



Title	Altered Renal Pathology in an Autoimmune Disease Mouse Model After Induction of Diabetes Mellitus
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**Table 1. Primary and secondary antibodies used in this study.**

Antibody	Host	Dilution	Source	Retrieval	Blocking agent
CD3	Rabbit	1:200	Nichirei, Tokyo, Japan	Tris 115°C 15 min	10% Goat normal serum
B220	Rat	1:1600	Cedarlane, Burlington, Canada	Tris 115°C 15 min	10% Goat normal serum
IL-36 $\alpha$	Goat	1:400	Thermo Fisher Scientific, Waltham, MA, USA	CB 115°C 15 min	5% Donkey normal serum
Insulin	Rat	1:100	R & D system, Minnesota, USA	CB 115°C 15 min	10% Goat normal serum
Glucagon	Rabbit	1:500	Abcam, Cambridge, UK	Tris 115°C 15 min	10% Goat normal serum
Rabbit IgG-biotin	Goat	Prediluted	SABPO(R) Kit, Nichirei, Tokyo, Japan		
Rat IgG-biotin	Goat	1:100	BioLegend, San Diego, CA, USA		
Rabbit IgG-Alexa Fluor 488	Donkey	1:500	Thermo Fisher Scientific, Waltham, MA, USA		
Rat IgG-Alexa Fluor 546	Donkey	1:500	Thermo Fisher Scientific, Waltham, MA, USA		

CB: 10 mM Citrate buffer (pH 6.0); Tris: 20 mM Tris-HCl (pH 9.0)

**Table 2. Primers used in this study.**

Genes (Accession No.)	Primer sequence (5'-3') F: Forward, R: Reverse	Product size (bp)	Note
<i>Il1a</i> NM_010554	F: AGATGACCTGCAGTCATAACC R: GACAAACTTCTGCCTGACGAG	121	
<i>Il1b</i> NM_008361	F: TTCCAGGATGAGGACATGAGC R: GACAAACTTCTGCCTGACGAG	111	
<i>Il6</i> NM_031168	F: CAACGATGATGCACTTGAGA R: GGTACTCCAGAACGAGGAGGA	128	Inflammatory cytokine
<i>Tnf</i> NM_013693	F: TCTTCTCATTCTGCTTGTGGC R: CATAGAACTGATGAGAGGGAGGC	119	
<i>Tgfb1</i> NM_011577.2	F: ATGCTAAAGAGGTCACCCGC R: TGCTTCCCGAATGTCTGACG	119	Sclerosis
<i>Neph2</i> NM_130456.4	F: AAGGTTGATCTCCGTCTCCAG R: TTCCATGCGGTAGTAGCAGAC	105	
<i>Synpo</i> NM_177340.2	F: CATCGGACCTTCTCCTGTG R: TCGGAGTCTGTGGGTGAG	90	Podocyte marker

**Table 3. Correlation between diabetes mellitus and indices of autoimmunity or renal pathology in Yaa.**

		BGL	Urine glucose	Islets/Pancreas	Insulin/Glucagon
		$\rho$	$\rho$	$\rho$	$\rho$
<b>Autoimmunity</b>	<b>SPW/BW</b>	-0.224	-0.407	0.265	0.253
	<b>dsDNA</b>	-0.329	-0.424	0.596*	0.189
<b>Serum</b>	<b>BUN</b>	-0.036	0.463	0.014	-0.168
	<b>Cre</b>	-0.068	-0.232	0.199	-0.120
<b>Urine</b>	<b>pH</b>	-0.165	-0.050	0.312	0.263
	<b>Specific gravity</b>	0.241	0.033	-0.150	-0.060
	<b>ACR</b>	-0.499*	-0.345	0.481	0.244
	<b>Size</b>	-0.497	-0.282	0.435	0.177
<b>Renal pathology</b>	<b>Nuclear number</b>	-0.027	-0.094	0.324	0.006
	<b>Mesangial area</b>	-0.577*	-0.344	0.494	0.197
	<b>GL</b>	<b>Mesangial area ratio</b>	-0.635**	-0.344	0.597*
		<b>Neph2</b>	0.482	0.309	-0.600*
		<b>Synpo</b>	0.197	0.270	-0.332
		<b>B220<sup>+</sup> cell</b>	-0.047	-0.263	0.650
		<b>CD3<sup>+</sup> cell</b>	0.199	0.071	-0.033
		<b>Lumen/Cortex</b>	0.332	0.426	-0.299
	<b>TIL</b>	<b>B220<sup>+</sup> cell</b>	-0.512*	-0.658**	0.712**
		<b>CD3<sup>+</sup> cell</b>	-0.600*	-0.345	0.509*

Spearman's rank correlation coefficient. \*: $P < 0.05$ , \*\*: $P < 0.01$ . n  $\geq 15$ . GL: glomerular lesion parameters, TIL: tubulointerstitial lesion parameters, BGL: average of blood glucose level from 12 to 24 weeks of age, Islets/Pancreas: area ratio of islets to pancreas, Insulin/Glucagon: area ratio of insulin<sup>+</sup> cells to glucagon<sup>+</sup> cells, SPW/BW: Ratio of spleen weight to body weight, dsDNA: Anti-dsDNA antibody, BUN: blood urea nitrogen, Cre: creatinine, ACR: urinary albumin-to-creatinine ratio, Lumen/Cortex: tubular lumen area-to-cortex area ratio.

**Table 4. Correlation between autoimmunity and renal pathology in Yaa**

		SPW/BW	dsDNA
		$\rho$	$\rho$
Renal pathology	Serum	<b>BUN</b>	-0.121
		<b>Cre</b>	0.133
	Urine	<b>pH</b>	-0.430
		<b>Specific gravity</b>	-0.031
		<b>ACR</b>	0.269
	GL	<b>Size</b>	0.162
		<b>Nuclear number</b>	0.124
		<b>Mesangial area</b>	0.241
		<b>Mesangial area ratio</b>	0.147
		<i>Neph2</i>	0.093
		<i>Synpo</i>	0.131
	TIL	<b>B220<sup>+</sup> cells</b>	0.221
		<b>CD3<sup>+</sup> cells</b>	0.087
		<b>Lumen/Cortex</b>	-0.147
	TIL	<b>B220<sup>+</sup> cells</b>	0.203
		<b>CD3<sup>+</sup> cells</b>	0.183
			-0.05

Spearman's rank correlation coefficient. \*: $P < 0.05$ , \*\*: $P < 0.01$ . n  $\geq 15$ . GL: glomerular lesion parameters, TIL: tubulointerstitial lesion parameters, SPW/BW: Ratio of spleen weight to body weight, dsDNA: Anti-dsDNA antibody, BUN: blood urea nitrogen, Cre: creatinine, ACR: urinary albumin-to-creatinine ratio, Lumen/Cortex: tubular lumen area-to-cortex area ratio.