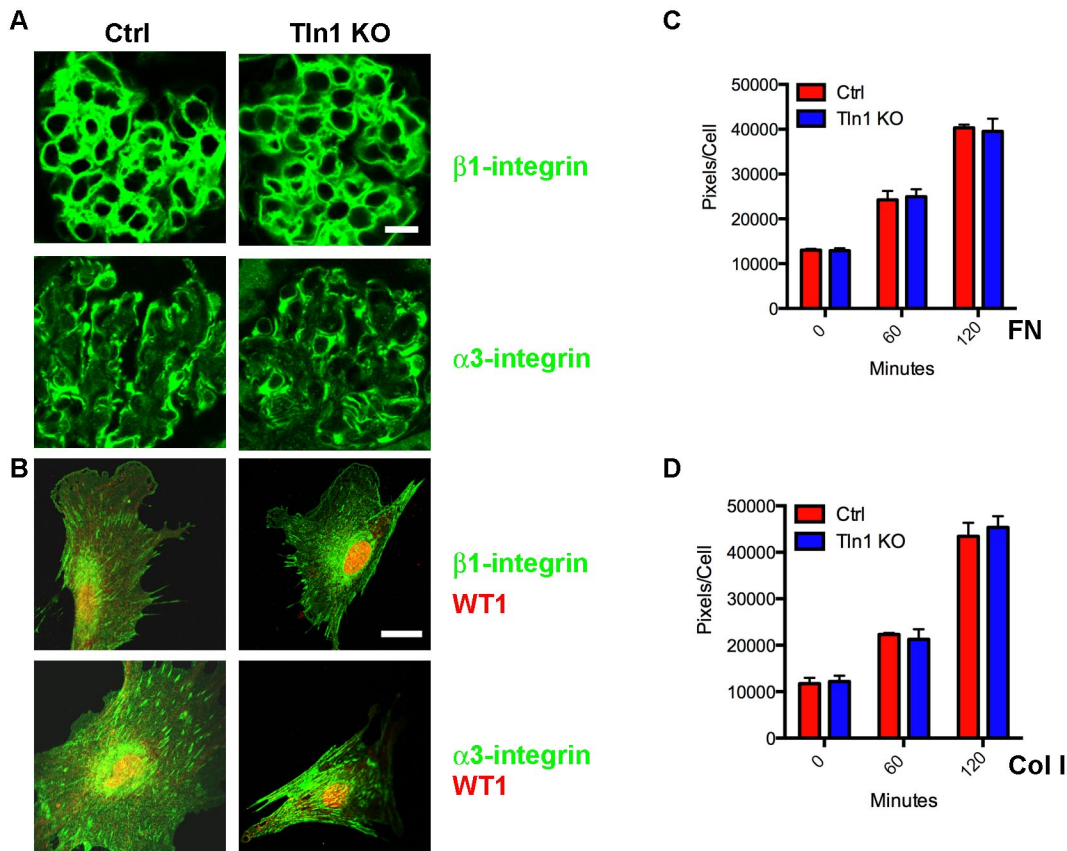


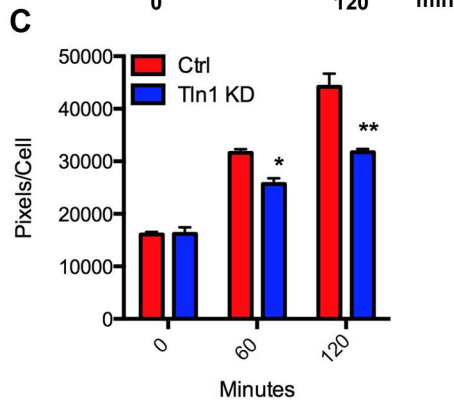
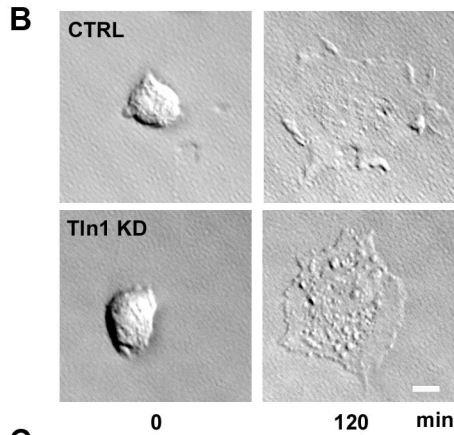
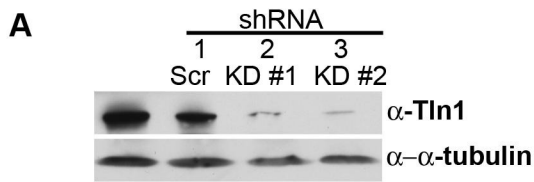
**Supplemental Figure 1. Talin2 expression is similar in control and *Pod-Tln1* KO podocytes** (A) Talin2 expression in glomeruli from control and *Pod-Tln1* KO kidneys (age P14). Scale Bar 10 $\mu$ m. (B) Talin2 expression in isolated control and KO podocytes. Scale Bar 10 $\mu$ m.

## Supplemental Figure 1



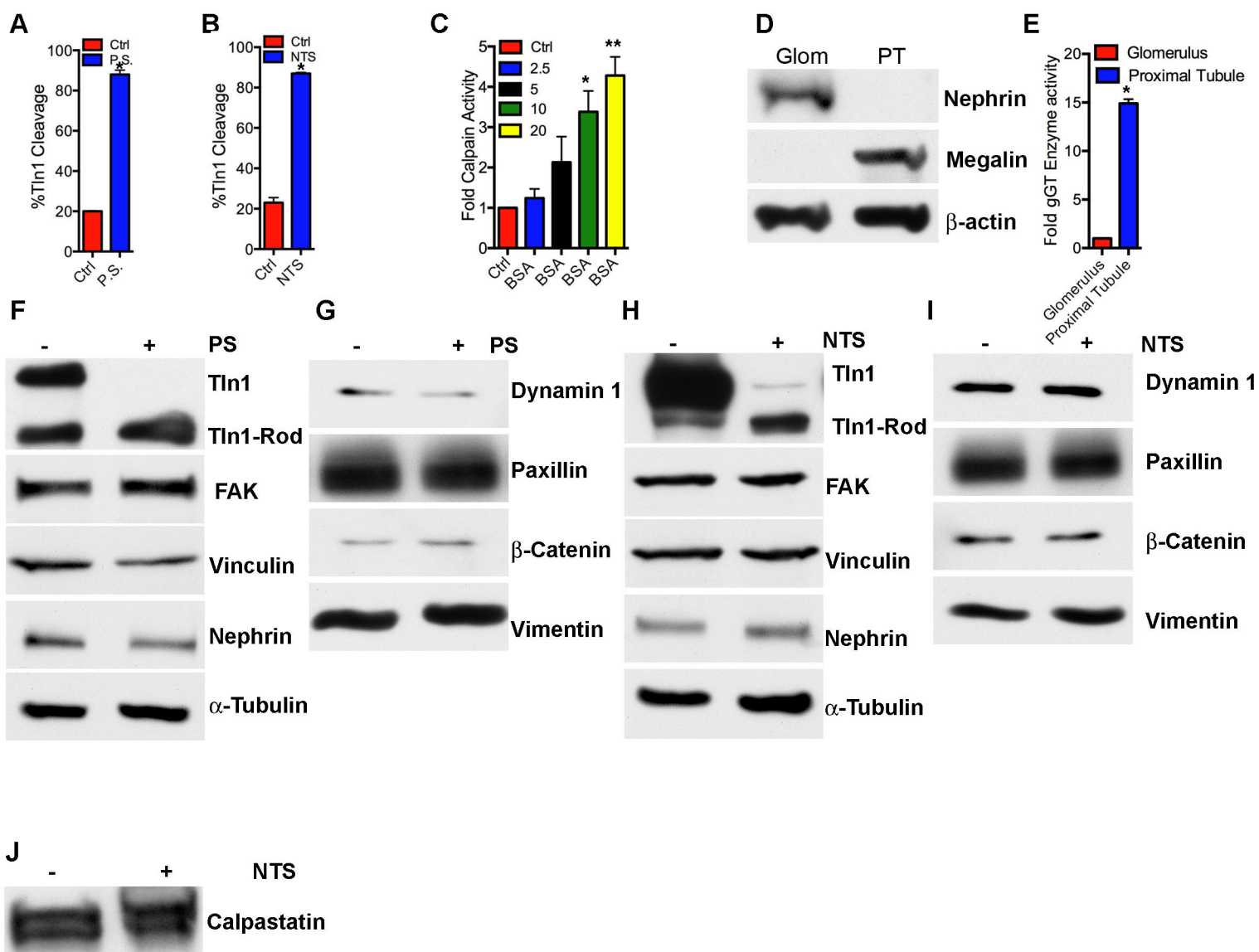
**Supplemental Figure 2. Loss of Talin1 does not result in mislocalization of  $\beta$ 1 or  $\alpha$ 3 integrin in the glomerulus** (A-B)  $\beta$ 1 and  $\alpha$ 3 integrin staining pattern in the glomerulus and cultured podocytes, WT1 in red and  $\beta$ 1 or  $\alpha$ 3 integrin in green. Scale Bar 10  $\mu$ m. (C-D) Quantification of podocyte cell spreading on fibronectin and collagen type-I respectively on 50 random cells in each experiment. N=3 experiments.

## Supplemental Figure 2



**Supplemental Figure 3. *Tln1* knockdown podocytes demonstrates reduced cell spreading** (A) Talin1 western blot of podocytes infected with two different lentiviral *Tln1* shRNA mirs demonstrating reduced talin1 expression.  $\alpha$ -tubulin was used as a loading control. (B) Representative image of control (scrambled) and *Tln1* shRNA mir infected podocytes at time 0 and 120 minutes. (C) Quantification of cell spreading in podocytes infected with *Tln1* shRNA mir at indicated time points. \* $p < 0.01$ , \*\* $p < 0.01$ . Scale bar 10  $\mu$ m.

## Supplemental Figure 3



**Supplemental Figure 4. Proximal tubules isolated following NTS injection in mice demonstrate no increase in talin1 cleavage and calpain activity.** (A-B) Percent talin1 cleavage following P.S and NTS injection. (C) Cultured proximal tubules treated with BSA at concentrations of 2.5, 5, 10, 20 mg/ml demonstrates increased calpain activity. N= 3 experiments \*p< 0.01 , \*\*p< 0.01. (D) Percoll gradient isolation of primary proximal tubules demonstrates megalin expression but is devoid of nephrin expression. (E) Enriched primary proximal tubules demonstrate elevated gGT enzyme activity \*p<0.005. (F-I) Nephrin, FAK, vinculin, dynamin 1, vimentin, paxillin, and  $\beta$ -catenin cleavage are not observed in glomerulus following protamine sulfate or NTS injection. (J) Primary proximal tubules isolated following NTS injection reveals no difference in calpastatin levels when compared to control.

## Supplemental Figure 4