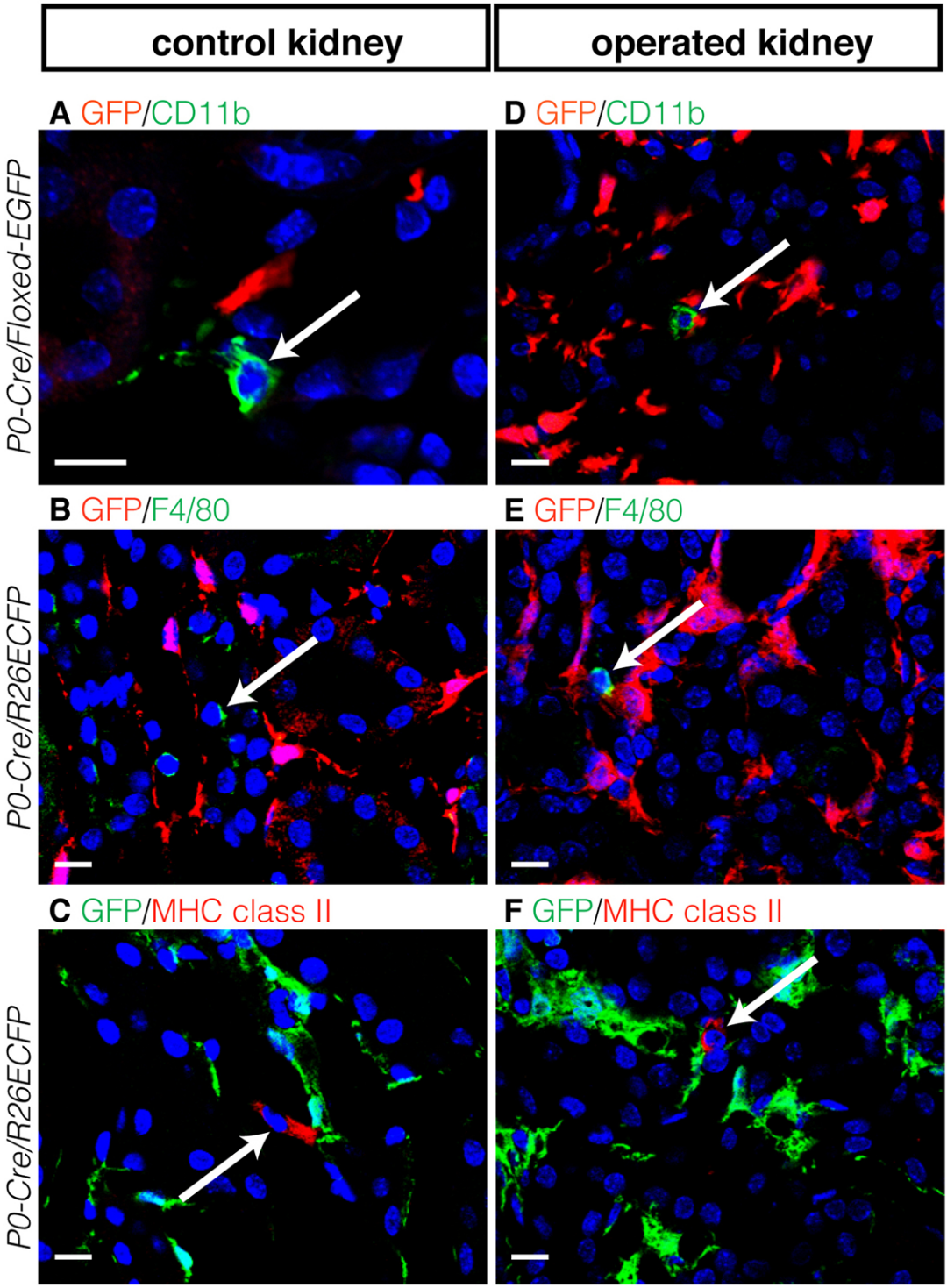
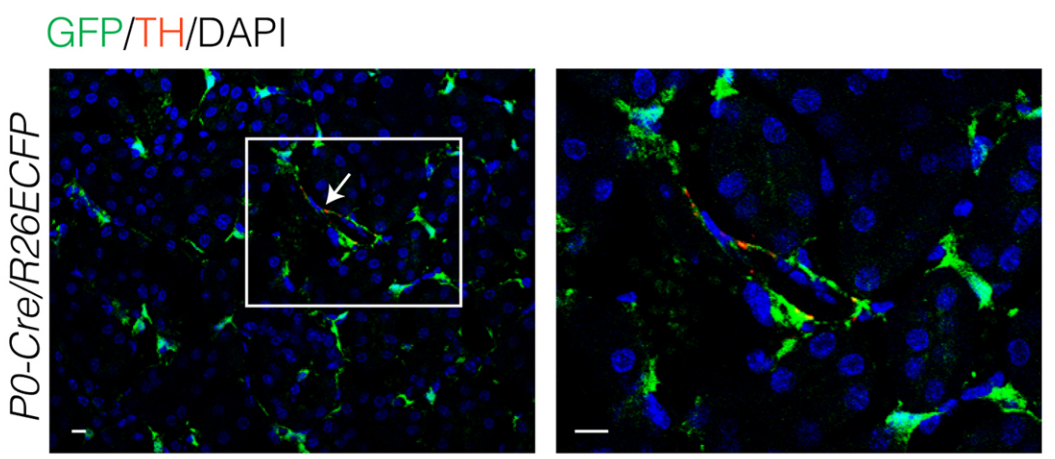


Supplementary Figure 1

***P0-Cre* fate-mapped cells in the kidney are not inflammatory cells.**

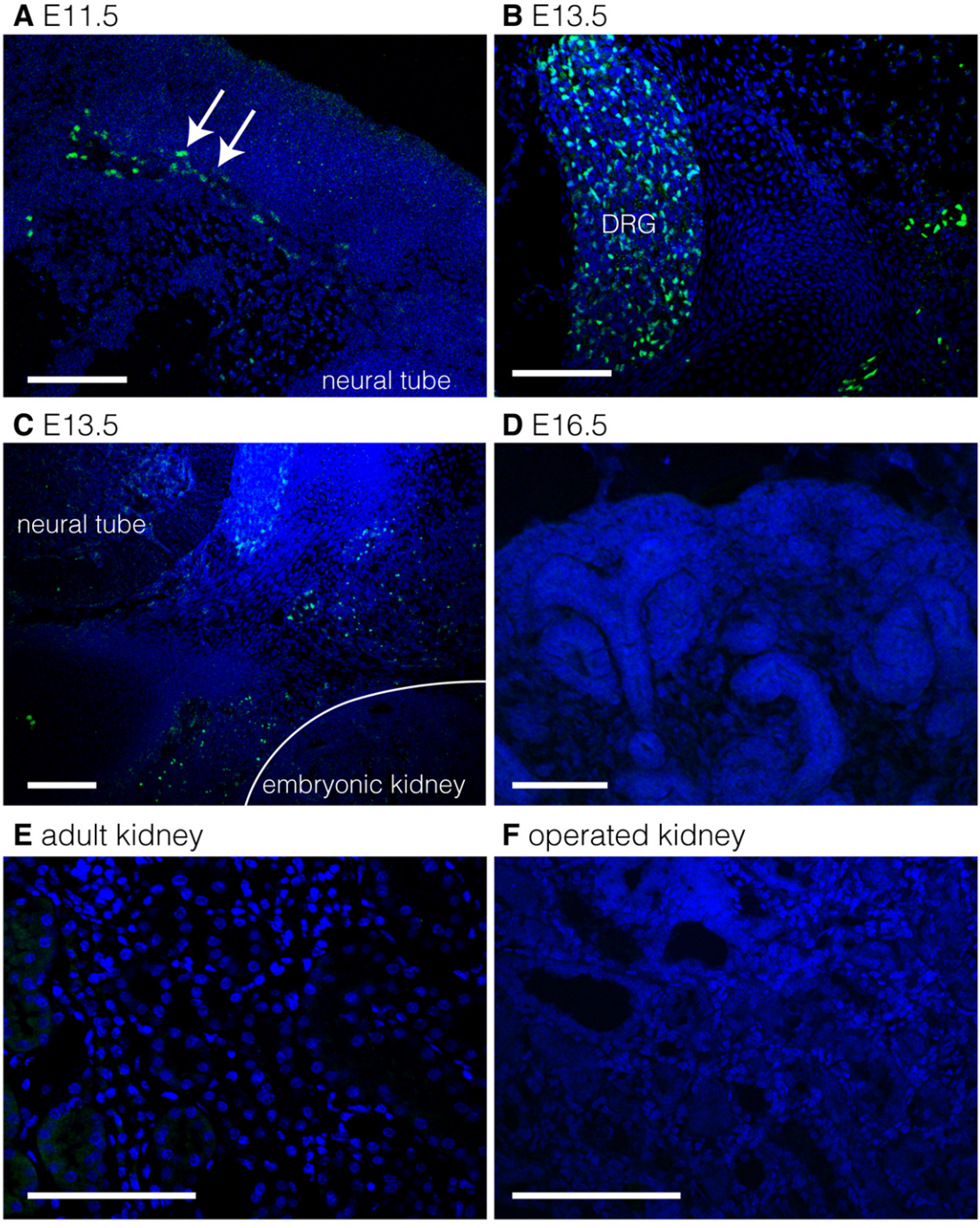
EGFP+ cells in *P0-Cre/Floxed-EGFP* mice and ECFP+ cells in *P0-Cre/R26ECFP* mice did not express CD11b (**A, D**), F4/80 (**B, E**), or MHC class II (**C, F**) in the control kidney (**A-C**) as well as in the operated kidney (**D-F**). Scale bars: 10 μm. Arrows indicate inflammatory cells.



Supplementary Figure 2

Very few ECFP+ cells expressed tyrosine hydroxylase, whereas most ECFP+ cells did not.

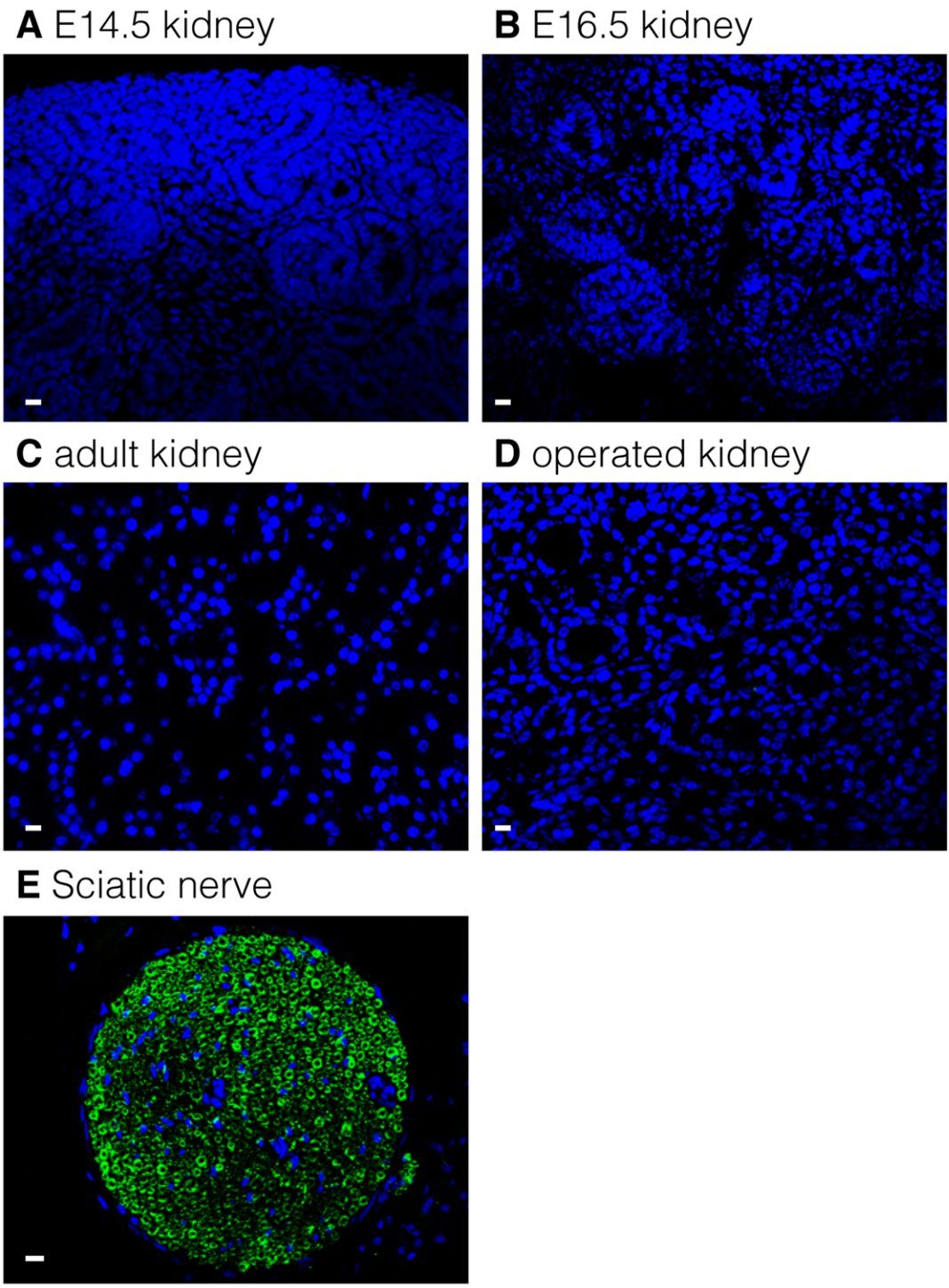
Very few ECFP+ cells, especially the ones around the vessels were positive for tyrosine hydroxylase, whereas most ECFP+ cells were not. The arrow indicates ECFP/tyrosine hydroxylase double-positive cells. TH: tyrosine hydroxylase. Scale bars: 10 μm.



Supplementary Figure 3

Absence of Cre protein in the kidneys of *P0-Cre* mice.

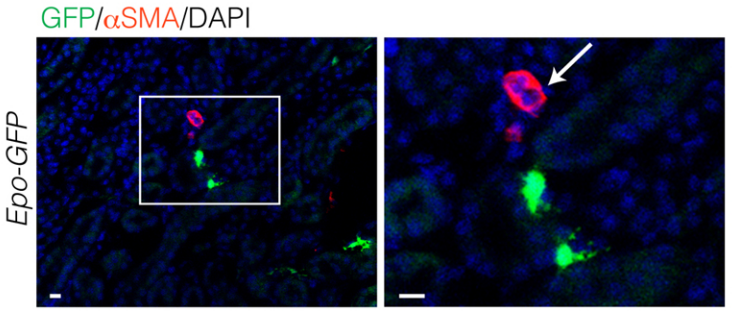
(**A, B**) Cre protein was detected in the migrating neural crest cells (arrows) at E11.5 (**A**) as well as in the dorsal root ganglions (**B**) in *P0-Cre* mice. (**C-F**) Cre protein was undetectable either in the embryonic kidneys (**C, D**), adult kidneys (**E**), or operated fibrotic kidneys (**F**) of *P0-Cre* mice. Scale bars: 100 μm except for **C** (50 μm).



Supplementary Figure 4

Absence of P0 protein in the kidneys.

(**A-D**) P0 protein was undetectable either in the embryonic kidneys (**A, B**), adult kidneys (**C**), or operated fibrotic kidneys (**D**) of wild-type mice. (**E**) Positive control for the immunostaining of P0 protein. P0 protein is highly expressed in the sciatic nerve. Scale bars: 10 μm.

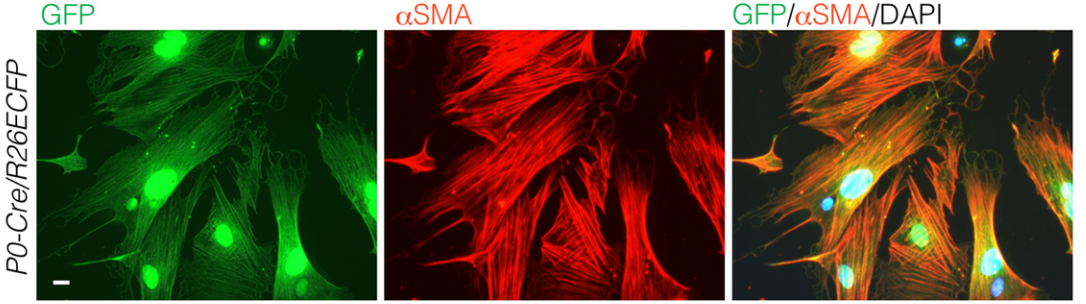


Supplementary Figure 5

EPO-producing cells in the healthy kidney do not express αSMA.

Double immunostaining revealed that GFP+ cells in the healthy kidney of *Epo-GFP* mice were negative for αSMA. Arrow indicates αSMA-positive vascular smooth muscle cells.

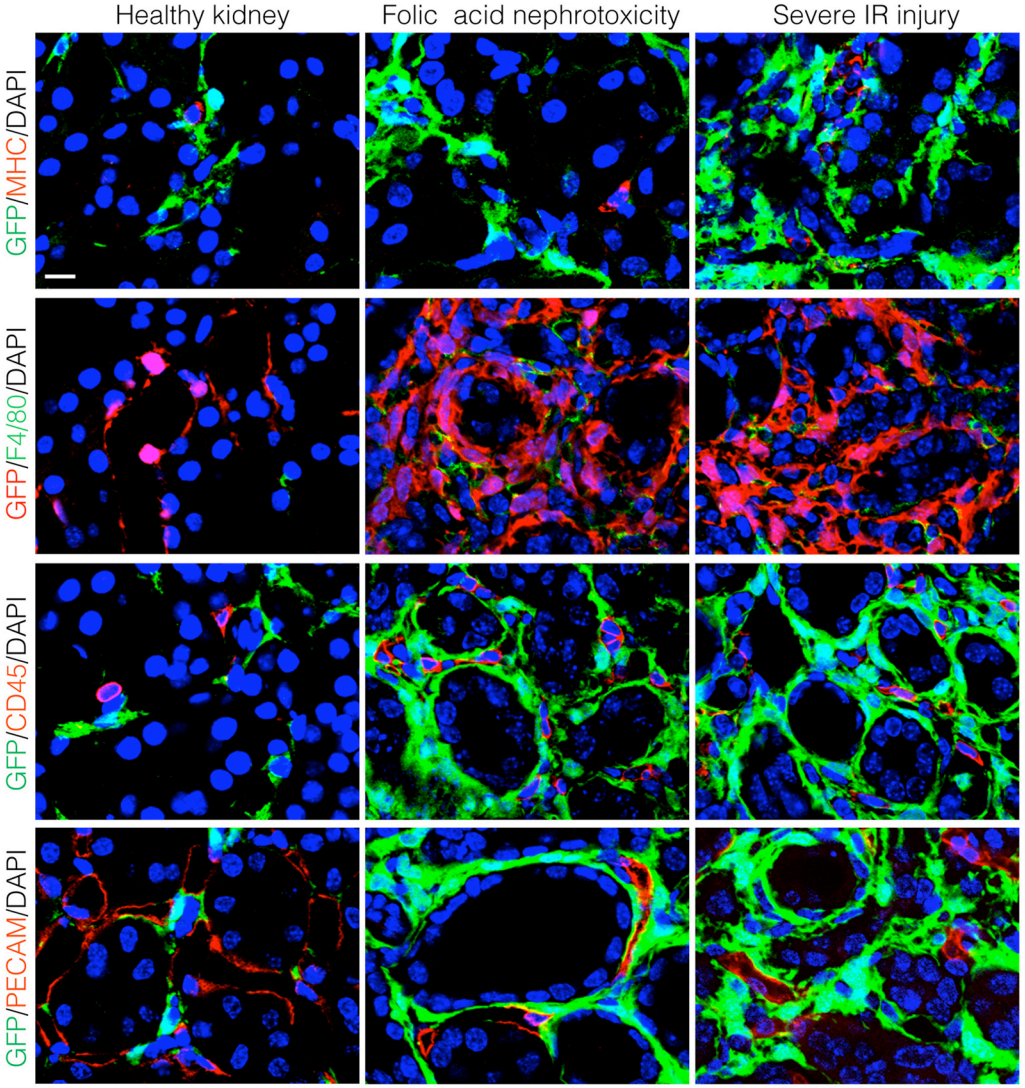
Scale bars: 10 μm.



Supplementary Figure 6

Most, if not all, myofibroblasts obtained from fibrotic kidneys of *P0-Cre/R26ECFP* mice were positive for CFP.

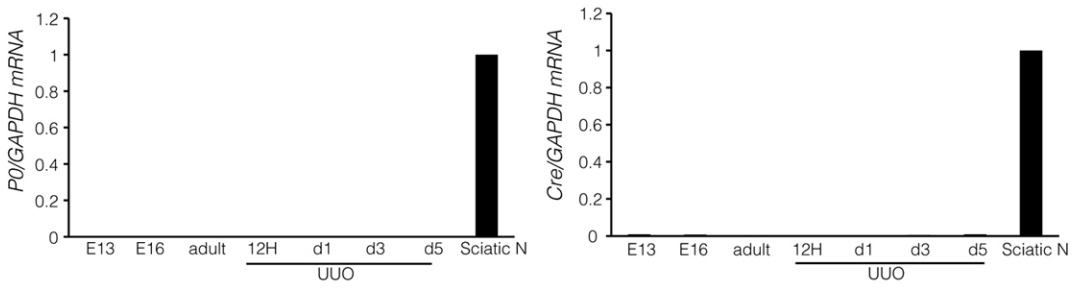
Immunostaining revealed that most, if not all, αSMA+ myofibroblasts were positive for ECFP. ECFP was visualized by immunostaining with GFP antibody. Scale bar: 10 μm.



Supplementary Figure 7

ECFP positive cells in *P0-Cre/R26ECFP* mice were neither inflammatory cells nor endothelial cells.

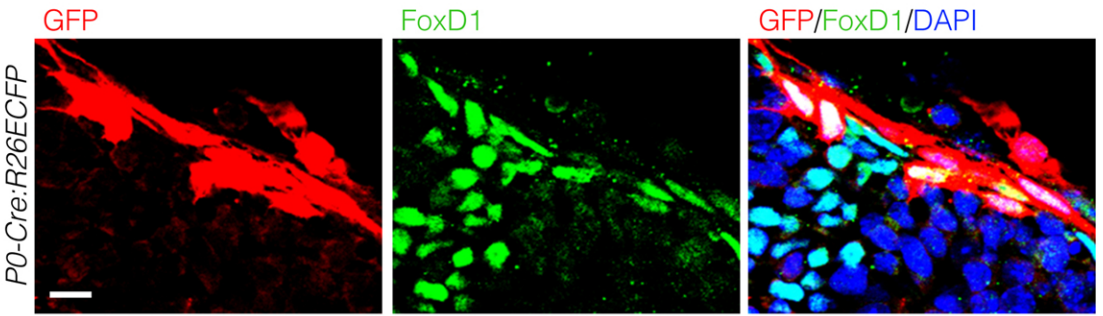
Most, if not all, ECFP positive cells in *P0-Cre/R26ECFP* mice did not colocalize with MHC class II, F4/80, CD45 or PECAM positive cells either in the healthy kidney or the fibrotic kidney in folic acid nephrotoxicity and severe ischemic reperfusion (IR) injury. Scale bar: 10 μm.



Supplementary Figure 8

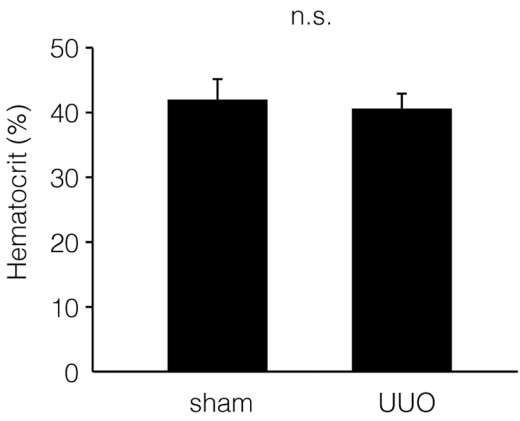
The expression of *P0* and *Cre* mRNA was almost undetectable either in embryonic kidneys or in adult fibrotic kidneys.

The expression of *P0* and *Cre* mRNA was measured in the embryonic kidneys and the fibrotic kidneys of *P0-Cre:R26ECFP* mice. Expression of *P0* and *Cre* was normalized to the expression of *GAPDH* and expressed relative to the expression in the sciatic nerve.



Supplementary Figure 9

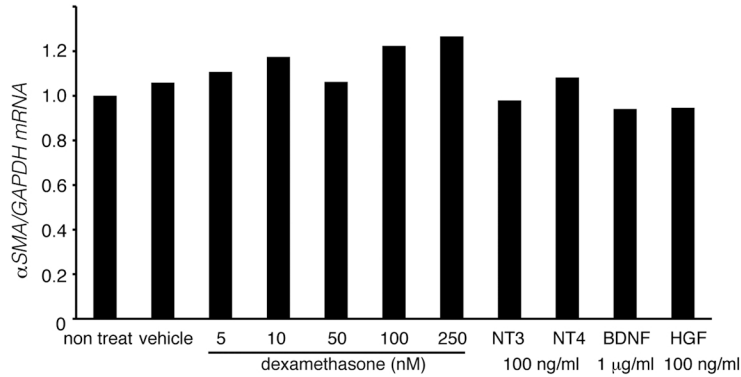
Some *P0-Cre* fate-mapped cells express FoxD1, when they enter the embryonic kidneys at E13.5. Scale bar: 10 μm.



Supplementary Figure 10

Mice with UUO were not anemic.

Hematocrit of the mice with UUO was not significantly reduced compared to sham-operated mice (n = 5/group). n.s.: not significant.



Supplementary Figure 11

Re-expression of EPO in Figure 5E was not associated with decreased αSMA in myofibroblasts.

The expression of *αSMA* in cultured myofibroblasts was not reduced by the administration of low-dose dexamethasone, neurotrophins, and HGF. Expression of *αSMA* was normalized to that of *GAPDH* and expressed relative to that in the cells without any treatment. Vehicle: 0.05% ethanol for the control of dexamethasone.