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SUPPLEMENTARY INFORMATION
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# The role of inflammasomes in kidney disease

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**Supplementary Table 1 | Roles of inflammasome-related genes in models of kidney disease**

| Model | Gene | Effect of gene deletion | Injury | Inflammation | Fibrosis | Renal function | Proteinuria | Refs |
|---|---|---|---|---|---|---|---|---|
| **Glomerular diseases** | | | | | | | | |
| Hyperhomocysteinemia-induced glomerular injury | ASC silencing (shASC) | Protective | ↓ | ↓ | NA | NA | ↓ | 1 |
| | Nlrp3–/– | Protective | ↓ | ↓ | NA | NA | ↓ | 2 |
| Anti-GBM glomerulonephritis | Nlrp3–/– | –or protective | – or ↓ tubular atrophy | – or ↓ | NA | ↑ or – | –or ↓ | 3,4 |
| | Asc–/– | –or protective | –or ↓ | –or ↓ | NA | – or ↑ | –or ↓ | 3,4 |
| | Casp1 and Casp-11–/– | – | – | – | NA | – | – | 3 |
| | Il1r1–/– | Protective | ↓ | ↓ | NA | –or ↑ | –or ↓ | 3-5 |
| | Il18–/– | Partially protective | ↓ tubular atrophy | – | NA | – | – | 3 |
| | Il1b–/– | Protective | ↓ | ↓ | NA | – | ↓ | 5 |
| lupus nephritis (lpr mouse) | Nlrp3–/– | Injurious | ↑ | ↑ | NA | ↓ | NA | 6 |
| | Asc–/– | Injurious | ↑ | ↑ | NA | – | NA | 6 |
| | Il1r–/– | – | – | – | NA | – | NA | 6 |
| | Il18–/– | – | ↑ | – | NA | – | NA | 6 |
| HIVAN | Endogenous upregulation of Nlrp3 and Casp1 | -NA | ↑ | ↑ | NA | NA | NA | 7 |
| APOL1 | Endogenous upregulation of Nlrp3 | -NA | ↑ | ↑ | NA | NA | NA | 8 |
| **Diabetic kidney disease (DKD)** | | | | | | | | |
| STZ | Nlrp3–/– | Protective | ↓ | NA | NA | NA | ↓ | 9 |
| | Casp1 and casp11–/– | Protective | ↓ | NA | NA | NA | ↓ | 10 |
| | Nlrc5–/– | Protective | ↓ | ↓ | ↓ | NA | ↓ | 11 |
| STZ+High fat diet | Nlrc4–/– | Protective | ↓ | ↓ | NA | NA | ↓ | 12 |
| **Hypertension** | | | | | | | | |
| Angiotensin II induced renal injury | Nlrp3–/– | Protective | ↓ | ↓ | NA | NA | ↓ | 13 |
| Aldosterone-induced renal injury | Asc–/– | Protective | NA | ↓ | ↓ | – | NA | 14 |
| DOCA/salt-induced hypertensive nephropathy | Asc–/– | Protective | NA | ↓ | ↓ | NA | NA | 15 |
| **Obesity/metabolic syndrome** | | | | | | | | |
| Western diet | Nlrp3–/– | Protective | ↓ | ↓ | ↓ | ↑ | ↓ | 16 |
| High-fat diet | P2X7R–/– | Protective | ↓ | ↓ | ↓ | NA | ↓ | 17 |
| Albumin overload-induced renal tubular injury | Nlrp3–/– | Protective | ↓ | ↓ | ↓ | NA | NA | 18 |
| | Casp1 and casp11–/– | Protective | ↓ | ↓ | ↓ | NA | NA | 18 |
| **Crystal nephropathy** | | | | | | | | |
| Calcium oxalate AKI | Nlrp3–/– | Protective | ↓ | NA | NA | ↑ | NA | 19 |
| | Asc–/– | Protective | ↓ | NA | NA | ↑ | NA | 19 |
| | Il1r1–/– | Protective | ↓ | ↓ | | ↑ | NA | 20 |
| | Il18–/– | Protective | ↓ | ↓ | | ↑ | NA | 20 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| folic acid nephrotoxicity | Asc–/– | Protective | ↓ | ↓ | | ↑ | NA | [21] |
| **Tubulointerstitial/chronic** | | | | | | | | |
| Adeninine induced tubulointerstitial nephritis | ASC–/– | Protective | NA | ↓ | ↓ | ↑ | NA | [22] |
| | Casp1 and casp-11–/– | Protective | NA | ↓ | ↓ | ↑ | NA | [22] |
| Remnant kidney | Nlrp3–/– | Protective | ↓ mtDNA release | ↓ | ↓ | ↑ | ↓ | [23] |
| UUO | Nlrp3–/– | Protective or injurious | ↓ or ↑ | ↓ or – | ↓ or – | NA | NA | [24,25] |
| | ASC–/– | Protective | ↓ | ↓ | ↓ | NA | NA | [26] |
| | Aim2–/– | Protective | ↓ | ↓ | ↓ | NA | NA | [27] |
| **Acute Kidney Injury** | | | | | | | | |
| LPS-induced endotoxemic AKI | Casp1–/– | Protective | ↓ | NA | NA | ↑ | NA | [28] |
| Cecal ligation puncture-induced AKI | Nlrp3–/– | Protective | ↓ | ↓ | NA | ↑ | NA | [29] |
| Ischaemia-reperfusion injury | Il1a/b–/– | Protective | ↓ | – | NA | ? | NA | [30] |
| | Nlrp3–/– | Protective | –or ↓ | ↓ or – | NA | ↑ | NA | [31-33] |
| | Asc–/– | – | – | – | NA | – | NA | [33] |
| | Casp1 and casp11–/– | – | – | – | NA | – | NA | [33] |
| | Il1r–/– | – | NA | NA | NA | – | NA | [33] |
| | Il18–/– | – | NA | NA | NA | – | NA | [33] |
| | Nlrc5–/– | Protective | ↓ | ↓ | NA | ↑ | NA | [11] |
| | Nlrx1–/– | Injurious | ↑ | – | NA | ↓ | NA | [34] |
| Rhabdomyolysis-induced AKI | Nlrp3–/– | Protective | ↓ | ↓ | NA | ↑ | NA | [35] |
| | Asc–/– | Protective | ↓ | ↓ | NA | ↑ | NA | [35] |
| | Casp1 and casp11–/– | Protective | ↓ | ↓ | NA | ↑ | NA | [35] |
| | Il1–/– | Protective | ↓ | ↓ | NA | ↑ | NA | [35] |
| Cisplatin-induced AKI | Nlrp3–/– | – | – | NA | NA | – | NA | [32] |
| | Asc–/– | Protective | ↓ | NA | NA | ↑ | NA | [36] |
| | Casp1 and casp-11–/– | Protective | ↓ | ↓ | NA | ↑ | NA | [37] |
| | Nlrc5–/– | Protective | ↓ | ↓ | NA | ↑ | NA | [38] |
| Radiocontrast-induced AKI | Nlrp3–/– | Protective | ↓ | ↓ | NA | ↑ | NA | [39] |

↑:increased, ↓:decreased, –: no effect, NA: not available.

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