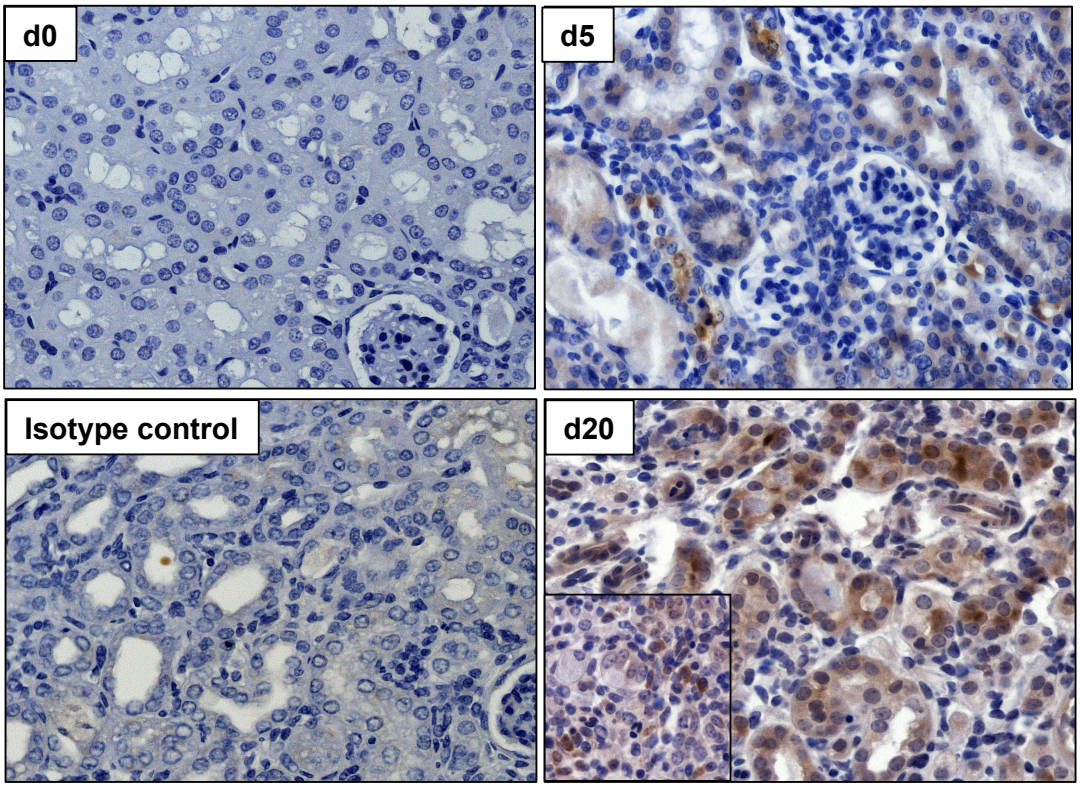
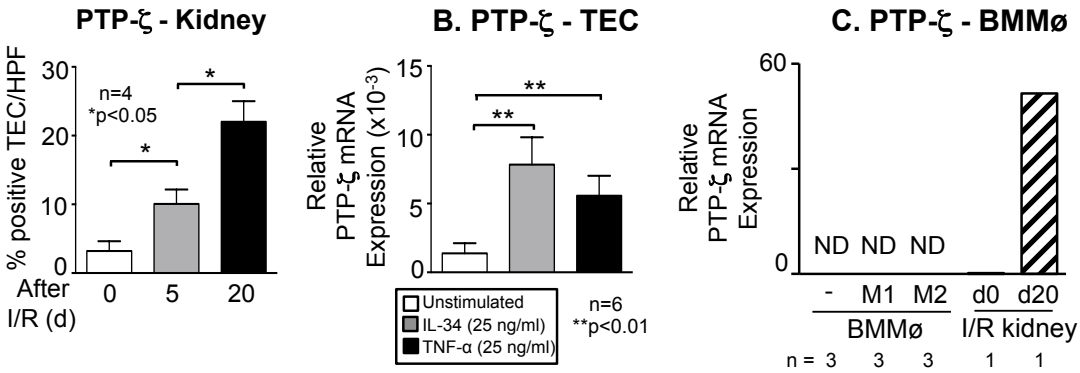
**A. Mouse PTP-ζ Expression - Kidney** **Supplement Figure 1**

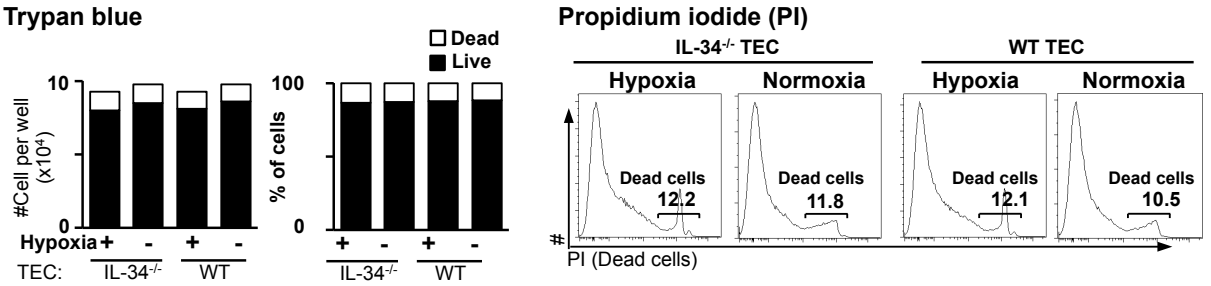


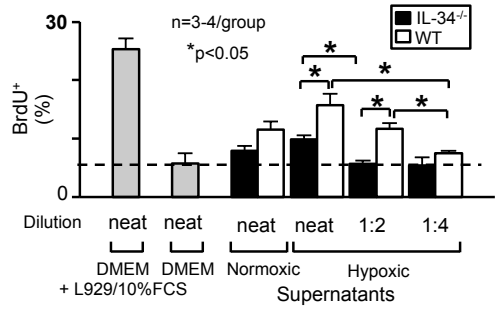

**Supplement Figure 1. PTP-ζ is increased in the kidney after I/R. (A)** PTP-ζ expression in B6 kidneys identified using immunostaining (brown reaction product). Representative photomicrographs are shown. Original magnification = x20. **(B)** PTP-ζ expression in primary isolated TEC from B6 mice following stimulation with TNF-α or IL-34 by qPCR. This experiment was repeated twice. **(C)** *In vitro* generated BMMø were stimulated either with M1 cytokines (LPS + IFN-γ) or M2 cytokines (IL-4 + IL-10) and probed for PTP-ζ expression using qPCR. ND = not detected. Statistics analyzed using the Mann-Whitney U test. Values are means ± SEM.

## A. Hypoxic/Normoxic TEC Viability

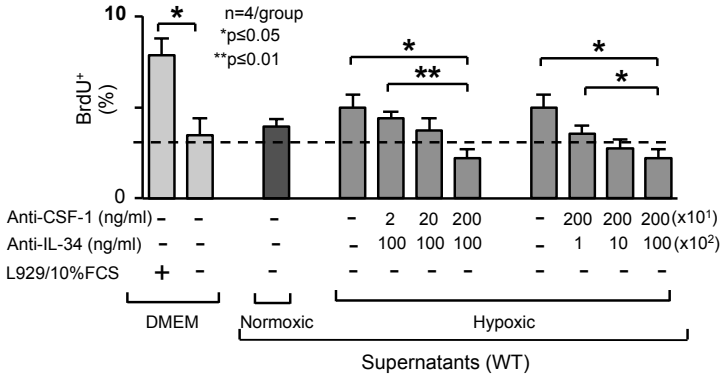
**Supplement Figure 2**



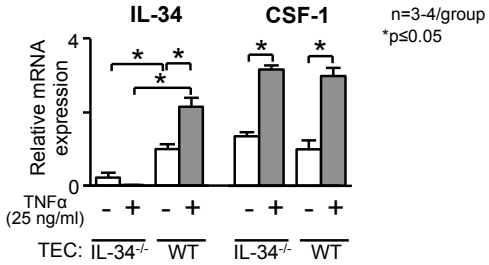

## B. *In vitro* Proliferation (BrdU)



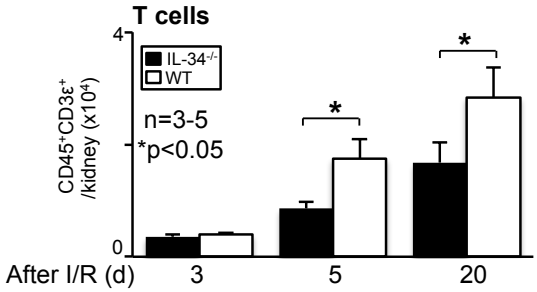

## C. Blocking IL-34 and CSF-1 (BrdU)




## D. IL-34 and CSF-1 Expression by TEC

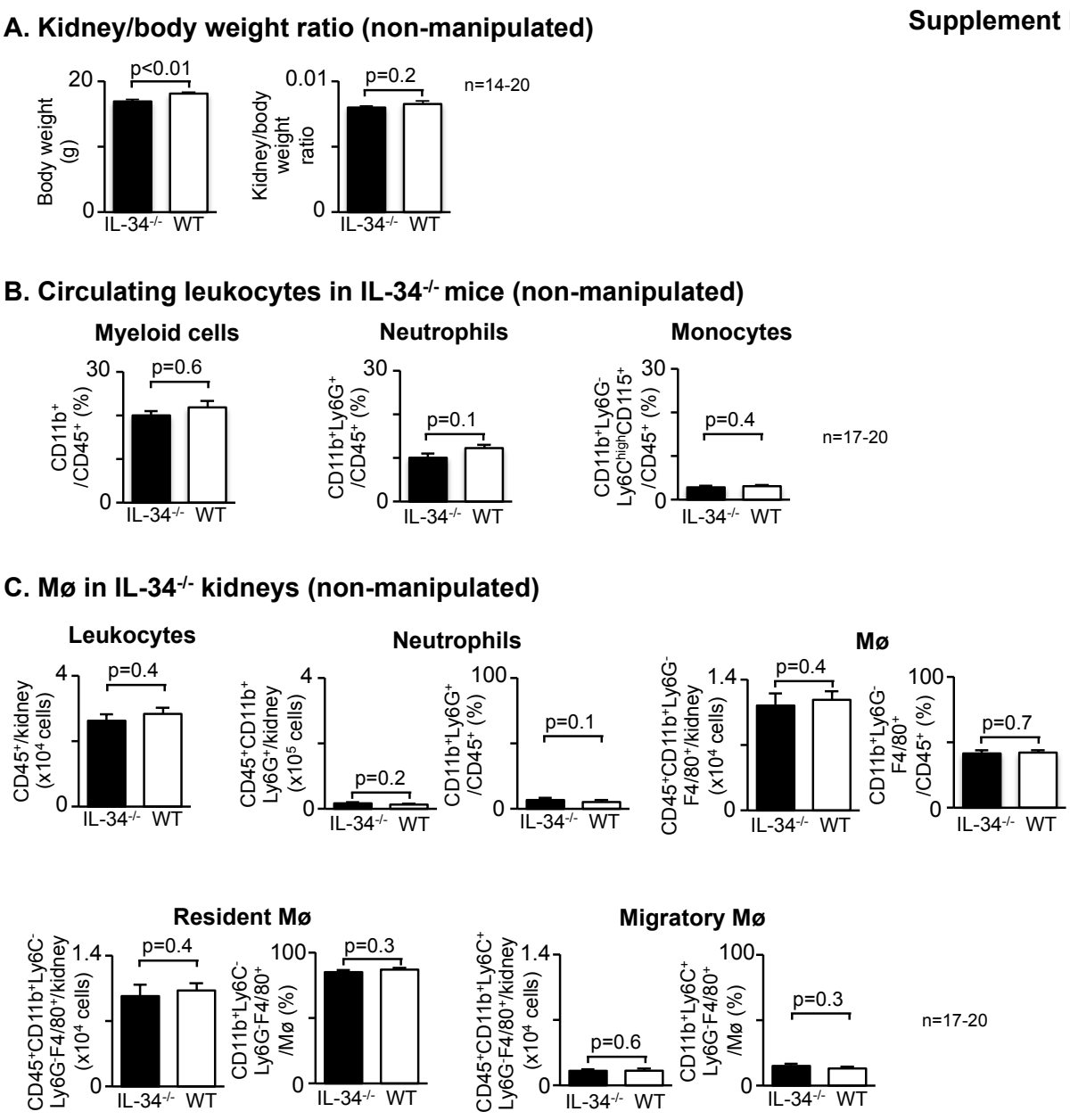



**Supplement Figure 2.** IL-34$^{-/-}$ and WT TEC were cultured under normoxic or hypoxic conditions. After 24 h, cells and cell supernatants were harvested. **(A)** TEC were analyzed for viability by trypan blue and propidium iodide (PI) staining. **(B)** BMMø were stimulated with supernatants of hypoxic and normoxic TEC from IL-34$^{-/-}$ and WT mice. Proliferation was analyzed by BrdU incorporation and flow cytometry. **(C)** To inhibit BMMø proliferation, we supplemented TEC supernatants with increasing concentrations of anti-CSF-1 and anti-IL-34 blocking antibodies. **(D)** Transcriptional expression of CSF-1 and IL-34 in primary TEC of IL-34$^{-/-}$ and WT mice treated (24h) with TNF-a (25 ng/ml). IL-34 and CSF-1 mRNA determined by qPCR, normalized to GAPDH. Values are means ± SEM. Statistical differences were determined by Mann-Whitney U test.



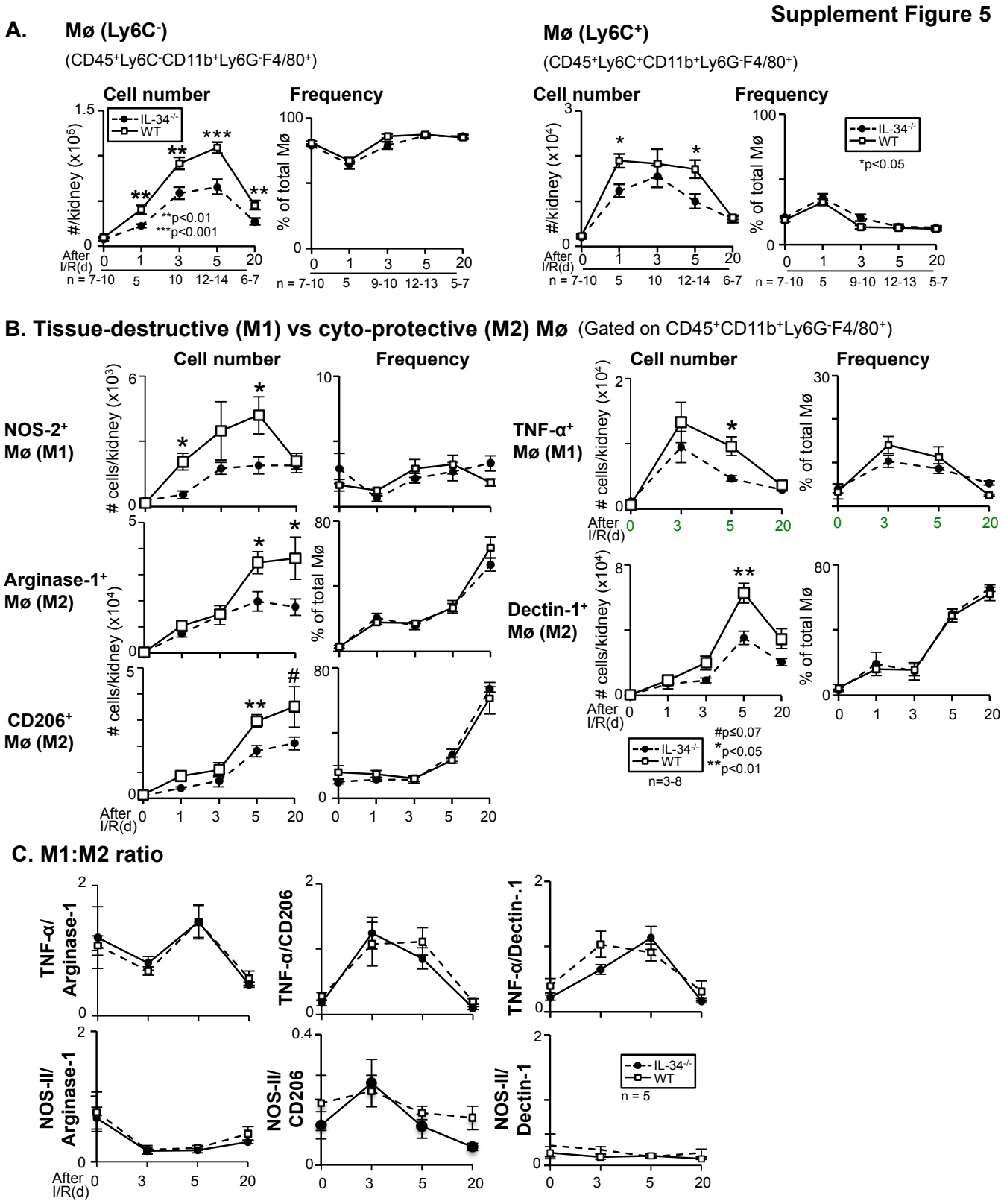

**Supplement Figure 3**. **T cells are decreased in IL-34$^{-/-}$ kidney as compared to the WT kidney after I/R.** IL-34$^{-/-}$ and WT kidneys were digested using collagenase and dissociated to single cell suspension. Using flow cytometry, we analyzed the total number of T cells using T cell-specific marker CD3ε. Statistics analyzed by the Mann-Whitney U test. Values are mean ± SEM.

**Supplement Figure 4**



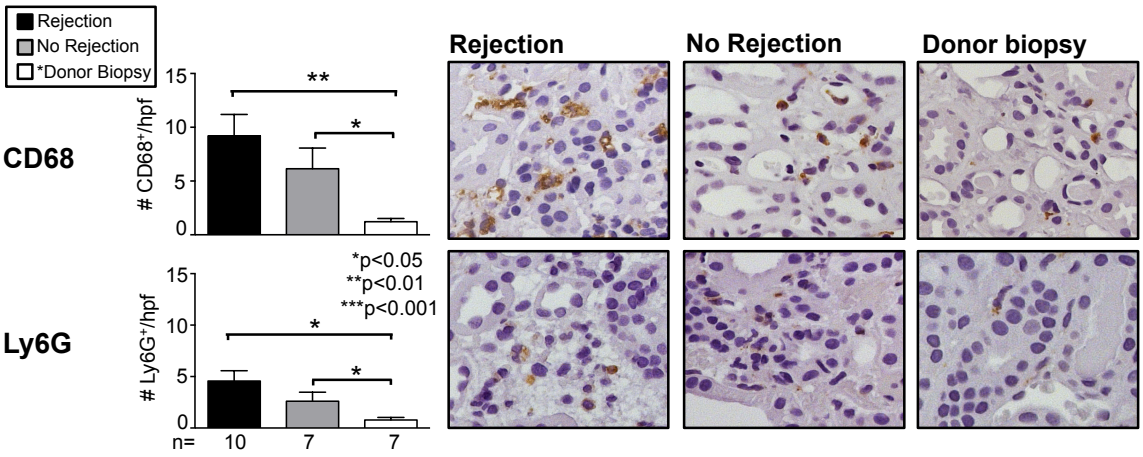

**Supplementary Figure 4**. **Myeloid populations are similar in the circulation and kidney of IL-34$^{-/-}$ and WT mice.** (A) Body weight and ratios of kidney weight to body weight in IL-34$^{-/-}$ and WT mice at 6 wks of age. (B) IL-34$^{-/-}$ and WT blood was analyzed for the frequencies of myeloid cells, neutrophils and monocytes. (C) IL-34$^{-/-}$ and WT kidneys were digested using collagenase and dissociated to single cell suspension. Using flow cytometry, we analyzed the total number and frequency of leukocytes, neutrophils, migratory and resident Mø. Statistics analyzed by the Mann-Whitney U test. Values are mean ± SEM.

**Supplement Figure 5**




**Supplement Figure 5. IL-34 increases the number, but does not polarize Mø.** We analyzed cells taken from the entire kidney prior to and after I/R. **(A)** Ly6C$^-$ (left panel) and Ly6C$^+$ Mø (right panel) were analyzed by flow cytometry. **(B)** The total number and the frequency of M1 (NOS-2$^+$Ly6C$^+$) and M2 Mø (Dectin-1$^+$CD206$^+$ and Arginase-1$^+$CD206$^+$) and **(C)** and ratio of M1/M2 were analyzed by flow cytometry. Statistics analyzed by the Mann-Whitney U test. Data are means ± SEM.

**Supplement Figure 6**




**Supplement Figure 6. Intra-renal infiltrates (CD68$^+$ and Ly6G$^+$) are increased in engrafted and rejected kidney transplants.** Kidney biopsies include: the donor (living and deceased after reperfusion) and engrafted and rejected (acute cellular) transplant (within 6 mo of transplant). Mø (CD68$^+$) and neutrophils (Ly6G$^+$) expression detected in renal biopsy by immunostaining. Representative photomicrographs. Original magnification = x40. Statistics analyzed by the Mann-Whitney U test. Values are mean ± SEM.