**Nephropathy is aggravated by fatty acids in diabetic kidney disease through tubular epithelial cell necroptosis and is alleviated by an RIPK-1 inhibitor**

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**Supplementary Tables:**

**Table S1** Scales for scoring the pathological lesions in DKD patients

**Table S2** Clinical and pathological parameters of patients with DKD

**Table S3** Primer list

**Table S1** Scales for scoring the pathological lesions in DKD patients

|  |  |
| --- | --- |
| **Histopathologic score** |  |
| **Glomerular lesions** |  |
|  Global sclerosis | 0=Absence, 1≤25%, 25%<≤2≤50%, 3>50% |
|  Ischemic sclerosis | 0=Absence, 1≤25%, 25%<2≤50%, 3>50% |
|  Capillary microaneurysm | 0=Absence, 1=Presence |
|  Mesangial expansion | 0=Absence or the biopsy does not meet any of thecriteria mentioned below for score 1 or 2; |
|  | 1≥25% of the observed mesangium, but smallerthan the mean area of a capillary lumen; |
|  | 2≥25% of the observed mesangium, and largerthan the mean area of a capillary lumen; |
|  | 3=At least one convincing Kimmelstiel-Wilsonlesion |
|  GBM thickening | 0=Absence, 1=Segmental, 2=Diffuse |
| **Vascular lesions** |  |
|  Arteriolar hyalinosis | 0=Absence, 1=Presence |
|  Arteriolar sclerosis | 0=No intimal thickening |
|  | 1=Intimal thickening less than thickness of media |
|  | 2=Intimal thickening greater than thickness of media |
| **Tubular lesions** |  |
|  TBB loss | 0=Absence, 1=Presence |
|  Vacuolar degeneration | 0=Absence, 1=Presence |
|  Tubular atrophy | 0=Absence, 1≤25%, 25%<2≤50%, 3>50% |

**Table S2** Clinical and pathological parameters of patients with DKD

|  |  |
| --- | --- |
| **Demographic and clinical characteristics** |  |
|  Age (year) | 43.13±12.83 |
|  Male, n (%) | 21 (70) |
| DM duration (Month) | 130.41±71.32 |
| Peak creatinine (μmol/L) | 249.68±184.42 |
|  Uric acid (μmol/L) | 392.66±76.00 |
|  eGFR (ml/min/1.73m2) | 43.13±30.33 |
|  Globulin (g/L) | 26.85±6.51 |
| **Histopathologic characteristics** |  |
|  **Glomerular change** |  |
|  Global sclerosis, 0/1/2/3 (%) | 36.67/50.00/13.33/0 |
|  Ischemic sclerosis, 0/1/2/3 (%) | 43.33/33.33/16.67/6.67 |
|  Capillary microaneurysm, 0/1 (%) | 30.00/70.00 |
|  Mesangial expansion, 0/1/2/3 (%) | 0/16.67/36.67/46.67 |
|  GBM thickening, 0/1/2 (%) | 0/16.67/83.33 |
| **Arteriole change** |  |
|  Arteriolar hyalinosis, 0/1 (%) | 43.33/56.67 |
|  Arteriolar sclerosis, 0/1/2 (%) | 0/63.33/36.67 |
|  **Tubular injury** |  |
|  TBB loss, 0/1 (%) | 26.67/73.33 |
|  Vacuolar degeneration, 0/1 (%) | 76.67/23.33 |
|  Tubular atrophy, 0/1/2/3 (%) | 0/23.33/33.33/43.33 |

**Table S3** Primer list

|  |  |  |
| --- | --- | --- |
| **Gene name** |  | **Primers** |
| *Il1b* | F' | GAAATGCCACCTTTTGACAGTG |
|  | R' | TGGATGCTCTCATCAGGACAG |
| *Tnf* | F' | CCCTCACACTCAGATCATCTTCT |
|  | R' | GCTACGACGTGGGCTACAG |
| *Ccl2* | F' | TAAAAACCTGGATCGGAACCAAA |
|  | R' | GCATTAGCTTCAGATTTACGGGT |
| *Cxcl2* | F' | CCAACCACCAGGCTACAGG |
|  | R' | GCGTCACACTCAAGCTCTG |
| *Ppara* | F' | AGAGCCCCATCTGTCCTCTC |
|  | R' | ACTGGTAGTCTGCAAAACCAAA |
| *Ppargc1a* | F' | TATGGAGTGACATAGAGTGTGCT |
|  | R' | CCACTTCAATCCACCCAGAAAG |
| *Acox1* | F' | TAACTTCCTCACTCGAAGCCA |
|  | R' | AGTTCCATGACCCATCTCTGTC |
| *Cd36* | F' | ATGGGCTGTGATCGGAACTG |
|  | R' | GTCTTCCCAATAAGCATGTCTCC |
| *Cpt1a* | F' | CTCCGCCTGAGCCATGAAG |
|  | R' | CACCAGTGATGATGCCATTCT |
| *Rxra* | F' | ATGGACACCAAACATTTCCTGC |
|  | R' | CCAGTGGAGAGCCGATTCC |
| *Hprt* | F' | TCAGTCAACGGGGGACATAAA |
|  | R' | GGGGCTGTACTGCTTAACCAG |