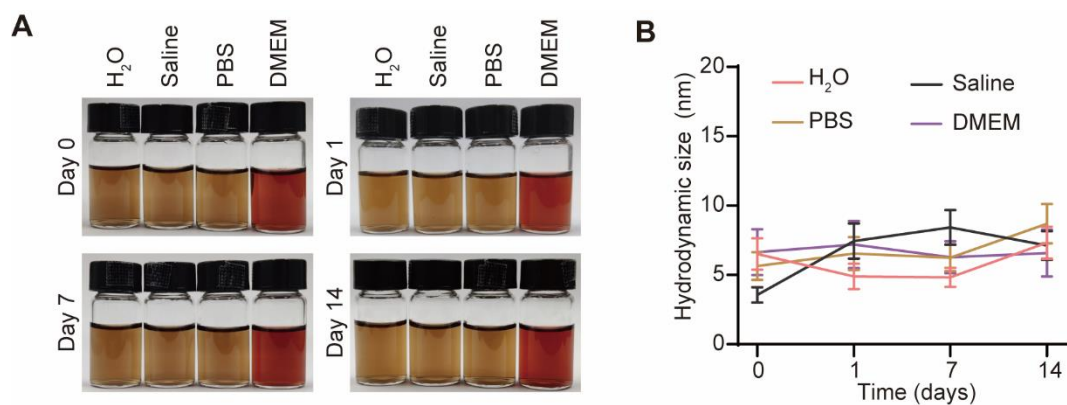


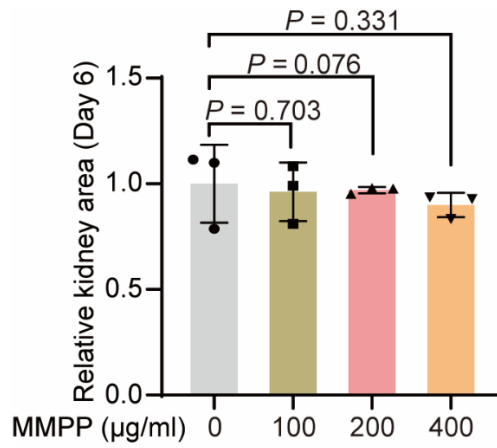
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Appendix Figures



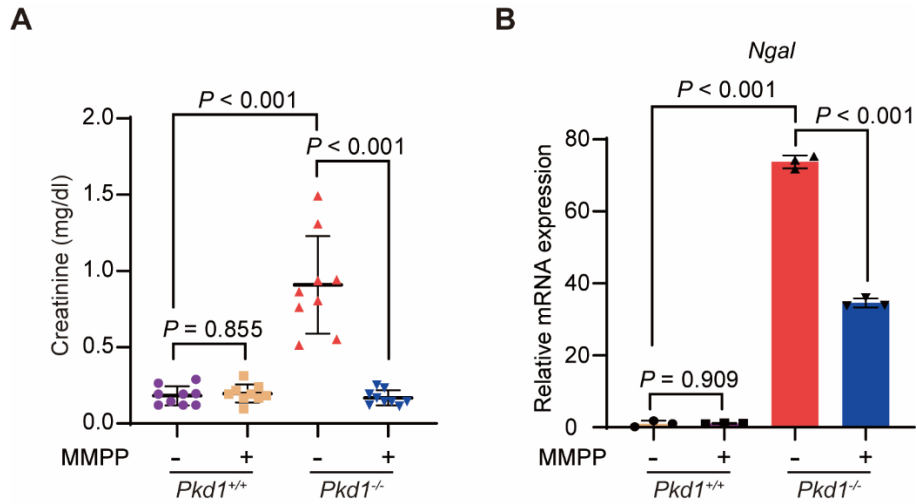
Appendix Figure S1. Characterization of MMPP *in vitro*.

(A) Photographic representation of MMPP nanoparticles dispersed in various media at different days. (B) Hydrodynamic size assessment in different media over a 14-day period. Data presented as means $\pm$ SD.



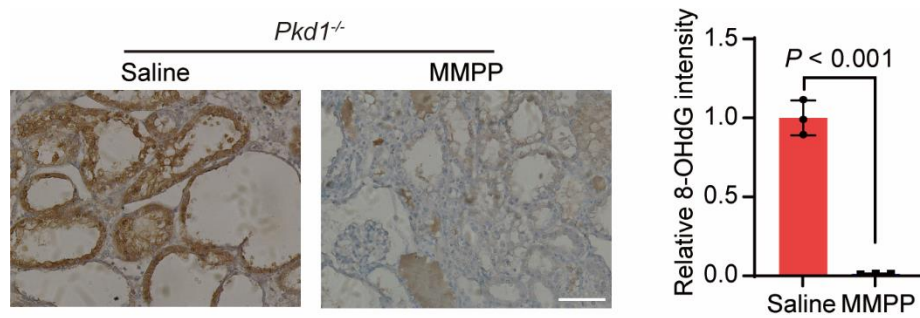
Appendix Figure S2. MMPP does not affect embryonic kidney growth.

Total area of embryonic kidneys treated with indicated concentration of MMPP for six days (representative of three independent experiments; n = 3 biological replicates). Data presented as means $\pm$ SD. One-way ANOVA with Dunnett's T3 test was used for statistical analysis.



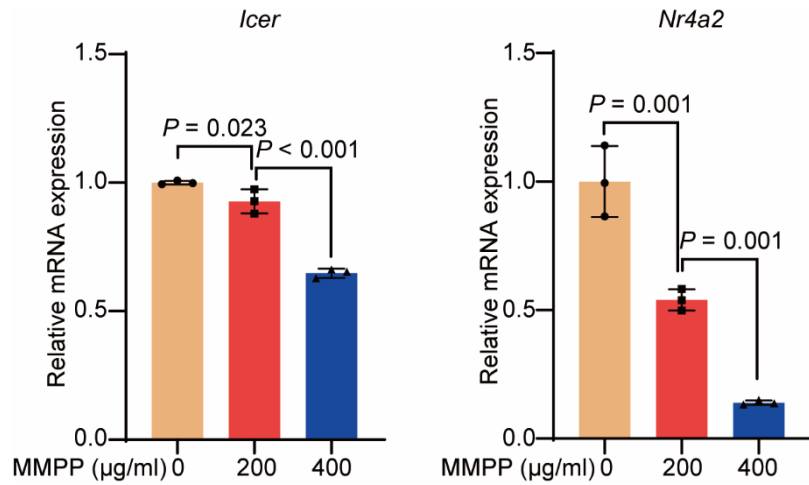
Appendix Figure S3. Assessment of kidney function and kidney injury in mice treated with MMPP.

(A) Serum creatinine levels in MMPP-treated mice from the indicated groups (n = 9).
 (B) Quantitative RT-PCR analysis of relative mRNA levels of injury marker from the indicated groups (representative of three independent experiments; n = 3 biological replicates). Data presented as means $\pm$ SD. Two-way ANOVA with LSD test was used for statistical analysis.



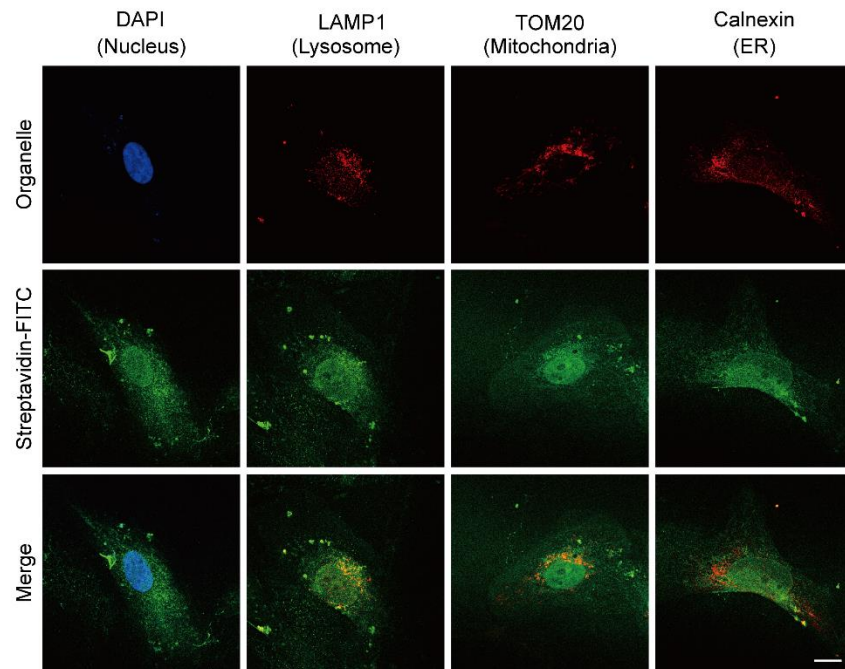
Appendix Figure S4. Analysis of oxidative stress in ADPKD kidneys.

Immunostaining of 8-OHdG (left) and quantification (right) in ADPKD kidneys with or without MMPP treatment (representative of three independent experiments; $n = 3$ biological replicates). Scale bar, 50 μm . Data presented as means $\pm$ SD. A two-tailed unpaired Student's t test was used for statistical analysis.



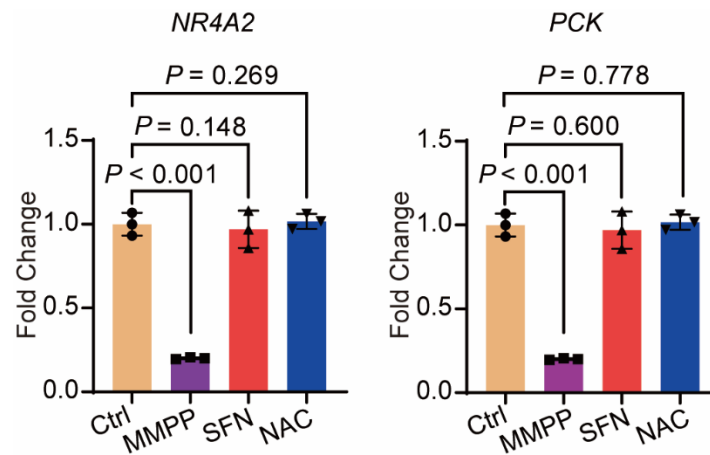
Appendix Figure S5. MMPP inhibits the expression of CREB target genes in ADPKD cells.

RT-PCR analysis of representative CREB target genes (*Icer* and *Nr4a2*) in PN cells with or without MMPP treatment (representative of three independent experiments; $n = 3$ biological replicates). Data presented as means $\pm$ SD. One-way ANOVA with LSD test was used for statistical analysis.



Appendix Figure S6. Intracellular distribution of MMPP in renal proximal tubular cells.

Co-staining of Bio-MMPP with the indicated organelle markers in HK-2 cells. Scale bar, 10 μ m.



Appendix Figure S7. MMPP inhibits CREB transcriptional activity independent of ROS.

ChIP-qPCR analysis of p-CREB occupancy on NR4A2 (left) and PCK (right) genes in WT 9-12 cells treated with MMPP or antioxidants (representative of three independent experiments; n = 3 biological replicates). Data presented as means $\pm$ SD. One-way ANOVA with LSD test was used for statistical analysis.

Appendix Tables

Appendix Table S1. Primers used for RT-PCR.

<i>Co3</i> F	CAAGGCCACCACACTCCTAT
<i>Co3</i> R	GCAGCCTCCTAGATCATGTGT
<i>Cytb</i> F	TGCATACGCCATTCTACGCT
<i>Cytb</i> R	AGGCTTCGTTGCTTTGAGGT
<i>Atp6</i> F	GCAGTCCGGCTTACAGCTAA
<i>Atp6</i> R	GGTAGCTGTTGGTGGGCTAA
<i>Myc</i> F	ATGCCCCTCAACGTGAACTTC
<i>Myc</i> R	CGCAACATAGGATGGAGAGCA
<i>Syk</i> F	CTACCTGCTACGCCAGAGC
<i>Syk</i> R	GCCATTAAGTTCCCTCTCGATG
<i>Abcg1</i> F	CTTTCCTACTCTGTACCCGAGG
<i>Abcg1</i> R	CGGGGCATTCCATTGATAAGG
<i>Clcf1</i> F	GACTCGTGGGGGATGTTAGC
<i>Clcf1</i> R	CTAAGCTGCGGAGTTGATGCT
<i>Icre</i> F	GGTGACATGCCAACTTACCAGA
<i>Icer</i> R	TTGCGACTTGCTTCTTCTGC
<i>Nr4a2</i> F	GTGTTTCAGGCGCAGTATGG
<i>Nr4a2</i> R	TGGCAGTAATTCAGTGTTGGT
<i>ICER</i> F	ATGGCTGTAAGTGGAGATGACACAG
<i>ICER</i> R	CTCCCTGTGGCAAAGCAGCA
<i>NR4A2</i> F	ACCTGTGAGGGCTGCAAAG
<i>NR4A2</i> R	AGGCACTTCTGAAATCGGCA
<i>GAPDH</i> F	TTGCCCTCAACGACCACTTT
<i>GAPDH</i> R	TGGTCCAGGGGTCTTACTCC
<i>Ngal</i> F	GACTTCCGGAGCGATCAGTT

<i>Ngal</i> R	CTGATCCAGTAGCGACAGCC
<i>Actin</i> F	TTGCTGACAGGATGCAGAAG
<i>Actin</i> R	ATCCACATCTGCTGGAAGGT

Appendix Table S2. Primers used for ChIP-qPCR.

<i>NR4A2</i> F	CTGAGCTGGAGTTGCTGCTA
<i>NR4A2</i> R	GGAGAGCTGGGGAGAAGGAA
<i>PCK</i> F	GAGGTTCTGCCACCAAGCA
<i>PCK</i> R	TCGAAGGGAGATCCACAGGT
<i>Abcg1</i> F	GCCGTATAGCTTTTGCCCG
<i>Abcg1</i> R	TTGTCTCTAGGCTGTTGCCA
<i>Clefl</i> F	AACAAAGTCTGTCCCACTCCAG
<i>Clefl</i> R	CAGTCATGGCCAGTGCTAGTT