Supplemental table 1. miRs with over 2-fold change identified by Affymetrix microRNA microarray in renal biopsies from patients with lupus nephritis

Probeset ID	p-value	Fold-Change (high CI vs. low CI)
Upregulated miRs		
hsa-miR-150	0.044	3.89
hsa-miR-449b	0.012	2.76
hsa-miR-196a	0.010	2.71
hsa-miR-516a-3p	0.019	2.23
hsa-let-7i	0.026	2.10
hsa-miR-520c-5p	0.028	2.03
hsa-miR-300	0.030	2.03
Downregulated miRs		
mdv1-miR-M6	0.020	-2.04
hsa-miR-130a*	0.048	-2.09
hsa-miR-212	0.016	-2.15
hsa-miR-369-3p	0.027	-2.21
ebv-miR-BART18-5p	0.007	-2.21
hsa-miR-558	0.028	-2.27
hsa-miR-141*	0.002	-2.45
hsa-miR-186	0.034	-2.73
hsa-miR-122*	0.026	-2.77

Supplemental table 1. Sixteen miRs were identified to have over 2-fold change on microarray analysis in the renal biopsies with high chronicity index (CI) compared to low CI in lupus nephritic patients.

Supplemental table 2. Primer IDs used in Taqman RT-PCR from Applied Biosystem

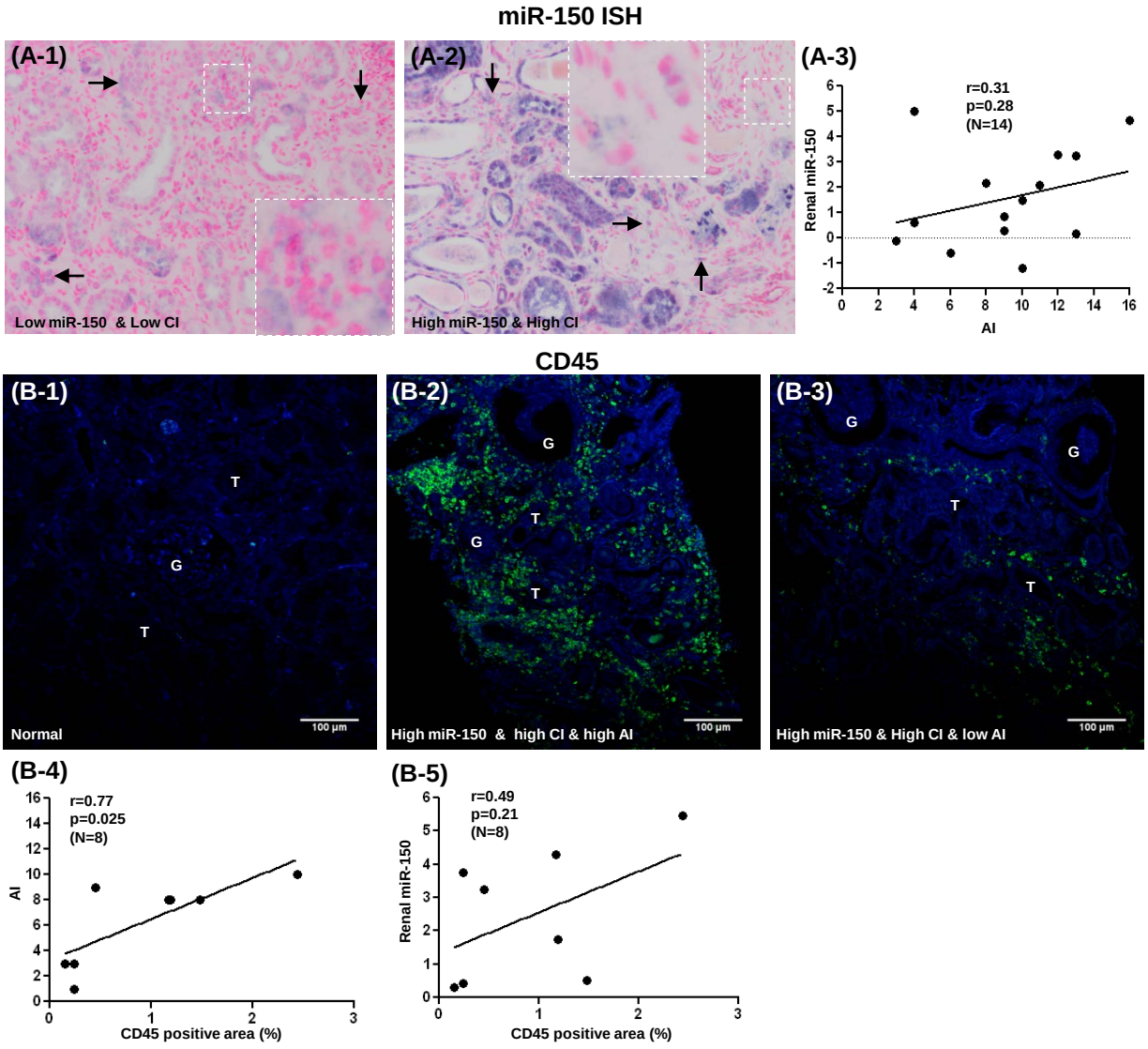
Gene Name	Primer ID
miR-150	ID 000473
U48	ID 001006
SOCS1	Hs00705164_s1
Fibronectin (FN)	Hs00365052_m1
Collagen I (COL1)	Hs00164004_m1
Collagen III (COL3)	Hs00943809_m1
TGF-β1	Hs00998133_m1
GAPDH	Hs99999905_m1

Supplemental table 3. Antibodies used in immunostaining in renal biopsies from lupus nephritis

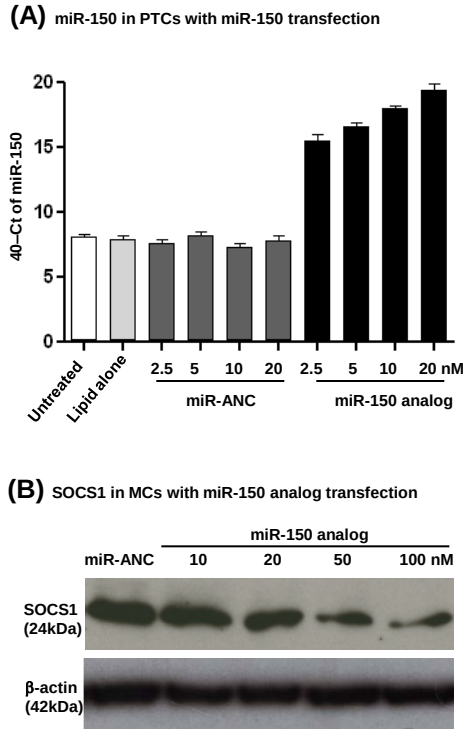
Antibody name	Host	Dilution (ug/ml)	Company	Catalog #
COL1	Rabbit	10 ug/ml	ThermoScientific	PA1-26204
SOCS1	Rabbit	2 ug/ml	Abcam	ab62584
TGF-β1	Mouse	5 ug/ml	Abcam	ab27969
FN	Mouse	10 ug/ml	Santa Cruz	sc-18825
COL3	Mouse	10 ug/ml	Acris	AF5810
CD45	Mouse	1 ug/ml	Dako	M0701
Alexa-594 /488 donkey anti-rabbit/mouse IgG	Donkey	1:300	Invitrogen	A21202 A21203 A21207 A21206

Supplemental table 4. Three renal cell lines and optimized concentration of treatment agents

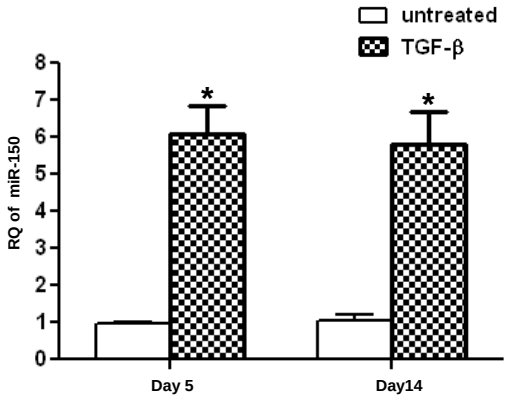
Renal cells / Treatment Agents	Primary human renal proximal tubular epithelial cells (PTCs)	Primary human mesangial cells (MCs)	Human podocyte cell line
miR-150 analog Cat #MIN0000451 (Qiagen)	10nM	50nM	Unable transfect
miR analog negative control Cat#1027280 (Qiagen)	10nM	50nM	N/A
miR-150 inhibitor Cat # 4464084 (Ambion)	25nM	N/A	Unable transfect
*mir*Vana™ miRNA Inhibitor Negative Control #1 Cat#4464076 (Ambion)	25nM	N/A	N/A
SOCS1 siRNA Cat# s16468 (Ambion)	20nM	50nM	Unable transfect
siRNA negative control #1 Cat# 4390843 (Ambion)	20nM	50nM	N/A
human TGF-β1 (hTGF-β1) Cat# 100B (R & D)	250pg/ml	10ng/ml	10ng/ml



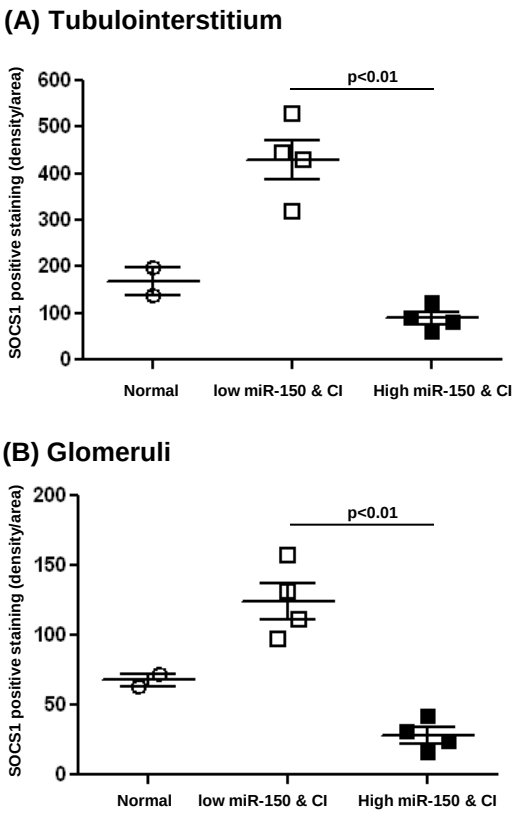
Supplemental Figure 1. Association between total infiltrating cells and miR-150 in kidney biopsies from lupus nephritis. Faint miR-150 staining (arrow) on *in situ* hybridization (ISH) was seen in the infiltrating cells in the tubulointerstitium with no difference between the kidneys with low miR-150 and low chronicity (CI) (A-1) and the kidneys with high miR-150 and high CI (A-2) compared to the tubules with strong miR-150 positive signals (A-2). Larger insets are high magnification of the small areas. Renal miR-150 does not correlate with activity index (AI) (A-3). Immunofluorescent staining of CD45, a marker of pan-leukocytes including mononuclear and polymorphonuclear cells, in renal biopsies (B1-5). CD45+ cells were near absent in normal kidney (B-1). In kidneys with high miR-150 and CI, CD45+ cells significantly increased in the kidney with high AI (B-2) compared to the kidney with low AI (B-3). A significant positive correlation was seen between CD45+ area and AI (B-4) but not seen between CD45+ area and renal miR-150 level (B-5).



Supplemental figure 2. Dose optimization of miR-150 analog in primary normal human renal proximal tubular epithelial cells (PTCs) and mesangial cells (MCs). miR-150 was easily transfected into PTCs and 10nM of miR-150 could increase 10 cycles 48hr after the transfection compared to miR analog negative control (miR-ANC) (A). 50nM of miR-150 analog is needed to obtain a significant suppression of SOCS1 protein in MCs.



Supplemental figure 3. The constitutive and hTGF-β1- induced expression of miR-150 is the same in podocytes kept under nonpermissive culture condition (37 ˚C) for 5 and 14 days. There is no difference of miR-150 expressions between day 7 and day 16 in untreated podocytes or podocytes treated with hTGF-β1 for 48hr which induces miR-150 expression at both time points. *$p<0.01$ (hTGF-β1 vs. untreated)



Supplemental Figure 4. The quantification of SOCS1 immunofluorescent staining in renal biopsies from lupus nephritis. The expression of SOCS1 increased in kidneys with low miR-150 and CI and decreased in kidneys with high miR-150 and CI compared to normal kidneys (statistical significance are not given due to two normal kidneys). SOCS1 significantly decreased in the kidneys with high miR-150 and CI compared to the kidneys with low miR-150 and CI in either tubularinterstitium (A) or glomeruli (B).