis in UUO model. Kidneys from Control and Verteporfin-treated mice were collected and apoptosis was determined by TUNEL analysis, positive cells show green color in the nucleus (n = 5).



Supplemental figure 8. Gli1 positive cells are induced in UUO. Kidneys from Gli1-LacZ mice were collected analyzed after UUO for 7 days. Pictures for X-gal (β-Galactosidase) staining of control or UUO kidneys are shown. (n = 3)



Supplemental figure 9. Generation of mice with conditional Yap/Taz mutant allele in Gli1 lineages. $Yap^{f/f}$ /$Taz^{f/f}$ mouse (1) was crossed with Gli1-ERCre transgenic mouse (2) to generate $Yap^{f/f}$ /$Taz^{f/f}$ /Gli1-$ERCre^{+}$ mouse. In the presence of tamoxifen, the Yap and Taz will be deleted in $Gli1^{+}$ cells and Gli1 lineages (3).



Supplement figure 10. The starting amount of fibrosis at the end of the day 3 of UUO were demonstrated by the immunochemistry staining of SMA-α in UUO kidney of WT and $Yap^{f/f}$ /$Taz^{f/f}$/Gli1-$ERCre^{+}$ mice (without tamoxifen induction).