

## Supplementary Information

### ***In vivo* regeneration of interspecies chimeric kidneys using a nephron progenitor cell replacement system**

#### **Authors**

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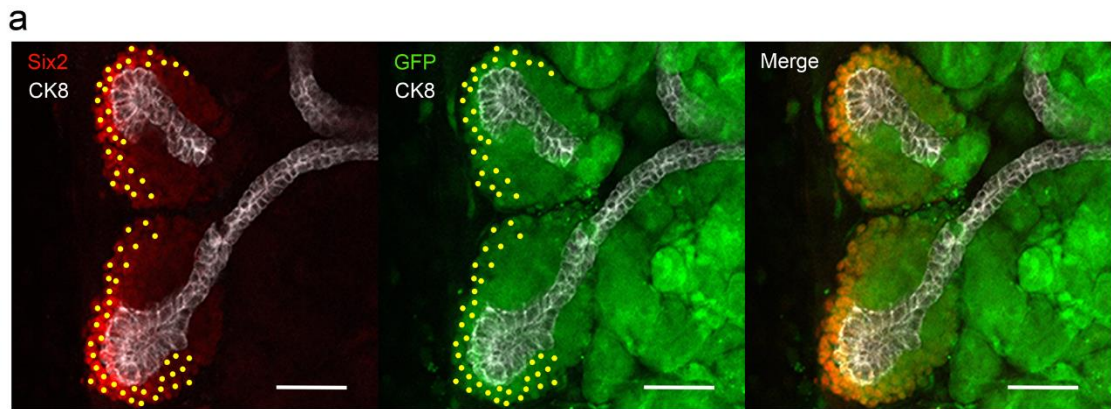
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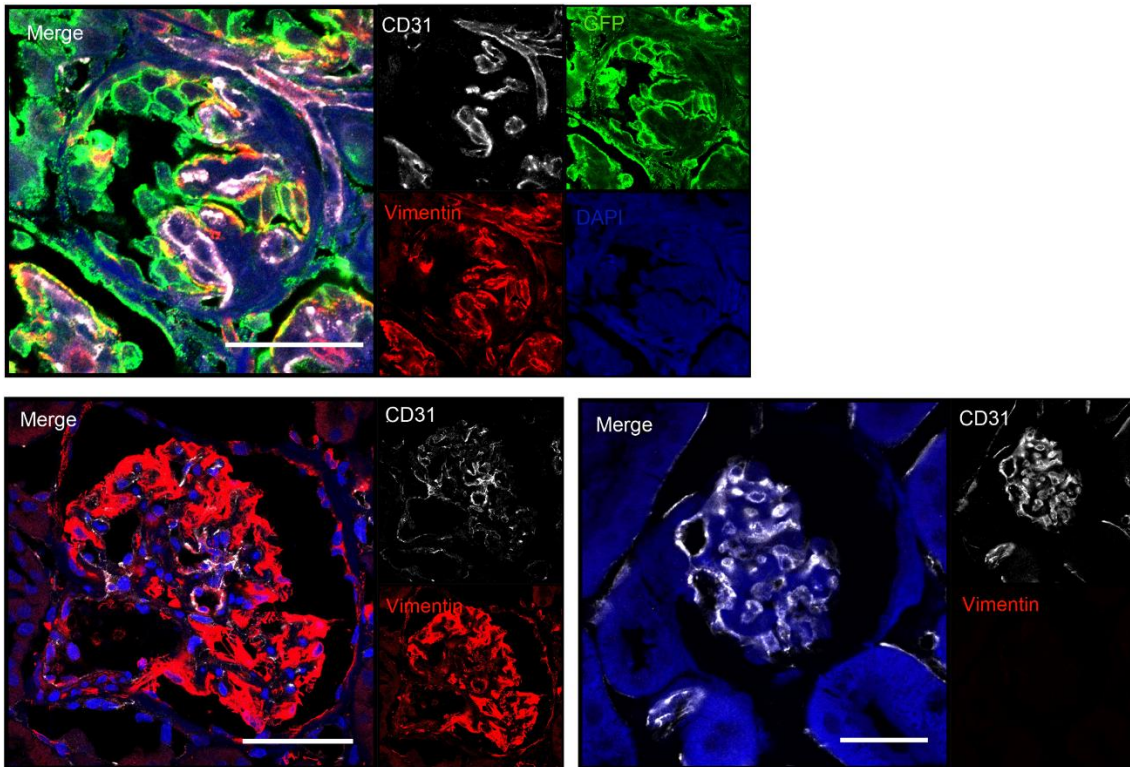


**b**

Measurement of the replacement rate in the cap mesenchyme		
Six2-positive NPCs	GFP-NPCs (Donor cells)	Percentage of GFP cells in the cap mesenchyme
29.8 ± 2.5	29.8 ± 2.5	100 ± 0 (%)

**Supplementary Figure S1. The ratio of donor nephron progenitor cells (NPCs) in the Six2-positive domain after NPC replacement *in vitro***

**(a)** Representative images of the cap mesenchyme after eliminating host NPCs and replacing with donor rat GFP-NPCs. We manually counted the ratio of donor NPCs in the Six2-positive domain. Left column, yellow spots indicate Six2-positive NPCs; middle column, these spots entirely merged with donor GFP-NPCs; right column, the merged image (scale bars, 50  $\mu\text{m}$ ). **(b)** We assessed the number of donor GFP-NPCs and the replacement rate in the cap mesenchyme. The number of GFP-NPCs was  $29.8 \pm 2.5$  (mean  $\pm$  standard errors of the mean;  $n = 6$ ); 100% replacement of host NPCs with donor NPCs was possible.



**Supplementary Figure S2. Neo-glomeruli were vascularised with blood vessels originating from the host rat**

We stained the sections of the regenerated kidney, native rat kidney and native mouse kidney with anti-CD31 and anti-vimentin antibodies. Endothelial cells in neo-glomeruli were expressed as the endothelial marker CD31 and the rat-specific marker vimentin V9 (upper column; scale bars, 100  $\mu\text{m}$ ). In addition, endothelial cells in rat glomeruli were expressed as the endothelial marker CD31 and the rat-specific marker vimentin V9 (left lower column; scale bars, 50  $\mu\text{m}$ ). Endothelial cells in mouse glomeruli were expressed as the endothelial marker CD31 but not as the rat-specific marker vimentin V9 (right lower column; scale bars, 50  $\mu\text{m}$ ).