

## Supplementary Figure Legends:

**Supplementary Figure S1:** (A) Representative light microscopy images of kidney section from sham, contralateral, and clipped kidney of WT and AT1KO mice stained with periodic acid-Schiff (PAS). Yellow arrows in the PAS staining show prominent mesangial matrix expansion. Magnification: 40X, scale bars: 100  $\mu$ m. (B) Relative mesangial matrix area (%) significantly increased in clipped and contralateral sections in both WT and AT1KO mice. Each bar represents mean  $\pm$  SEM (n= 6, \* $P$ <0.01 & \*\* $P$ <0.001 vs WT shams; # $P$ <0.001 vs AT1KO sham, \$ $P$ <0.001 vs WT clipped).

**Supplementary Figure S2:** (A) Representative light microscopy images of kidney section from WT sham, clipped and contralateral kidney from WT and AT1KO mice stained with Masson's Trichrome staining. Masson's Trichrome staining reveals collagen deposition (blue color). The Magnification: 20X, scale bars: 100  $\mu$ m. (B) Semiquantitative scores of interstitial renal fibrosis index is analyzed by Metamorph. Yellow arrows show more collagen deposit in the renal interstitial of the clipped and contralateral kidney compared to Sham Controls. Each bar represents mean  $\pm$  SEM. (n=4-5, \* $P$  <0.01 and \*\* $P$  < 0.001 vs sham WT; # $P$ <0.001 vs AT1KO sham, \$ $P$ <0.001 vs WT clipped).