Supplementary Table

1. Instruments and Materials

Main Reagents and Materials

Name of Reagent/Material	Manufacturer
pentobarbital sodium	Tianjin Guangfu Fine Chemical Research Institute
Biochemical Index Detection Kit (Microplate Method)	Nanjing Jiancheng Bioengineering Institute
RIPA Lysis Buffer	Jiangsu Kangwei Century Co., Ltd., CW2333S
Protease Inhibitor Cocktail	Jiangsu Kangwei Century Co., Ltd., CW2200S
Phosphatase Inhibitor Cocktail	Jiangsu Kangwei Century Co., Ltd., CW2383S
BCA Protein Concentration Assay Kit	Shanghai Biyuntian Biotechnology Co., Ltd., P0010
SDS-PAGE Loading Buffer	Jiangsu Kangwei Century Co., Ltd., CW0027S
SDS PAGE Gel Kit	Jiangsu Kangwei Century Co., Ltd., CW0022M
Tris-Glycine SDS Buffer (10×)	Jiangsu Kangwei Century Co., Ltd., CW0045S
Tris-Glycine Transfer Buffer (10×)	Jiangsu Kangwei Century Co., Ltd., CW0044S
TBST (10×)	Jiangsu Kangwei Century Co., Ltd., CW0043S
β-Actin Antibody	Santa Cruz, USA, sc-47778
STAT-6 Antibody	Santa Cruz, USA, sc-374021
P-STAT-6 Antibody	Santa Cruz, USA, sc-136019
JAK-2 Antibody	Santa Cruz, USA, sc-390539
PPARγ Antibody	Santa Cruz, USA, sc-7273
TGF-β Antibody	Santa Cruz, USA, sc-130348
FN Antibody	Santa Cruz, USA, sc-8422
m-IgG Fc BP-HRP Antibody	Santa Cruz, USA, sc-522409
m-IgGk BP-HRP Antibody	Santa Cruz, USA, sc-516102
QuickBlock Western Primary Antibody Diluent	Shanghai Biyuntian Biotechnology Co., Ltd., P0256
QuickBlock Western Secondary Antibody Diluent	Shanghai Biyuntian Biotechnology Co., Ltd., P0258
QuickBlock Western Antibody Blocking Buffer	Shanghai Biyuntian Biotechnology Co., Ltd., P0252
PVDF Membrane	Millipore, USA, IPVH00010
ESL Ultra-Sensitive Chemiluminescence Detection Kit	Guangzhou Boluteng Biotechnology Co., Ltd.
2.5% Glutaraldehyde Electron Microscopy Fixative	Fujian KNUOX Co., Ltd.
Hematoxylin Staining Solution	Zhuhai Besso Biotechnology Co., Ltd., BA-4097
Eosin Staining Solution	Zhuhai Besso Biotechnology Co., Ltd., BA-4022

Main Instruments

Name of Instrument	Manufacturer
Bayer Contour 7600P Blood Glucose Meter	Bayer Healthcare Co., Ltd.
Huachao HCS3012 Electronic Scale	Shanghai Huachao Electric Appliance Co., Ltd.
DT5-3 Low-Speed Desktop Centrifuge	Beijing Shidai Beili Co., Ltd.
CS-600B Automatic Biochemical Analyzer	Changchun Dire Industry Co., Ltd.
FA1004N Electronic Balance	Shanghai Precision Scientific Instrument Co., Ltd.
Leica RM2255 Paraffin Microtome	Leica, Germany
Leica EG1140 Paraffin Embedding Machine	Leica, Germany
JEM-1400PLUS Transmission Electron Microscope	JEOL Ltd., Japan
DYCZ-24DN Mini Double Vertical Electrophoresis Apparatus	Beijing Liuyi Biotechnology Co., Ltd.
DYCZ-40D Mini Transfer Electrophoresis Apparatus	Beijing Liuyi Biotechnology Co., Ltd.
DYY-3C Double-Stable Timed Electrophoresis Power Supply	Beijing Liuyi Biotechnology Co., Ltd.
HC3618R High-Speed Refrigerated Centrifuge	Anhui Zhongke Zhongjia Scientific Instrument Co., Ltd.
HSY-28 Electric Constant Temperature Water Bath	Shanghai Yuejin Medical Instrument Co., Ltd.
Pipette	Thermo Fisher Scientific, USA
GEIView6000PLUS Gel Automatic Imaging System	Guangzhou Boluteng Biotechnology Co., Ltd.
Varioskan LUX Multifunctional Microplate Reader	Thermo Fisher Scientific, USA

2. Data Tables

Table 1 Group Labeling and Administration Dosage of Each Group

Group	n	Strain	Label	Intervention	Dosage
Preventive Blank Group	14	C57BL/6J	Pro-Con	Distilled Water	-
Preventive Model Group	15	KK-Ay	Pro-M	Distilled Water	-
Preventive Positive Drug Group	14	KK-Ay	Pro-PC	Irbesartan Suspension	0.064g/kg
Preventive Xiaoshen Formula Low-Dose Group	15	KK-Ay	Pro-XSF-L	Xiaoshen Formula Decoction	46.75g/kg
Preventive Xiaoshen Formula High-Dose Group	15	KK-Ay	Pro-XSF-H	Xiaoshen Formula Decoction	93.5g/kg
Therapeutic Blank Group	6	C57BL/6J	Thr-Con	Distilled Water	-
Therapeutic Model Group	6	KK-Ay	Thr-M	Distilled Water	-
Therapeutic Xiaoshen Formula Group	10	KK-Ay	Thr-XSF-H	Xiaoshen Formula Decoction	93.5g/kg

Table 2 Tail Tip Blood Glucose of Mice in Each Preventive Administration Group (mmol/L)

Week	Blank***	Model	Positive Drug**	Xiaoshen Formula Low-Dose*	Xiaoshen Formula High-Dose***
Week 0	8.51±0.79	28.99±5.37	28.96±4.65	28.83±6.92	28.83±4.31
Week 1	8.49±1.23	31.40±2.31	20.94±5.78△△△	23.68±10.25△△	19.82±7.16△△△
Week 2	8.43±1.62	30.71±2.91	23.56±5.13	23.60±6.73△	18.99±5.87△△△
Week 3	8.21±1.43	31.39±2.60	28.34±6.45	26.66±8.52	23.68±8.16△
Week 4	7.72±1.39	32.59±2.37	29.47±6.79	29.68±4.92	29.52±5.79
Week 5	8.09±1.64	32.51±1.34	29.21±6.84	30.05±4.22	28.15±5.29
Week 6	7.19±0.84	33.14±0.45	29.46±7.9	29.25±6.31	30.88±5.35
Week 7	6.95±0.56	33.11±0.69	27.59±8.32	29.80±6.35	30.23±3.81
Week 8	6.87±1.02	32.06±2.28	29.09±8.33	31.00±5.18	30.77±2.35

Note: Compared with the Model Group, *: P＜0.05; **: P＜0.01; ***: P＜0.001.
Compared with the Model Group in the same week, △: P＜0.05; △△: P＜0.01; △△△: P＜0.001.

Table 3 Tail Tip Blood Glucose of mice in Each Therapeutic Administration Group (mmol/L)

Week	Therapeutic Blank***	Therapeutic Model	Xiaoshen Formula Treatment
Week 0	8.77±0.50	32.48±1.56	33.21±0.35
Week 1	7.00±0.80	32.95±0.64	32.96±0.90
Week 2	7.85±1.15	33.18±0.29	32.30±1.59
Week 3	7.7±0.73	32.85±1.05	31.50±2.86
Week 4	8.43±1.43	33.30±0.00	31.81±2.06
Week 5	9.43±0.70	32.10±2.94	30.74±2.35
Week 6	7.85±1.05	32.90±0.65	31.66±1.50
Week 7	6.98±1.33	31.72±2.46	31.59±1.94
Week 8	7.22±1.26	33.05±0.61	30.69±1.88

Note: Compared with the Model Group, *: P＜0.05; **: P＜0.01; ***: P＜0.001.

Table 4 Body Weight Fluctuations of Mice in Each Preventive Administration Group (g)

Week	Blank***	Model	Positive Drug	Xiaoshen Formula Low-Dose	Xiaoshen Formula High-Dose
Week 0	22.92±0.67	34.21±1.80	34.11±2.13	34.09±2.23	34.32±1.50
Week 1	23.72±1.06	37.17±1.80	33.68±1.57△	34.31±2.56	34.61±1.54
Week 2	24.56±1.04	38.07±2.02	35.06±1.74	35.76±1.90	35.24±1.54
Week 3	25.49±0.96	39.69±1.82	36.69±2.15	36.75±3.35	36.14±2.35△
Week 4	26.49±1.09	41.01±2.17	38.63±2.56	38.88±2.55	37.52±2.33△
Week 5	26.66±1.10	41.93±2.06	39.5±2.95	39.98±2.30	38.25±2.38△
Week 6	26.90±1.34	42.41±2.17	40.31±3.58	40.20±3.11	39.14±2.32
Week 7	27.83±1.44	43.50±2.40	40.62±3.78	41.44±3.55	40.25±2.30
Week 8	27.94±1.44	44.57±2.47	41.21±4.45	41.94±3.57	40.83±2.17△

Note: Compared with the Model Group, *: P＜0.05; **: P＜0.01; ***: P＜0.001.Compared with the Model Group in the same week, △: P＜0.05; △△: P＜0.01; △△△: P＜0.001.

Table 5 Body Weight Fluctuations of Mice in Each Therapeutic Administration Group (g)

Week	Therapeutic Blank	Therapeutic Model	Xiaoshen Formula Treatment
Week 0	26.47±1.73	40.55±1.53	42.18±1.77
Week 1	26.73±1.79	41.33±1.61	41.70±1.91
Week 2	27.55±1.68	42.12±1.77	41.18±1.96
Week 3	27.97±1.83	43.57±2.76	41.88±1.94
Week 4	28.17±2.45	44.12±1.49	42.22±1.39
Week 5	28.23±2.20	45.40±1.35	42.66±1.52
Week 6	28.68±2.24	46.53±0.81	43.93±0.90
Week 7	28.75±2.46	46.58±1.18	44.51±1.93
Week 8	29.05±2.48	47.57±1.34	44.67±2.08

Note: Compared with the Model Group, *: P＜0.05; **: P＜0.01; ***: P＜0.001.

Table 6 Food Intake of Mice in Each Preventive Administration Group (g/animal/day)

Week	Blank	Model	Positive Drug	Xiaoshen Formula Low-Dose*	Xiaoshen Formula High-Dose***
Week 1	3.31±0.19	5.78±0.68	4.03±0.49△△△	4.63±0.82△△△	4.17±0.24△△△
Week 2	3.44±0.04	6.03±0.87	5.14±0.36	4.92±0.81△△△	4.20±0.59△△△
Week 3	3.63±0.10	6.08±0.64	5.75±0.69	5.48±0.72	4.78±0.69△△△
Week 4	3.51±0.05	5.89±1.04	5.70±0.63	5.51±0.92	4.86±0.85△△
Week 5	3.40±0.10	6.32±0.71	5.80±0.71	5.53±0.56	4.74±0.47△△△
Week 6	3.50±0.18	6.28±0.91	5.87±0.85	5.51±0.64	4.92±0.47△△△
Week 7	3.26±0.17	6.17±0.56	5.56±0.93	5.39±0.70	4.94±0.53△△△
Week 8	3.15±0.20	5.96±0.72	5.80±0.86	5.32±0.74	4.92±0.65△

Note: Compared with the Model Group, *: P＜0.05; **: P＜0.01; ***: P＜0.001.Compared with the Model Group in the same week, △: P＜0.05; △△: P＜0.01; △△△: P＜0.001.

Table 7 Food Intake of Mice in Each Therapeutic Administration Group (g/animal/day)

Week	Therapeutic Blank	Therapeutic Model	Xiaoshen Formula Treatment***
Week 1	3.13±0.00	6.97±0.15	6.97±0.39
Week 2	3.21±0.00	6.16±0.17	5.53±1.20
Week 3	3.30±0.00	6.69±0.34	5.41±0.80△
Week 4	2.66±0.00	6.03±0.36	5.38±0.21
Week 5	3.08±0.00	5.72±0.43	4.83±0.04
Week 6	3.01±0.00	6.35±0.18	4.90±0.14△△
Week 7	3.24±0.00	6.07±0.04	4.79±0.10
Week 8	2.95±0.00	6.08±0.10	4.39±0.18△△△

Note: Compared with the Model Group, *: P＜0.05; **: P＜0.01; ***: P＜0.001.Compared with the Model Group in the same week, △: P＜0.05; △△: P＜0.01; △△△: P＜0.001.

Table 8 Water Intake of Mice in Each Preventive Administration Group (ml/animal/day)

Week	Blank	Model	Positive Drug	Xiaoshen Formula Low-Dose	Xiaoshen Formula High-Dose***
Week 1	3.60±0.19	16.00±2.63	8.81±0.71△△△	11.19±4.49△	11.39±1.18
Week 2	3.04±0.27	16.22±3.03	11.79±3.89	12.98±4.83	9.32±2.57△△△
Week 3	3.22±0.40	18.41±3.26	15.60±4.15	16.41±3.90	11.86±1.96△△△
Week 4	3.04±0.27	19.64±3.09	17.26±4.28	18.72±3.69	14.64±2.63△
Week 5	3.22±0.16	20.24±3.09	17.86±3.82	19.49±5.39	15.61±2.39
Week 6	3.36±0.25	20.32±3.24	20.12±5.04	19.36±3.23	15.61±2.20
Week 7	3.80±0.68	20.91±4.33	19.40±5.54	18.08±6.28	16.29±0.94
Week 8	4.51±0.61	23.02±3.58	20.83±5.39	17.44±4.82△△	15.83±0.83△△△

Note: Compared with the Model Group, *: P＜0.05; **: P＜0.01; ***: P＜0.001.Compared with the Model Group in the same week, △: P＜0.05; △△: P＜0.01; △△△: P＜0.001.

Table 9 Water Intake of Mice in Each Therapeutic Administration Group (ml/animal/day)

Week	Therapeutic Blank	Therapeutic Model	Xiaoshen Formula Treatment
Week 1	3.61±0.00	19.72±1.85	21.28±2.24
Week 2	3.61±0.00	19.33±1.78	18.67±1.84
Week 3	4.17±0.00	20.83±3.06	18.39±2.75
Week 4	3.61±0.00	18.61±1.52	14.83±1.46
Week 5	3.33±0.00	18.89±1.61	14.83±0.70
Week 6	3.61±0.00	19.72±2.38	15.56±1.08
Week 7	4.44±0.00	19.94±1.42	16.11±0.83
Week 8	3.89±0.00	21.67±2.72	14.63±0.96△

Note: Compared with the Model Group, *: P＜0.05; **: P＜0.01; ***: P＜0.001.Compared with the Model Group in the same week, △: P＜0.05; △△: P＜0.01; △△△: P＜0.001.

Table 10 Glucose Tolerance

Group	Fasting Blood Glucose (mmol/L)	30min Blood Glucose (mmol/L)	120min Blood Glucose (mmol/L)	Area Under the Curve
Blank	4.58±0.49	16.36±1.89	7.06±0.47	13.97±0.71
Model	14.91±5.64	32.90±1.20	29.69±3.20	45.40±7.91
Positive	11.49±1.43	33.21±0.17	25.34±2.70△△	38.80±2.55**
Xiaoshen Formula Low-Dose	10.93±1.32△	33.10±0.40	22.93±2.38△△△	36.39±2.73***
Xiaoshen Formula High-Dose	10.74±1.36△△	32.69±1.28	21.90±1.19△△△	35.34±2.13***
Therapeutic Blank	5.90±1.28	18.65±1.74	6.05±0.67	15.10±1.31
Therapeutic Model	13.62±1.94	32.78±0.81	29.72±0.89	44.10±2.60
Therapeutic	12.81±1.97	26.90±3.63○○○	18.14±2.75○○○	33.14±4.19※※※

Note: Compared with the Model Group, *: P＜0.05; **: P＜0.01; ***: P＜0.001.Compared with the Therapeutic Model Group, ※ P＜0.05; ※※ P＜0.01; ※※※ P＜0.001.Compared with the Model Group at the same time point, △: P＜0.05; △△: P＜0.01; △△△: P＜0.001.Compared with the Therapeutic Model Group at the same time point, ○: P＜0.05; ○○: P＜0.01; ○○○: P＜0.001.

Table 11 Insulin Tolerance

Group	Fasting Blood Glucose (mmol/L)	30min Blood Glucose (mmol/L)	60min Blood Glucose (mmol/L)	120min Blood Glucose (mmol/L)
Blank	6.68±0.88	4.29±0.66	3.47±0.56	3.63±0.51
Model	22.36±2.57	20.99±2.93	20.05±2.84	18.07±3.33
Positive	16.25±3.80△△△	14.84±3.79△△△	13.95±4.45△△△	11.77±3.88△△△
Xiaoshen Formula Low-Dose	18.78±1.77	17.08±2.47	15.23±2.68	14.02±3.03
Xiaoshen Formula High-Dose	13.83±3.42△△△	11.75±2.90△△△	9.47±2.64△△△	7.93±2.89△△△
Therapeutic Blank	10.72±1.93	4.30±1.10	3.77±0.69	4.18±0.97
Therapeutic Model	17.33±1.65	17.07±1.55	15.40±0.96	13.47±1.47
Therapeutic	13.64±2.15	12.61±2.43	8.98±1.38	6.22±1.22

Table 12 Insulin Tolerance - Continued

Group	Minimum Blood Glucose (mmol/L)	Blood Glucose Reduction Rate (%)	Area Under the Curve
Blank	3.22±0.46	51.02±9.20	8.23±0.69
Model	18.05±3.28	19.33±9.85	40.16±5.58
Positive	11.72±3.67	23.44±14.57	27.83±7.41***
Xiaoshen Formula Low-Dose	13.84±3.04	26.76±11.02	31.67±4.98**
Xiaoshen Formula High-Dose	7.91±2.90	44.08±10.28***	20.40±5.54***
Therapeutic Blank	3.40±0.74	67.38±9.85	9.75±1.12
Therapeutic Model	13.47±1.47	22.39±1.53	31.15±2.56
Therapeutic	6.22±1.22	54.10±7.54※※※	19.56±3.00※※※

Note: Compared with the Model Group, *: P＜0.05; **: P＜0.01; ***: P＜0.001.Compared with the Therapeutic Model Group, ※ P＜0.05; ※※ P＜0.01; ※※※ P＜0.001.Compared with the Model Group at the same time point, △: P＜0.05; △△: P＜0.01; △△△: P＜0.001.

Table 13 Organ Index

Group	Kidney Weight (g)	Kidney Organ Index (%)
Blank	0.31±0.02	1.21±0.04
Model	0.50±0.04	1.27±0.07
Positive	0.43±0.05***	1.13±0.05**
Xiaoshen Formula Low-Dose	0.45±0.00**	1.15±0.13*
Xiaoshen Formula High-Dose	0.42±0.04***	1.09±0.11**
Therapeutic Blank	0.33±0.03	1.20±0.10
Therapeutic Model	0.54±0.04	1.26±0.08
Therapeutic	0.46±0.03※※	1.11±0.09※

Note: Compared with the Model Group, *: P＜0.05; **: P＜0.01; ***: P＜0.001.Compared with the Therapeutic Model Group, ※ P＜0.05; ※※ P＜0.01; ※※※ P＜0.001.

Table 14 Blood Glucose and Blood Lipids

Group	GLU	GSP	TG	TC	HDL-C	LDL-C
Blank	6.66±1.59	2.23±0.43	0.63±0.15	1.49±0.29	1.28±0.21	1.98±0.45
Model	33.83±7.54	6.07±0.84	4.39±0.55	3.52±0.25	3.94±0.08	3.87±0.51
Positive	16.97±4.85***	5.31±0.66*	4.25±0.41	3.35±0.32	4.04±0.08	3.46±0.36
Xiaoshen Formula Low-Dose	25.03±8.65*	5.20±0.43**	2.97±0.38***	3.10±0.29*	3.68±0.15***	3.14±0.44*
Xiaoshen Formula High-Dose	15.01±5.84***	5.05±0.22**	2.64±0.43***	3.00±0.21**	3.31±0.18***	2.81±0.28***
Therapeutic Blank	8.45±1.39	2.05±0.52	0.68±0.08	1.81±0.37	1.23±0.18	1.90±0.62
Therapeutic Model	30.78±2.87	7.11±0.51	4.79±0.26	3.49±0.21	4.17±0.13	4.13±0.75
Therapeutic	23.09±5.56※	6.04±0.41※※	3.97±0.21※※	3.24±0.29	4.00±0.16	3.13±0.21※※

Note: Compared with the Model Group, *: P＜0.05; **: P＜0.01; ***: P＜0.001.Compared with the Therapeutic Model Group, ※ P＜0.05; ※※ P＜0.01; ※※※ P＜0.001.

Table 15 Liver and Kidney Function

Group	AST	ALT	Cr
Blank	32.64±7.28	29.24±11.37	12.06±4.17
Model	59.12±3.67	185.20±36.65	26.82±4.80
Positive	66.93±9.00	137.82±31.59**	18.55±4.51
Xiaoshen Formula Low-Dose	36.80±11.01***	62.58±28.27***	21.85±9.47
Xiaoshen Formula High-Dose	40.59±4.38***	42.42±10.95***	12.99±7.43***
Therapeutic Blank	21.82±6.52	34.01±14.01	13.35±1.74
Therapeutic Model	66.42±11.50	202.04±52.48	30.16±5.51
Therapeutic	39.68±7.85※※※	93.13±18.66※※※	17.04±7.89※※

Note: Compared with the Model Group, *: P＜0.05; **: P＜0.01; ***: P＜0.001.Compared with the Therapeutic Model Group, ※ P＜0.05; ※※ P＜0.01; ※※※ P＜0.001.

Table 16 Liver and Kidney Function - Continued

Group	mALB (mg/mL)	UCr (g/L)	UAcr (mg/g)
Blank	0.35±0.08	0.55±0.10	6.51±1.77
Model	3.26±0.45	0.32±0.03	103.09±12.04
Positive	2.01±0.15***	0.43±0.05*	46.48±5.15***
Xiaoshen Formula Low-Dose	1.95±0.16***	0.36±0.04	54.13±8.5***
Xiaoshen Formula High-Dose	1.54±0.26***	0.41±0.07	38.84±10.51***
Therapeutic Blank	0.38±0.09	0.51±0.07	7.72±2.62
Therapeutic Model	3.43±0.24	0.24±0.03	144.61±29.15
Therapeutic	1.85±0.24※※※	0.42±0.09※※※	45.89±8.31※※※

Note: Compared with the Model Group, *: P＜0.05; **: P＜0.01; ***: P＜0.001.Compared with the Therapeutic Model Group, ※ P＜0.05; ※※ P＜0.01; ※※※ P＜0.001.

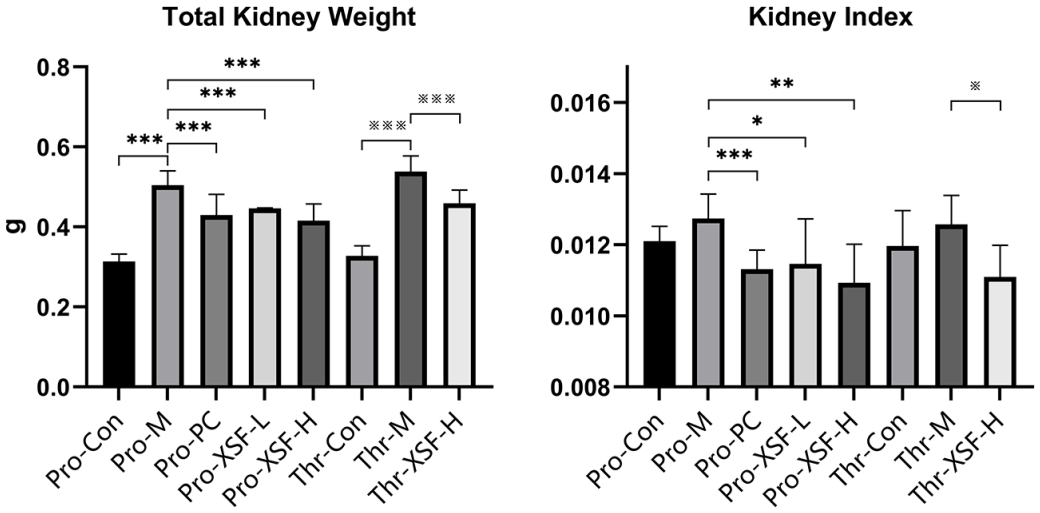
Table 17 Relative Expression Levels of Renal Tissue Proteins

Group	JAK-2	P-STAT-6	STAT-6	P-STAT-6/STAT-6
Blank	1.00±0.00	1.00±0.00	1.00±0.00	1.00±0.00
Model	2.41±0.05	1.29±0.05	0.90±0.07	1.44±0.18
Positive	1.78±0.02*	1.03±0.12*	1.00±0.11	1.03±0.02*
Xiaoshen Formula Low-Dose	1.87±0.01	1.09±0.03	0.96±0.17	1.16±0.23
Xiaoshen Formula High-Dose	1.64±0.02**	0.92±0.03***	0.99±0.20	0.95±0.19**
Therapeutic Blank	1.00±0.00	1.00±0.00	1.00±0.00	1.00±0.00
Therapeutic Model	2.11±0.22	1.15±0.12	0.98±0.10	1.18±0.07
Therapeutic	1.43±0.52※	1.06±0.12	0.96±0.12	1.11±0.05

Table 18 Relative Expression Levels of Renal Tissue Proteins - Continued

Group	PPARγ	TGF-β	FN
Blank	1.00±0.00	1.00±0.00	1.00±0.00
Model	1.32±0.07	3.32±0.03	8.25±3.21
Positive	1.55±0.13*	2.51±0.08	3.27±0.13*
Xiaoshen Formula Low-Dose	1.51±0.06	2.16±0.02**	2.80±0.20
Xiaoshen Formula High-Dose	2.13±0.04***	1.57±0.21***	2.51±0.25**
Therapeutic Blank	1.00±0.00	1.00±0.00	1.00±0.00
Therapeutic Model	0.82±0.14	2.56±0.52	5.24±2.36
Therapeutic	1.13±0.06※※	2.26±0.57	4.14±0.68※

Note: Compared with the Model Group, *: P＜0.05; **: P＜0.01; ***: P＜0.001.Compared with the Therapeutic Model Group, ※ P＜0.05; ※※ P＜0.01; ※※※ P＜0.001.



Note: Compared with the Model Group, *: P＜0.05; **: P＜0.01; ***: P＜0.001.Compared with the Therapeutic Model Group, ※ P＜0.05; ※※ P＜0.01; ※※※ P＜0.001.

Fig. S1: Total Kidney weight and index of mice in each group

NOTE: Please save this file locally before filling in the table, DO NOT work on the file within your internet browser as changes will not be saved. Adobe Acrobat Reader (available free here) is recommended for completion.

The ARRIVE guidelines 2.0: author checklist

The ARRIVE Essential 10

These items are the basic minimum to include in a manuscript. Without this information, readers and reviewers cannot assess the reliability of the findings.

Item		Recommendation	Section/line number, or reason for not reporting
Study design	1	For each experiment, provide brief details of study design including: a. The groups being compared, including control groups. If no control group has been used, the rationale should be stated. b. The experimental unit (e.g. a single animal, litter, or cage of animals).	Materials and Methods — "Administration, grouping and sample collection". All groups are described in the text and summarized in Fig. 1 and Supplementary Table 1. nimals" and "Administration,' grouping and sample collection". The individual mouse was the experimental unit. Group sizes are provided in Fig. S1 and Supplementary Materials.
Sample size	2	a. Specify the exact number of experimental units allocated to each group, and the total number in each experiment. Also indicate the total number of animals used. b. Explain how the sample size was decided. Provide details of any *a priori* sample size calculation, if done.	Materials and Methods — "Administration, grouping and sample collection" (paragraph 3). Exact group sizes are provided in Supplementary Materials. , grouping and sample collection" (paragraph 2: dose based on pilot experiment). No a priori sample size calculation was performed; sample size was determined based on previous studies and practical constraints.
Inclusion and exclusion criteria	3	a. Describe any criteria used for including and excluding animals (or experimental units) during the experiment, and data points during the analysis. Specify if these criteria were established *a priori.* If no criteria were set, state this explicitly. b. For each experimental group, report any animals, experimental units or data points not included in the analysis and explain why. If there were no exclusions, state so. c. For each analysis, report the exact value of *n* in each experimental group.	Materials and Methods — "Modeling method and success criteria" (RBG > 13.3 mmol/L; UACR > 30 mg/g) and "Administration, grouping and sample collection" (paragraph 3: unexpected mortality exclusion). Materials and Methods — "Administration, grouping and sample collection" (paragraph 3: final group sizes due to mortality). get proteins in renal tissue" (n=3 for Western blot); Fig. S1 and Supplementary Materials for biochemical analyses (n ≥ 6 per group).Other data are all provided in Supplementary Materials.
Randomisation	4	a. State whether randomisation was used to allocate experimental units to control and treatment groups. If done, provide the method used to generate the randomisation sequence. b. Describe the strategy used to minimise potential confounders such as the order of treatments and measurements, or animal/cage location. If confounders were not controlled, state this explicitly.	Materials and Methods — "Administration, grouping and sample collection" (paragraph 1: "All Nice were randomly assigned to different groups using a random number table.") Materials and Methods — "Experimental animals" (standardised housing conditions), "Administration, grouping and sample collection" (fixed daily administration), "Biochemical analysis" (blinded assessment), "Histopathological examination" (blinded), and "TEM" (blinded). No additional confounder control applied.
Blinding	5	Describe who was aware of the group allocation at the different stages of the experiment (during the allocation, the conduct of the experiment, the outcome assessment, and the data analysis).	ation"), "Histopathological examination" ("Histopathological evaluation was performed in a blinded manner"), and "TEM" ("Evaluation was performed in a blinded manner"). Data analysis: Not specified (assumed unblinded due to the nature of the data analysis).
Outcome measures	6	a. Clearly define all outcome measures assessed (e.g. cell death, molecular markers, or behavioural changes). b. For hypothesis-testing studies, specify the primary outcome measure, i.e. the outcome measure that was used to determine the sample size.	Results — all subsections (General phenotype, Glucolipid metabolism, Renal function, Histopathology, TEM, Western blot). Not pre?specified. Sample size was not determined based on a single primary outcome (see response to item 2b).
Statistical methods	7	a. Provide details of the statistical methods used for each analysis, including software used. b. Describe any methods used to assess whether the data met the assumptions of the statistical approach, and what was done if the assumptions were not met.	Materials and Methods — "Statistical analysis" (all details are provided in this section). Materials and Methods — "Statistical analysis" (Shapiro?Wilk test for normality; Levene's test for homogeneity of variances). Data met all assumptions; no deviations were observed.
Experimental animals	8	a. Provide species-appropriate details of the animals used, including species, strain and substrain, sex, age or developmental stage, and, if relevant, weight. b. Provide further relevant information on the provenance of animals, health/immune status, genetic modification status, genotype, and any previous procedures.	Materials and Methods — "Experimental animals" (strain, sex, age, SPF grade). Weight: Can be found in Supplementary Materials. Materials and Methods — "Experimental animals" (provenance: Beijing HuaFuKang; SPF grade). Genetic status and genotype: not specified. Previous procedures: none (acclimatization only).
Experimental procedures	9	For each experimental group, including controls, describe the procedures in enough detail to allow others to replicate them, including: a. What was done, how it was done and what was used. b. When and how often. c. Where (including detail of any acclimatisation periods). d. Why (provide rationale for procedures).	Materials and Methods — "Drugs", "Modeling method and success criteria", "Biochemical analysis", "Histopathological examination", "TEM", "Western blot analysis". Materials and Methods — "Administration, grouping and sample collection" (daily administration for 8 weeks; weekly measurements; sample collection at endpoint). Materials and Methods — "Experimental animals" (housing conditions; 1?week acclimatization mentioned under "Modeling method and success criteria"). Introduction (KK-Ay model rationale, clinical background of XSF). Materials and Methods — "Administration, grouping and sample collection" (dose rationale: pilot experiment and clinical conversion).
Results	10	For each experiment conducted, including independent replications, report: a. Summary/descriptive statistics for each experimental group, with a measure of variability where applicable (e.g. mean and SD, or median and range). b. If applicable, the effect size with a confidence interval.	Results — all subsections. Data shown as mean ± SEM. Full numerical data available in Supplementary Table.doc (as stated in Results: "Detailed numerical data. .. are provided in Supplementary table. doc in supplementary materials.") Materials and Methods — "Statistical analysis" (95% CI reported where applicable). Results — percent changes reported for key parameters (kidney weight, GLU, GSP, TG, UACR).

The Recommended Set

These items complement the Essential 10 and add important context to the study. Reporting the items in both sets represents best practice.

Item		Recommendation	Section/line number, or reason for not reporting
Abstract	11	Provide an accurate summary of the research objectives, animal species, strain and sex, key methods, principal findings, and study conclusions.	ıents are present in the Abstract section.
Background	12	a. Include sufficient scientific background to understand the rationale and context for the study, and explain the experimental approach. b. Explain how the animal species and model used address the scientific objectives and, where appropriate, the relevance to human biology.	Introduction — paragraphs 1–5 (DKD burden, current therapies, XSF background, JAK/STAT and PPARγ rationale, study aims). Introduction — paragraph 4 (JAK/STAT/PPARγ context) and Discussion — paragraph 2 (KK-Ay model recapitulates human metabolic syndrome, referencing Oki et al., 2025).
Objectives	13	Clearly describe the research question, research objectives and, where appropriate, specific hypotheses being tested.	; JAK/STAT signaling pathway and PPARγ."
Ethical statement	14	Provide the name of the ethical review committee or equivalent that has approved the use of animals in this study, and any relevant licence or protocol numbers (if applicable). If ethical approval was not sought or granted, provide a justification.	Ethical approval section: "All animal experiments were conducted in accordance with relevant guidelines and regulations and were reviewed and approved by the respective Experimental Animal Ethics Committees of Changchun University of Chinese Medicine (Approval No. 2024068) and the Jilin Provincial Academy of Traditional Chinese Medicine (Approval No. JLSZKYDWLL2023-020)."
Housing and husbandry	15	Provide details of housing and husbandry conditions, including any environmental enrichment.	" Environmental enrichment: not reported.
Animal care and monitoring	16	a. Describe any interventions or steps taken in the experimental protocols to reduce pain, suffering and distress. b. Report any expected or unexpected adverse events. c. Describe the humane endpoints established for the study, the signs that were monitored and the frequency of monitoring. If the study did not have humane endpoints, state this.	Materials and Methods — "Administration, grouping and sample collection": mice were anesthetized with pentobarbital sodium before blood/tissue collection. Materials and Methods — "Administration, grouping and sample collection": unexpected mortality (hyperglycemia?related death or infection) reported. Not established. No specific humane endpoints or early removal criteria were described in the manuscript. Regular monitoring (weekly measurements) was performed.
Interpretation/ scientific implications	17	a. Interpret the results, taking into account the study objectives and hypotheses, current theory and other relevant studies in the literature. b. Comment on the study limitations including potential sources of bias, limitations of the animal model, and imprecision associated with the results.	Discussion — paragraphs 1–6 (interpretation of findings in relation to JAK/STAT, PPARγ, STAT6, TGF-β1/FN, and comparison with prior literature). Discussion — final paragraph (all limitations listed and acknowledged).
Generalisability/ translation	18	Comment on whether, and how, the findings of this study are likely to generalise to other species or experimental conditions, including any relevance to human biology (where appropriate).	Discussion — final paragraph (limitations): "the selection of a single animal model also affects the generalizability of the experiment... require improvement in future experiments." Also discussed in the context of KK?Ay model relevance to human DKD in the Introduction and Discussion (Oki et al., 2025).
Protocol registration	19	Provide a statement indicating whether a protocol (including the research question, key design features, and analysis plan) was prepared before the study, and if and where this protocol was registered.	No protocol was pre?registered. The study design is described in the Materials and Methods section, but no prior registration was conducted.
Data access	20	Provide a statement describing if and where study data are available.	ınd its supplementary information files."
Declaration of interests	21	a. Declare any potential conflicts of interest, including financial and non-financial. If none exist, this should be stated. b. List all funding sources (including grant identifier) and the role of the funder(s) in the design, analysis and reporting of the study.	Conflict of interest section: "The authors declare no conflict of interest." [illegible] on in Diabetic Kidney Disease Based on PINK1/Parkin Signaling Pathway-Mediated Mitophagy'." Role of funders: not specified in the manuscript; the authors assumed full responsibility for the study design, data analysis, and reporting.