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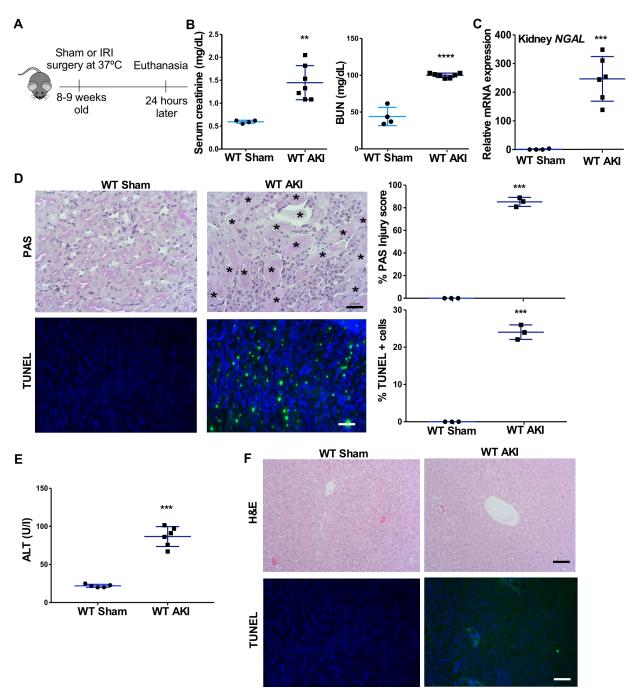
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Supplemental Table 1: Sequences of qRT-PCR primers.

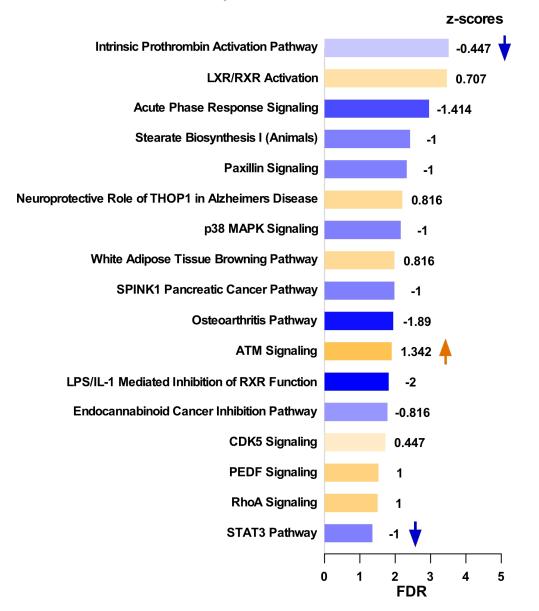
Mouse	Forward	Reverse
genes		
Car	GGAGGACCAGATCTCCCTTC	GTGGAGGATCGACTCCAAAA
Cyp24a1	GAGGAAGAAGCCCTGACCTT	TGCAGGGCTTGACTGATTTG
Fgg	GTGCTGGCTGTAAAGAGCTG	TGGGCAGAAACTACCGAATCT
<i>Il-6</i>	TCCTCTCTGCAAGAGACTTCCATCC	GGGAAGGCCGTGGTTGTCACC
Lxrα	GCCTCAATGCCTGATGTTTC	CTGCATCTTGAGGTTCTGTCTTC
Ngal	AATGTCACCTCCATCCTGGT	ATTTCCCAGAGTGAACTGGC
Stat5a	GCTCAGCGCCCACTTCA	GACTCTGCACCACGCCTGT
Sultlel	GCCAAAGATGTCGCCGTTTC	AACCATACGGAACTTGCCCT

#### Supplemental Figure 1



Supplemental Figure 1: Establishment of the bilateral renal ischemia reperfusion model of AKI. (A) Schematic representation of the ischemic AKI model. (B-F) WT male mice were subject to the 30-min ischemic AKI, and the mice were sacrificed 24 h after the surgery. Shown are serum levels of creatinine and BUN (B), renal mRNA expression of *NGAL* (C), kidney histology (D, with asterisks indicating tubular damage), serum ALT level (E), and liver histology (F). n=7 for each group. Scale bars are 50  $\mu$ m. Results are presented as the mean  $\pm$  SD. \*\*\*, P < 0.001; \*\*\*\*, P < 0.0001, compared with the sham group.

### Supplemental Fig. 2A



### Kidney / KO AKI vs WT AKI / Males

**Supplemental Figure 2: Ingenuity pathway analysis (IPA) of microarray results. (A-C)** Shown are z-scores and false discovery rate (FDR) of male kidney (KO AKI vs WT AKI) (A), male liver (WT AKI vs WT Sham) (B) and female liver (WT AKI vs WT Sham) (C). Several upregulated (orange arrows) and down-regulated (blue arrows) pathways are highlighted.

# Supplemental Fig. 2B

### Liver / WT AKI vs WT Sham / Males

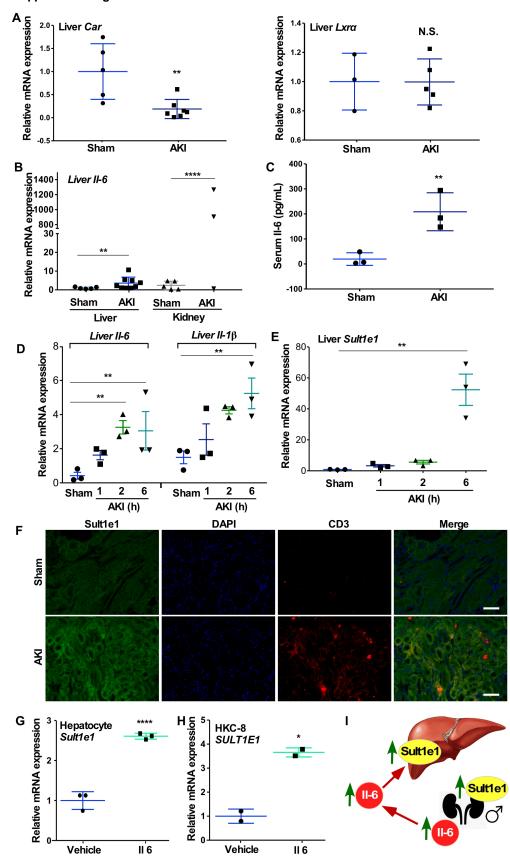
			7-	scores
SPINK1 Pancreatic Cancer Pathway				-1.89
LXR/RXR Activation			-1.6	
				007
Osteoarthritis Pathway			.667	
Type II Diabetes Mellitus Signaling		-1.34		
Apelin Endothelial Signaling Pathway		1.13		
RhoA Signaling		1.134		
Dopamine-DARPP32 Feedback in cAMP Signaling		-1.134		
SPINK1 General Cancer Pathway		-2		
Corticotropin Releasing Hormone Signaling		-1.342		
GPCR-Mediated Nutrient Sensing in Enteroendocrine Cells		-1.633		
LPS/IL-1 Mediated Inhibition of RXR Function		2.449		
Apelin Adipocyte Signaling Pathway		1.342		
Receptor-mediated Phagocytosis in Macrophages and Monocyt <b>E</b>		1.342		
CXCR4 Signaling		1.134		
Acute Phase Response Signaling		1.633		
Endothelin-1 Signaling		1.134		
Rac Signaling		1.342		
Signaling by Rho Family GTPases		1.89		
Tec Kinase Signaling		-1.342		
CREB Signaling in Neurons		-2		
Endocannabinoid Neuronal Synapse Pathway		1.342		
White Adipose Tissue Browning Pathway		-1.342		
Synaptic Long Term Potentiation		-1.342		
				_
(	01	23	4	5
		FDR		

# Supplemental Fig. 2C

## Liver / WT AKI vs WT Sham / Females

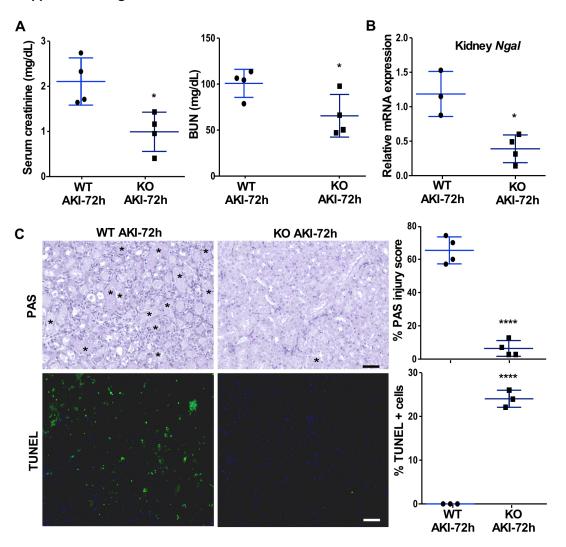
	z-scores	
LPS/IL-1 Mediated Inhibition of RXR Function	1.89	
Superpathway of Cholesterol Biosynthesis	-2.236	
VDR/RXR Activation	1.342	
CD27 Signaling in Lymphocytes	2	
EGF Signaling	1.342	
Acute Phase Response Signaling	1.414	
Production of Nitric Oxide and Reactive Oxygen Species in Macrophages	1.134	
LXR/RXR Activation	-1.134	
IL-6 Signaling	1.633	
Signaling by Rho Family GTPases	1.89	
LPS-stimulated MAPK Signaling	1.342	
IL-8 Signaling	1.633	
Cardiac Hypertrophy Signaling	1.633	
CXCR4 Signaling	1.342	
TGF-β Signaling	1.342	
NF-ĸB Signaling	1.134	
Pancreatic Adenocarcinoma Signaling	1.342	
Rac Signaling	1.342	
Superpathway of Inositol Phosphate Compounds	1.134	
RhoA Signaling	1.342	
RANK Signaling in Osteoclasts	2	
	0 1 2 3 4 5 FDR	

### **Supplemental Figure 3**



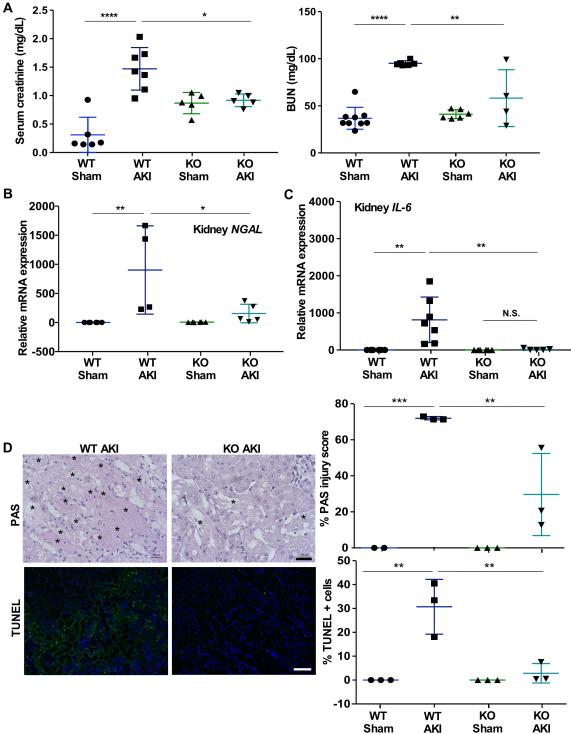
Supplemental Figure 3: Inflammation is a potential mechanism for AKI responsive induction of Sult1e1 in the liver. (A-F) Mice are the same as described in Figure 1. Shown are hepatic mRNA expression of *Car* and *Lxra* (A), hepatic and renal mRNA expression of *Il-6* (B), serum level of Il-6 measured by ELISA (C), time course of hepatic expression of *Il-6* and *Il-1β* (D) and *Sult1e1* (E), and immunofluorescence of Sult1e1 and CD3 (F). (G and H) The expression of *Sult1e1* in primary hepatocytes (G) and HKC-8 cells (H) treated with vehicle or Il-6. (I) Proposed model of Il-6-mediated distal regulation of hepatic Sult1e1 by AKI. Scale bars are 50 µm. Results are presented as the mean  $\pm$  SD. \*, P < 0.05; \*\*, P < 0.01; \*\*\*\*, P < 0.0001, N.S., statistically not significant, compared with the sham groups, or the comparisons are labeled.

**Supplemental Figure 4** 



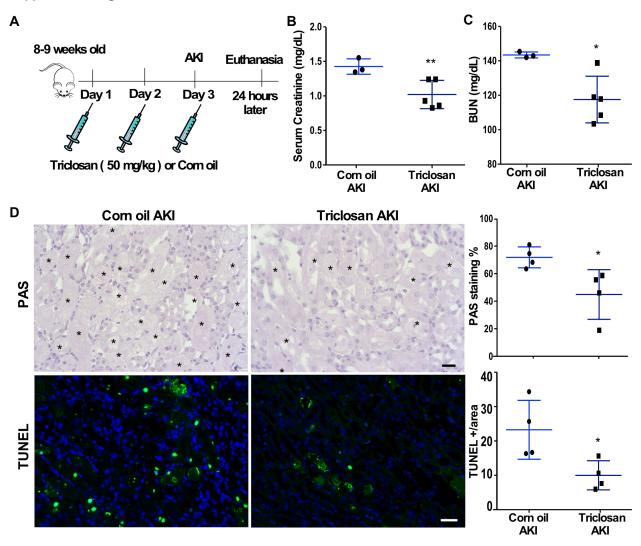
Supplemental Figure 4: Renal protective effect of Sult1e1 ablation 72-hours post AKI. (A-C) WT male mice were subjected to the 30-min ischemic AKI, and the mice were sacrificed 72 h after the surgery. Shown are serum levels of creatinine and BUN (A), renal mRNA expression of NGAL (B), and kidney histology (C, with asterisks indicating tubular damage). n=4 for each group. Scale bars are 50  $\mu$ m. Results are presented as the mean  $\pm$  SD. \*P < 0.05, compared with the WT AKI-72h groups.





Sham AKI Sham AKI Supplemental Figure 5: Knockout of Sult1e1 protects female mice from AKI. (A-D) WT and Sult1e1 KO female mice were subjected to the 30-min ischemic AKI, and the mice were sacrificed 24 h after the surgery. Shown are serum levels of creatinine and BUN (A), renal mRNA expression of *NGAL* (B) and *Il-6* (C), and kidney histology (D, with asterisks indicating tubular damage). n=4 for each group. Scale bars are 50  $\mu$ m. Results are presented as the mean  $\pm$ SD. \*P < 0.05; \*\*, P < 0.01; \*\*\*, P < 0.001; the comparisons are labeled.

Supplemental Figure 6



Supplemental Figure 6: Treatment with triclosan protects WT female mice from AKI. (A) Schematic representation of the triclosan (50 mg/kg) regimen. (B-D) Female mice were treated with three daily i.p. doses of triclosan or the vehicle corn oil before being subjected to the AKI surgery. Shown are serum levels of creatinine (B) and BUN (C), and the kidney histology (D, with asterisks indicating tubular damage). n=4 for each group. Scale bars are 50  $\mu$ m. Results are presented as the mean  $\pm$  SD. \*P < 0.05; \*\*, P < 0.01, compare to the corn oil AKI groups.