

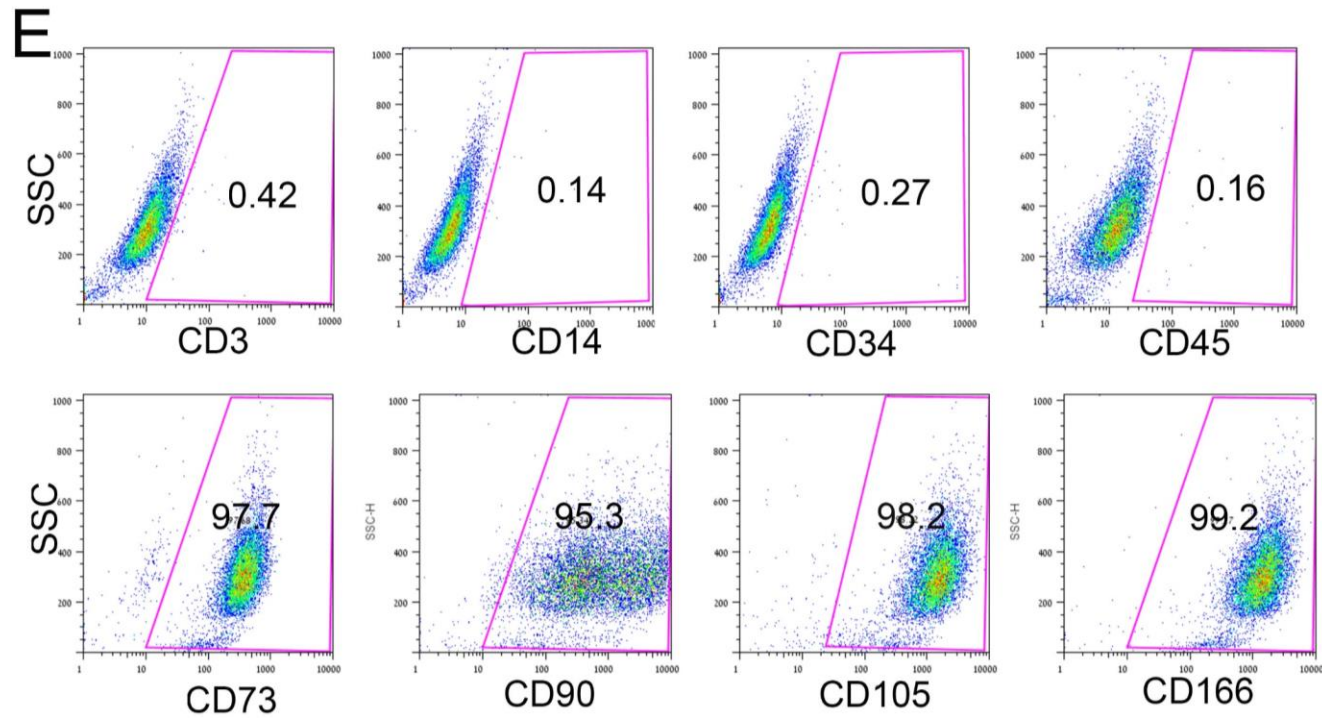
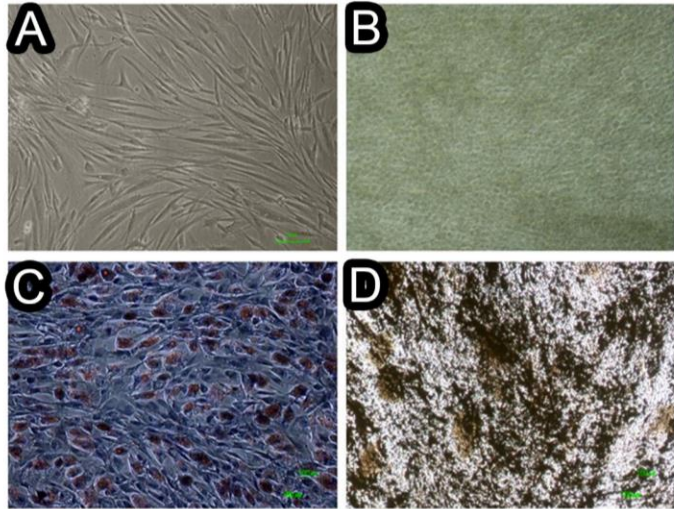
## **Successful Introduction Of Renovascular Units Into The Mammalian Kidney – Supplementary Information**

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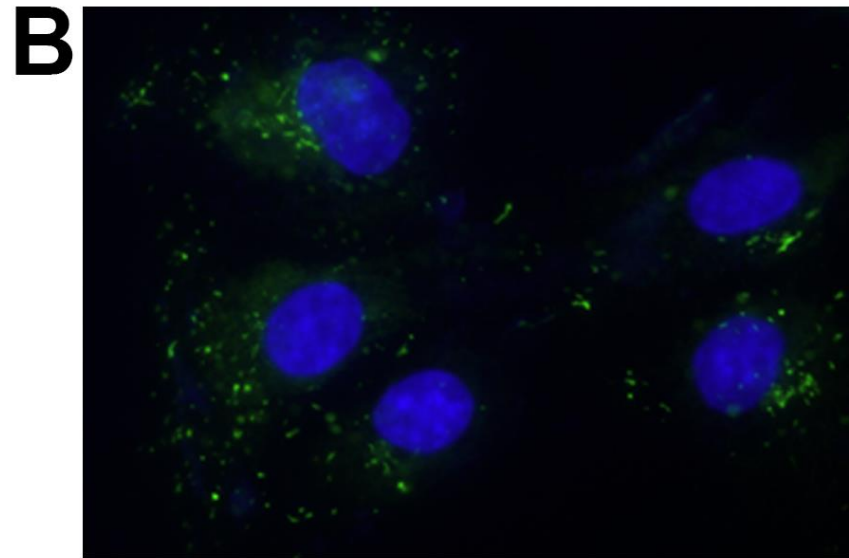
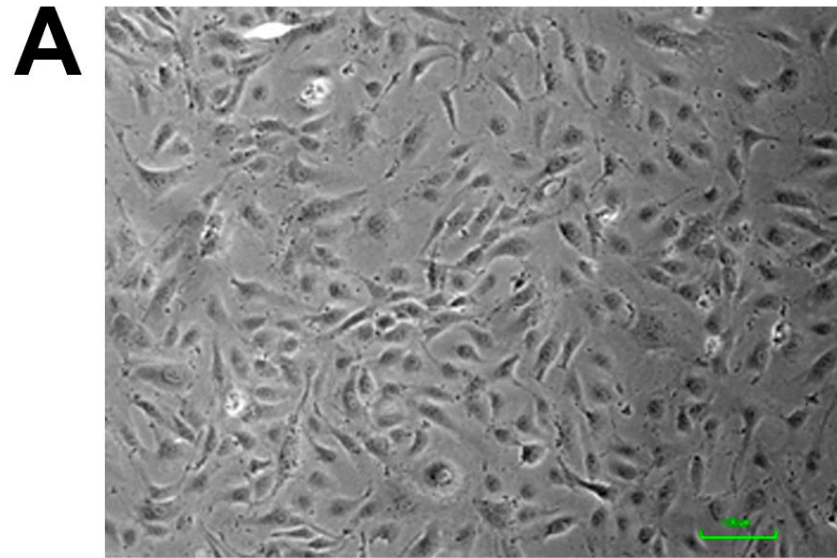
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## Supplementary figure 1: Characterization of MSCs

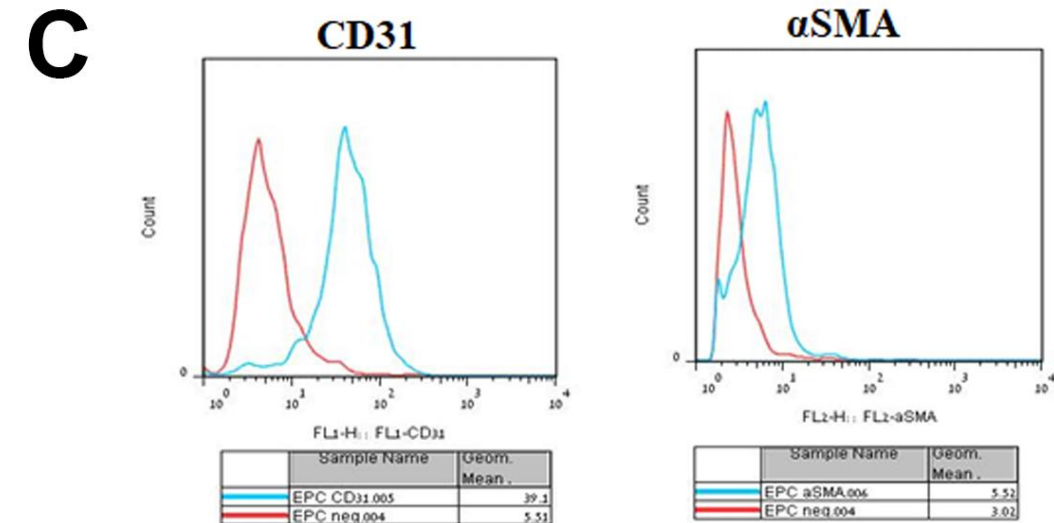


**Supplementary figure 1: Characterization of human MSCs.** (A) The cells show the characteristic elongated, fibroblast-like morphology. (B-D) The cells were verified to have multi-potential differentiation activity, as evident by adipogenic (C, Oil-Red-O staining) and osteogenic (D, alizarin-red staining) differentiation. B-negative control (growth medium). (E) Flow cytometric characterization of MSCs, demonstrating the characteristic expression of CD73, CD90, CD105 and CD166, alongside negative expression of CD3, CD14, CD34, and CD45. Scale bars: 100µm.

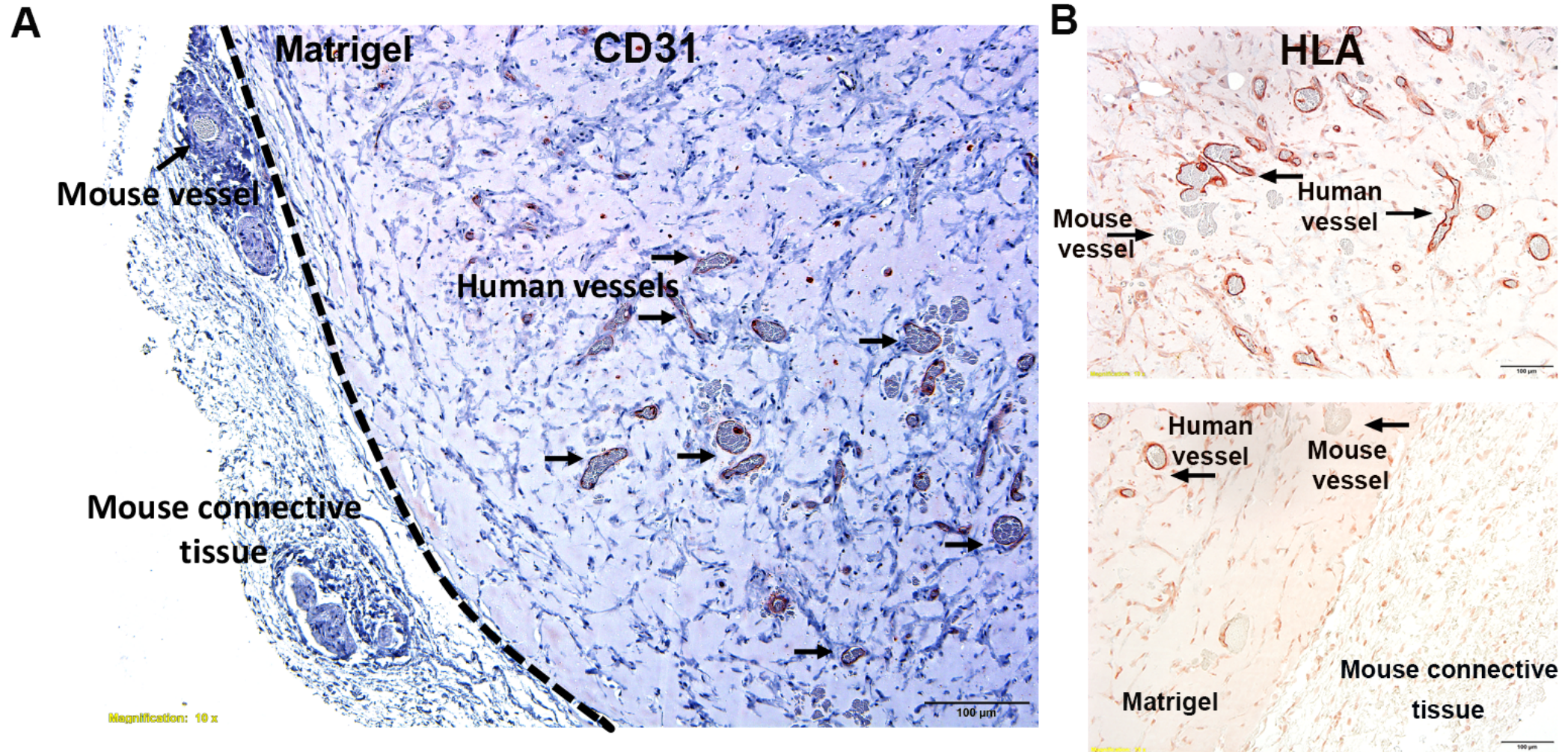
## Supplementary figure 2: Characterization of ECFCs



**Supplementary figure 2: Characterization of ECFCs.** (A) The cells have the typical endothelial morphology. (B) Immunofluorescent staining, exhibiting the characteristic expression of vWF (**green**). (C) Flow cytometric analysis, demonstrating the characteristic expression of CD31 (**left**) alongside negative expression of  $\alpha$ SMA (**right**).

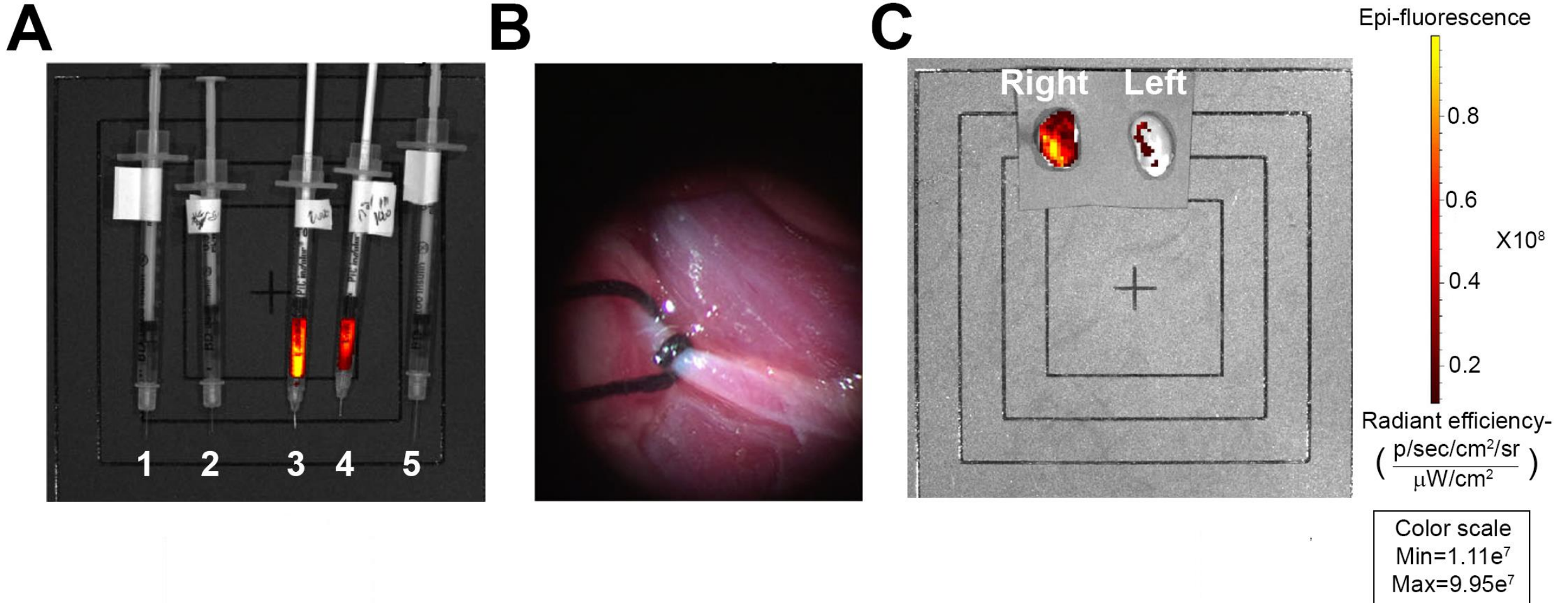


## Supplementary figure 3: Validation of human-specificity of anti-CD31 antibody



**Supplementary figure 3:** *Validation of human-specificity of anti-CD31 antibody:* human graft within mouse tissue was stained using a human-specific CD31 antibody (**A**) as well as for the human-specific marker HLA (**B**). Human vessels are stained by both the CD31 antibody and HLA antibody, whereas mouse vessels are negative for both. Dotted line marks the border between the graft and adjacent mouse tissue. Scale bars: 100μm.

## Supplementary figure 4: In-vivo tracing of intra-arterially injected hAK cells



**Supplementary figure 4:** *In-vivo tracing of intra-arterially injected hAK cells:* hAK cells were infected with a retroviral vector to generate constitutive mCherry expression and injected into the right renal artery. **(A)** Syringes containing saline (syringes 1 and 5),  $10^5$  cells (syringe 2),  $2 \times 10^6$  cells (syringe 3), or  $10^6$  cells (syringe 4). **(B)** Intra-operative photo of exposed renal artery. **(C)** Visualization of the kidneys, two hours following injection of  $2 \times 10^6$  mCherry-labeled hAK cells into the right renal artery.

## Supplementary table 1: Antibodies used in the manuscript

Antibodies		
<b>Recombinant Rabbit Anti-HLA A antibody [EP1395Y]</b>	abcam	Cat#ab52922
<b>Rabbit anti-Cytokeratin, Wide Spectrum Screening</b>	Dako	Cat#Z0622
<b>EMA (E29) Mouse Monoclonal Antibody</b>	Cell Marque	Cat#247M-98
<b>Anti-VEGFA antibody</b>	Sigma Aldrich	Cat#HPA069116
<b>DBA dolichos biflorus agglutinin (DBA)</b>	Vector Laboratories	Cat#FL-1031
<b>Monoclonal mouse anti human CD31</b>	DAKO	Cat#M0823
<b>Rabbit polyclonal Lrp2/ Megalin</b>	abcam	Cat#ab76969
<b>Alexa Fluor® 488 donkey anti mouse IgG</b>	Invitrogen	Cat#A21202; RRID:AB_141607
<b>Alexa Fluor® 555 donkey anti mouse IgG</b>	Invitrogen	Cat#A31570; RRID:AB_2536180
<b>ImmPRESS™ systems anti-mouse-HRP</b>	Vector Laboratories	Cat#MP-7402; RRID:AB_2336528
<b>ImmPRESS™ Anti-Rabbit Alkaline Phosphatase</b>	Vector Laboratories	Cat#MP-5401; RRID:AB_2336536