

Isshiki *et al.* Role of SOCS2 in diabetic nephropathy

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3 phosphorylation by insulin (n=3~6, mean±SD, \*p<0.05 vs. GFP, SOCS2 with insulin  
4 stimulation).  
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10 Figure 9. Downregulation of STAT5 expression in diabetic states. (A) Affymatrix gene array  
11 analysis revealed STAT5a mRNA expression was decreased in glomeruli from diabetic rats  
12 (STZ) that was normalized by islet transplantation (ICT). (B) Immunoblotting confirmed the  
13 reduced STAT5 protein expression in diabetic states that was reversed by insulin treatment. (C).  
14 Expression of STAT5 protein in cultured mesangial cells grown in media containing 5.6 or 27.8  
15 mM of glucose with or without 100 nM of insulin for 3 days (n=5, p<0.05 vs. without insulin).  
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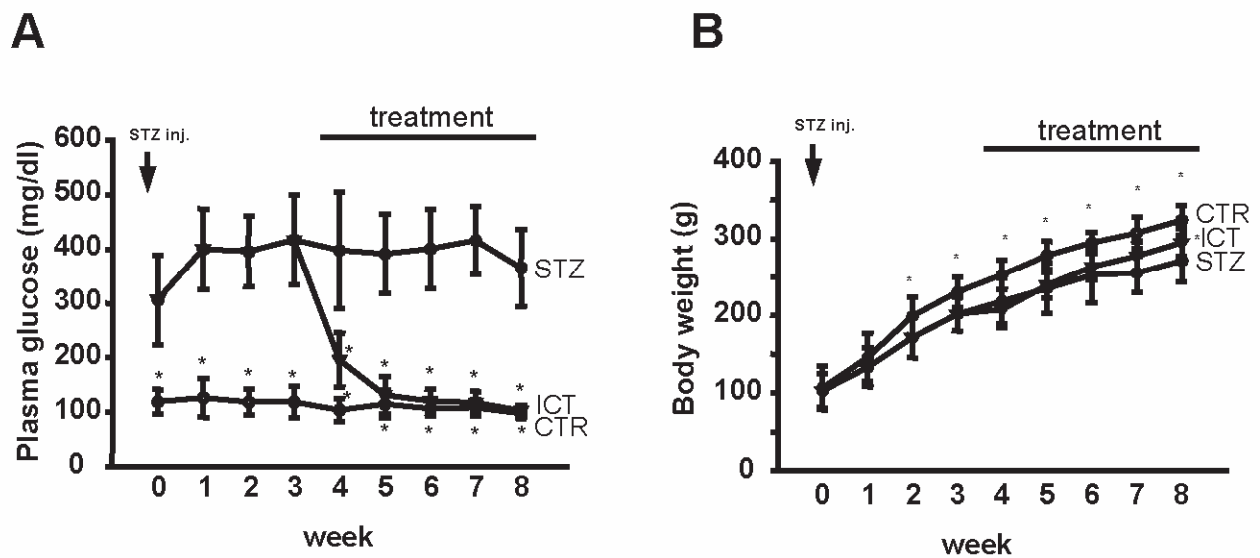
29 Supplemental Figure 1. Effects of islet cell transplantation (ICT) on the plasma blood glucose  
30 (A) and body weight (B) in diabetic rats.  
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36 Supplemental Figure 2: Expression of SOCS2 protein glomerular tissues isolated from control  
37 rats or rats with 8 weeks of diabetes with or without ICT treatment for 4 weeks.  
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43 Supplemental Figure 3: The inhibitory effect of SOCS2 on IGF-1-induced Tyr317  
44 phosphorylation of p66Shc was rescued by transfection of RNAi targeting to SOCS2.  
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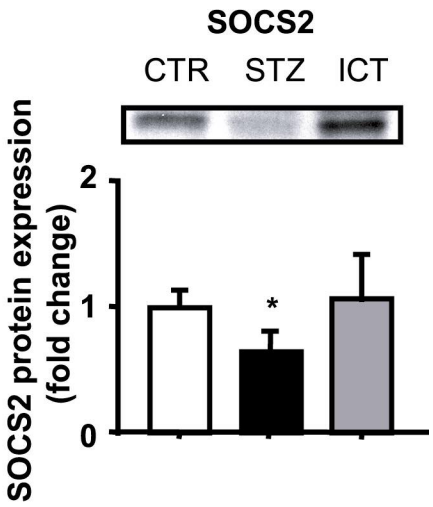
50 Supplemental database. List of genes of which their glomerular expression was changed by  
51 diabetes and normalized by islet cell transplantation (ICT).  
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Supplemental Figure 1

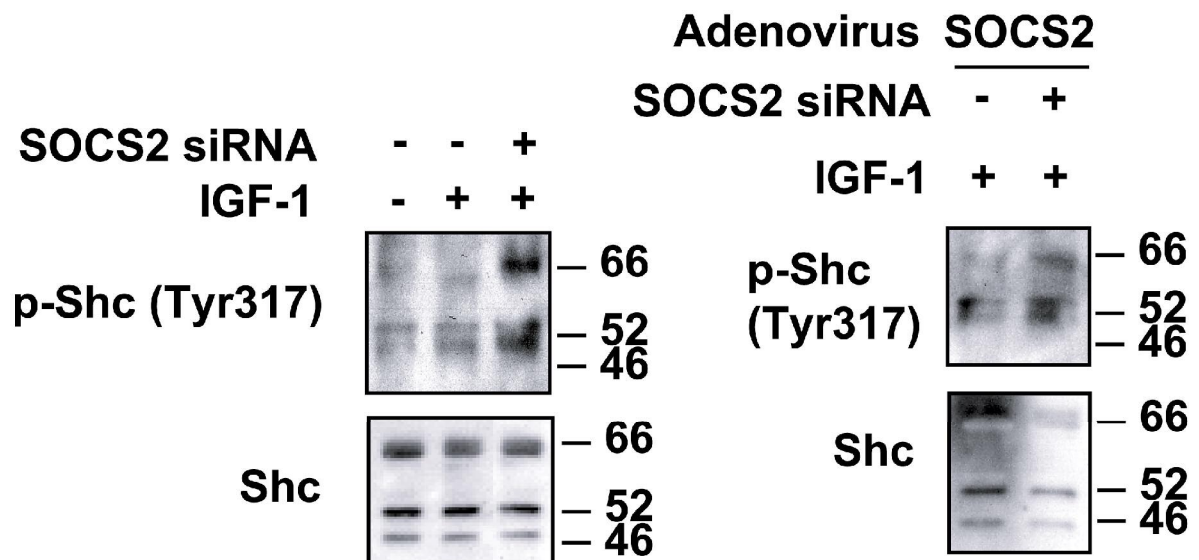


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Supplemental figure 2



## Supplemental Figure 3



Supplemental ~~data~~

32 Up-regulated genes that were normalized by ICT

V01244	20.22534	prolactin, exon 1 and joined CDS
AI236945	8.84695	EST
AF029105	8.745635	Mint1 mRNA
U16025	8.551708	class Ib RT1 mRNA
X95188	8.135587	Pristanoyl-CoA Oxidase
AI639103	7.809445	EST
AA944973	7.080628	EST
D10666	6.898991	neural visinin-like protein (NVP)
X62404	6.766376	epididymal secretory glutathione peroxidase
J04215	6.515762	cell-binding bone sialoprotein mRNA
AF037199	6.341748	zinc finger transcription factor REST protein mRNA type II cAMP-dependent protein kinase regulatory subunit mRNA, 3'
M12492	6.174707	end
X15939	6.058593	beta cardiac myosin heavy chain
AB005541	5.955455	PCTAIRE3
D28110	5.905095	MOBP (myelin-associated oligodendrocytic basic protein)
D14447	5.795889	Max mRNA
X07551	5.578966	MHC RT1.B-alpha gene for class II antigen exons 2-5
M58169	5.383381	22-kD glycoprotein mRNA
K03486	5.35897	protein kinase C type III (PKC alpha)
Y12178	5.3448	bilitranslocase
AA892010	5.331553	EST
X14254	5.324965	MHC class II-associated invariant chain
AA799554	5.309606	EST
AF039832	5.295859	homeobox protein (rPtx2) mRNA
D29646	5.200252	ADP-ribosyl cyclase_/ cyclic ADP-ribose hydrolase (CD38)
AA893666	5.183569	EST
D00729	5.151611	delta3, delta2-enoyl-CoA isomerase
S66545	5.110997	putative alkaline phosphatase [rats, mRNA, 2602 nt]
AI011376	5.079766	EST
AA859928	5.062076	EST
U90215	5.035043	polysialyltransferase mRNA
U80915	5.034253	EAAT4 Na <sup>+</sup> -dependent glutamate transporter protein mRNA

## 69 Down-regulated genes that were normalized by ICT

AA800639	25.43	EST	
			calcium and DAG-regulated guanine nucleotide exchange factor II mRNA, complete
AF081196	20.71	cds	
Z27513	20.19	RNCPSIX38	carbamoylphosphate synthase I, exon 38
AA858586	13.82	EST	
M14775	12.46	cytochrome P-450	polypeptide mRNA, partial cds
X62839	11.66	RRPCP3120	potassium channel protein (3120 bp)
M58716	11.12	zymogen granule membrane protein GP-2	mRNA, complete cds
AA875215	10.78	EST	
AI639251	10.60	EST	
X15143cds	10.36	beta A3/A1	crystallin
M60811cds	10.06	(LxRN1) LINE 1 repeat element,	ORF II
AF004953	9.86	chondroadherin	mRNA, complete cds
AI145494	9.58	EST	
D12978cds	9.49	RATOCT1	octamer binding protein
L31546cds	9.28	serotonin 5HT-2 receptor gene,	complete cds
X90710	8.56	alcohol dehydrogenase	protein
U69109	8.29	calcium-dependent tyrosine kinase	mRNA, complete cds
M63901	8.11	neuroendocrine protein 7B2	mRNA, complete cds
J02852	8.01	cytochrome P450 IIA3	mRNA, 3' end
X52772cds	7.96	RP65 p65	mRNA
L13407	7.82	calcium/calmodulin-dependent protein kinase II delta subunit	mRNA, partial cds
S70804	7.81	clone p6.1	transcript
X67108	7.75	brain-derived neurotrophic factor (exon IV)	
AI639377	7.71	EST	
AA891969	7.65	EST	
AB001982	7.56	growth hormone secretagogue receptor type 1a,	partial cds
M62641	7.56	melanin concentrating hormone gene,	complete cds
D21095	7.51	CINC-2 beta,	complete cds
AI009682	7.43	EST	
X76168	7.37	connexin 30.3	
AA859777	7.33	EST	
X52376cds	7.26	RSRDS retinal degradation slow (rds)	mRNA
AF001953	7.25	G protein beta 5 subunit	mRNA, partial cds
U36899	7.25	putative pheromone receptor VN2	mRNA, complete cds

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AA818097	7.18	EST
X86178mRNA	6.93	RNDNAAZGP azgp1 gene
AF055065	6.83	signal regulatory protein alpha mRNA, partial cds
AA893682	6.68	EST
AI639316	6.65	EST
L37966mRNA	6.38	RATTCRAK T-cell receptor alpha-chain mRNA
AA891242	6.35	EST
AF036761	6.27	stearoyl-CoA desaturase 2 mRNA, partial cds
AI639317	6.26	EST
AF096291	6.15	Bcl-w (bcl-w) mRNA, complete cds
AA893781	6.12	EST
L27128	6.03	stress activated protein kinase beta isoform mRNA, complete cds
AA848831	6.02	EST
L13040	5.99	calcitonin receptor C1b mRNA, complete cds
AA859532	5.85	EST
<b>AF075382</b>	<b>5.81</b>	<b>suppressor of cytokine signaling-2 (SOCS-2) mRNA, complete cds</b>
Y13413	5.71	RNY13413 mRNA for Fe65L2 protein
U14398	5.67	synaptotagmin IV homolog mRNA, complete cds
M60737	5.65	S-antigen mRNA, complete cds
AA894337	5.63	EST
L43592	5.61	protocadherin-3 (pcdh3) mRNA, complete cds
U14398	5.61	synaptotagmin IV homolog mRNA, complete cds
U77880	5.54	rolipram-insensitive phosphodiesterase type 7 (RPDE7-1) mRNA, partial cds
AI103671	5.46	EST
S81289	5.44	IgM kappa chain variable region {CDR1 to CDR3 region}
AF035952	5.44	kinesin-related protein KRP3 (KRP3) mRNA, partial cds
AF091565	5.41	isolate QFG-TN1 olfactory receptor mRNA, partial cds
AI639515	5.36	EST
S75275	5.35	RVLG=vasa-like gene protein [rats, Wistar-Imanishi, testis, mRNA, 3030 nt]
AA799764	5.26	EST
AI072770	5.24	EST
M57507	5.22	guanyl cyclase (GC-S-beta-2) mRNA, complete cds
M10088cds	5.09	RATENKB Rat prodynorphin (Preproenkephalin B) gene, major (3') exon
D64046	5.04	mRNA for phosphatidylinositol 3-kinase p85 beta subunit, complete cds
AA893039	5.04	EST