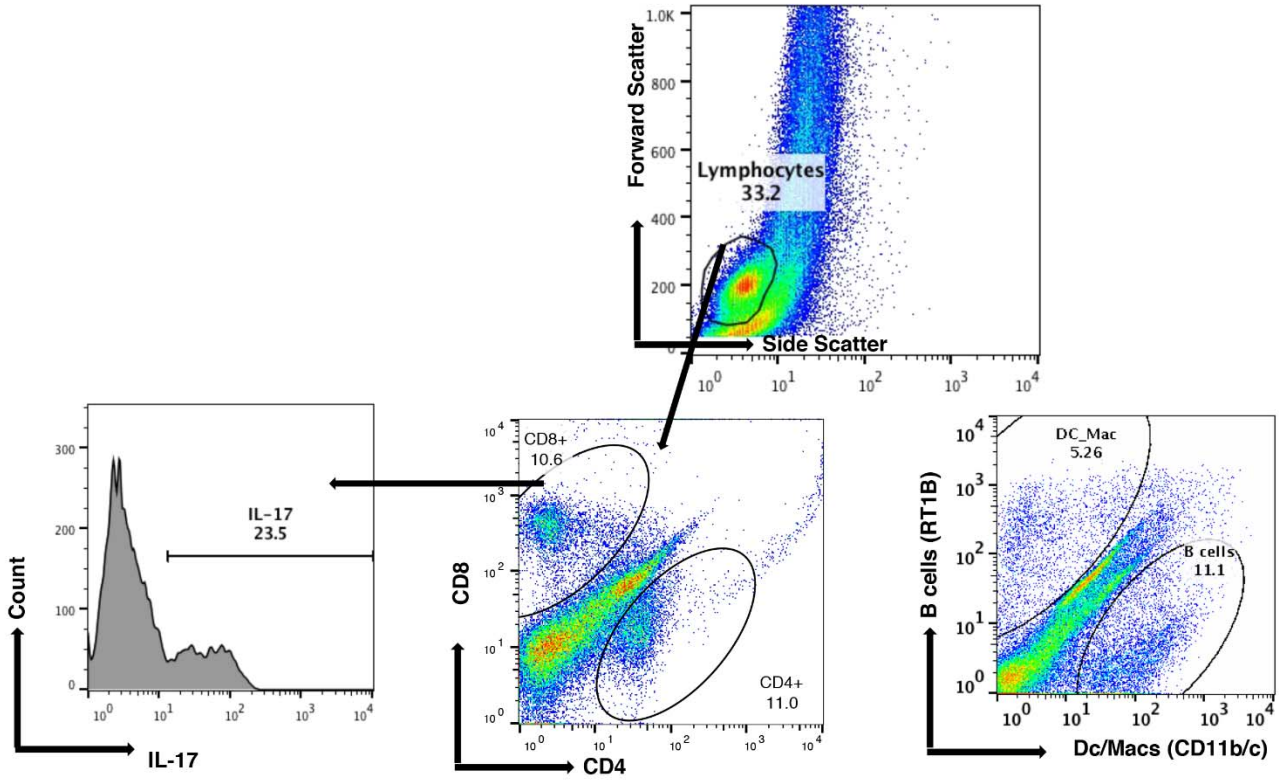
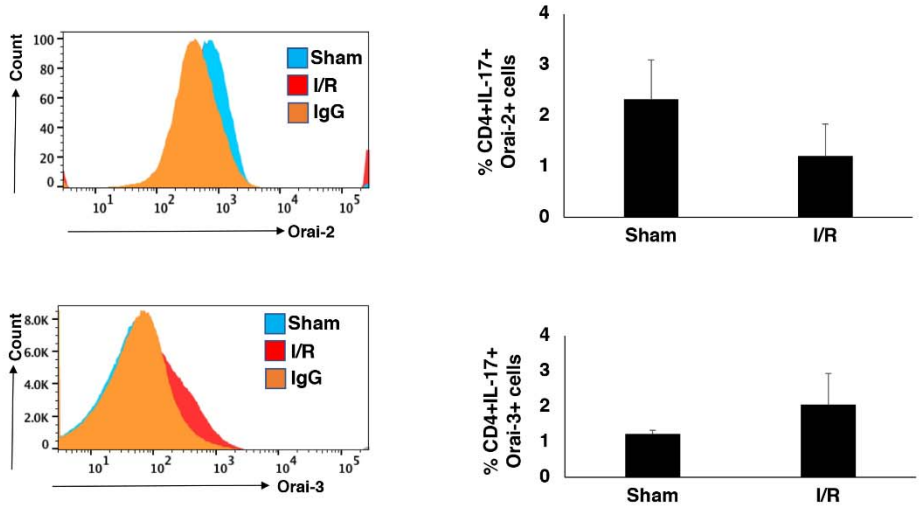
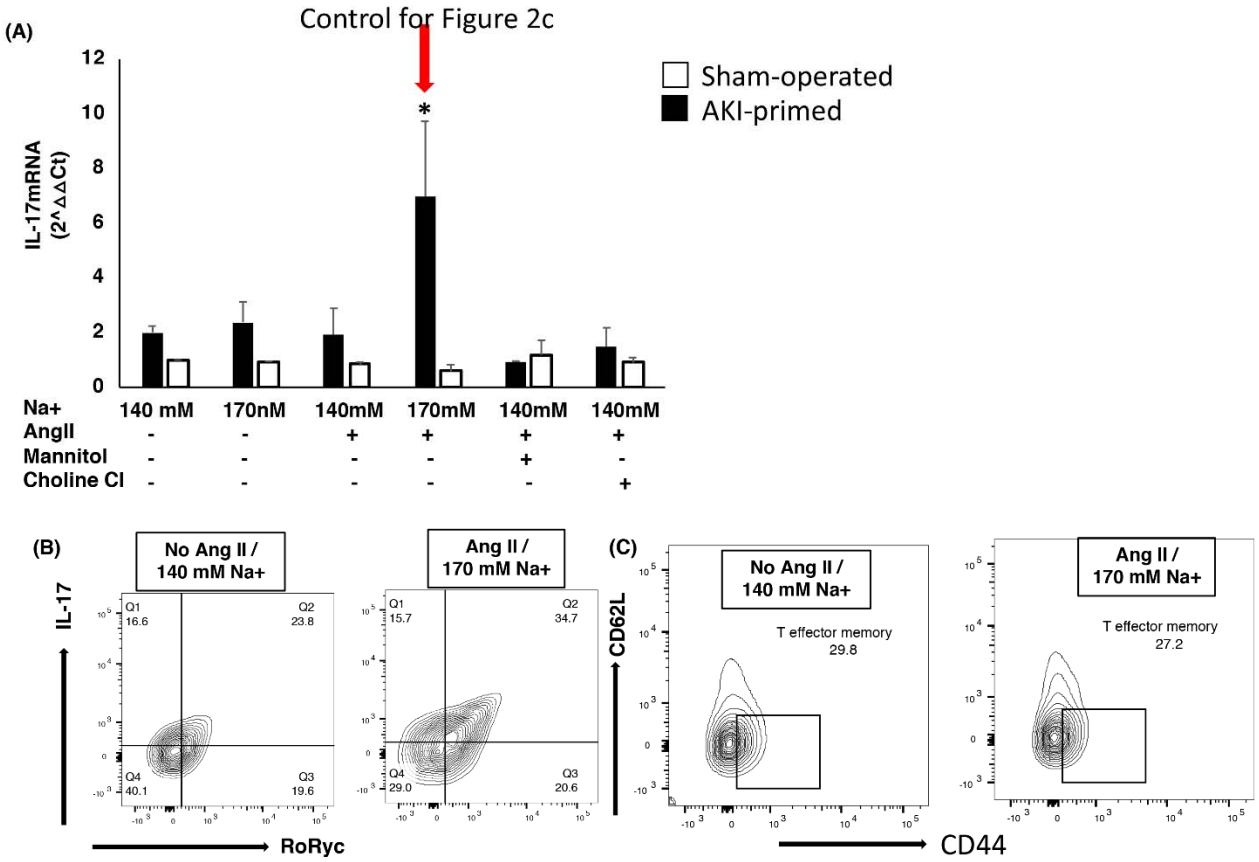


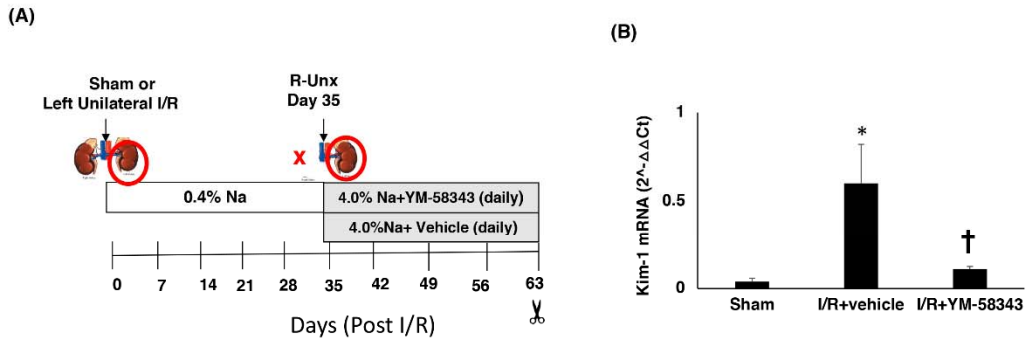
Supplemental Figure 1. A) Gating strategies for the phenotypic analysis of infiltrating immune cells in the kidney. Lymphocyte gating is based on the forward scatter vs side scatter, which is further gated on CD4+ or CD8+T cells or B-cells or DC/M$^{\phi}$. These populations were analyzed further based on IL-17 or Orai1 expression as described in text. B) Expression of Orai1 and Orai1+/IL17+ cells in CD8, B cells, NK cells and macrophages.



Supplemental Figure 2. Orai2 and Orai3 expression in kidney lymphocytes following renal I/R injury. A) Representative histogram of Orai2+ lymphocytes (left panel) and percent CD4+/Orai2+ cells in kidney 2 days following sham or I/R injury. B) Representative histogram of Orai3+ lymphocytes (left panel) and percent CD4+/Orai3+ cells in kidney 2 days following sham or I/R injury. Data are mean ± SE from a minimum of 3 independent rats per group; no statistical differences were observed between sham and I/R.



Supplemental Figure 3. Characterization of the cells used for in vitro stimulation following AKI priming. A) Representative FACS analysis of RORγT staining in CD4+ cells isolated 7 days following sham or I/R surgery. B) Renal injury primes IL17 mRNA response in kidney derived CD4+ cells. Renal CD4 cells were isolated from kidney 7 days following sham (open bar) or I/R surgery (black bar). Cells were incubated for 12-14 hours in media containing either 140 or 170 mM Na^+ with or without Ang II (10^{-7}M) as shown. To control for supplementation of NaCl to the media, some samples were stimulated with equimolar mannitol (60 mM) or choline chloride (30 mM) as shown. IL17 mRNA is expressed as $2^{-\Delta\Delta CT}$ and is mean ± SE from a minimum of 3 independent rats per group; * indicates $P < 0.05$ vs control (i.e., 140 mM Na^+, no added Ang II), by one-ANOVA and Tukey's post-hoc test. Note the response of AKI primed cells with Ang II and added Na+ indicated by the arrow represent the control condition used in Figure 2C. C) Representative contour plots indicating the co-expression of IL17 with RORγT (RoRyc) in CD4+ cells from post-AKI rat kidney under control conditions and following stimulation with Ang II and elevated Na. D) Representative FACS analysis of CD4+ cells from post-IR rat kidney illustrating central memory T cells (CD44+CD62L-) before and after in vitro stimulation.



Supplemental Figure 4. A) Schematic outline of timeline to investigate the role of SOCE in progression of CKD following acute I/R injury. B) Renal Kim-1 expression measured in sham, I/R vehicle and YM 58483 is shown.

Supplemental Table 1a. Antibodies utilized for flow cytometry for rat studies

Name	Catalog	Clone	Source
Mouse anti-rat CD4 PE-Cy5	554839	OX-35	BD Pharmingen
Mouse anti-rat CD8 Alexa fluor 647	561611	OX-8	BD Pharmingen
IL-17A monoclonal antibody FITC	11-7177-80	Ebio17b7	ebiosciences
Mouse anti-rat IFN-y FITC	559498	DB-1	BD Pharmingen
PE mouse anti-rat IL-4	555082	OX-81	BD Pharmingen
FITC Mouse Anti-Rat RT1B	554928	OX-6	BD Pharmingen
FITC Mouse Anti-Rat CD11b/c	554862	OX-42	BD Pharmingen
Anti-Orai-1	ACC-062	Peptide	Alomone Lab
Anti-rat CD44 APC	FAB6577A	740017	RnD Biosystem
Anti-Orai-2	ACC-061	Peptide	Alomone Lab
Anti-Orai-3	ACC-065	Peptide	Alomone Lab
Anti-RoRyc	562607	Q31-378	BD Pharmingen

Supplemental Table 1b. Antibodies utilized for flow cytometry for human studies

Name	Catalog	Clone	Source
Anti-IL-17 PE	512306	BL168	Biolegend
Anti-CD4 PerCp	317432	OKT4	Biolegend
FITC orai-1	ACC-060	Peptide	Alomone Labs

Supplemental Table 2: Percent of Orai1 expression in different leukocyte populations in kidney following sham and I/R injury.

	%Orai1+ cells	
	Sham	I/R
CD4	27.1±9.8	77.9±15.3*
CD8	0.85±0.01	0.59±0.02
B cells	0.98±0.48	1.47±0.35
CD11b/c	3.2±0.7	5.5±0.65

* indicates $P < 0.05$ I/R vs sham by Student's t-test.