

Supplemental Material

Supplementary Figure S1 . DESI-MSI quantification of LPC(16:0) abundance in mouse renal tissues

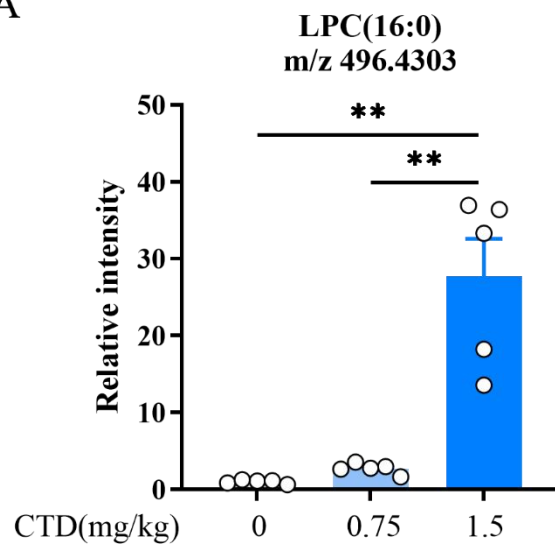
Supplementary Figure S2 . Transcriptomic analysis results of CTD alone or combined with LPC(16:0)

Supplementary Figure S3 . Transcriptomic analysis of CTD alone or combined with LPC(16:0)

Supplementary Table S4 . Primer sequences for real-time PCR

Supplementary Fig. S1

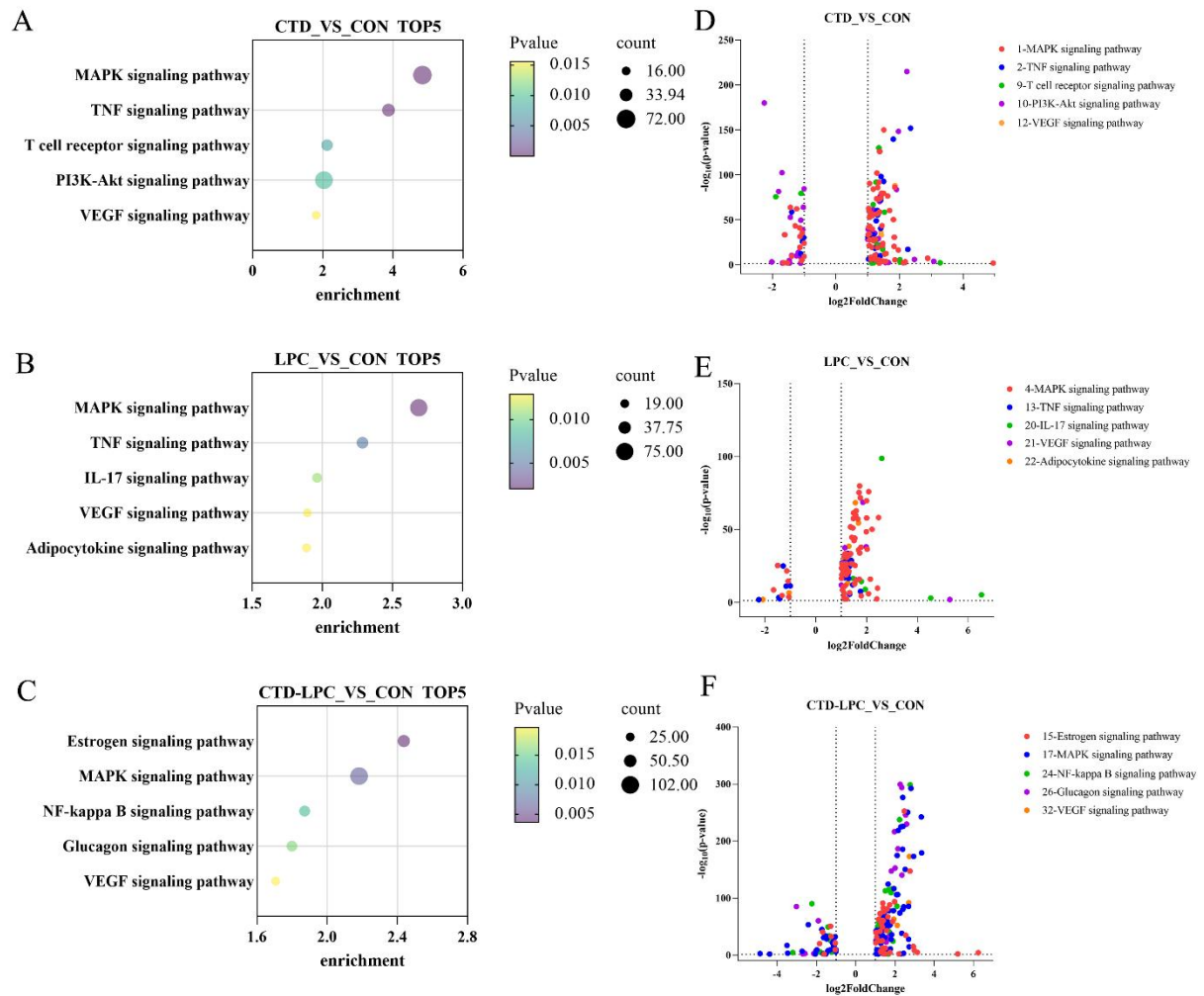
A



Supplementary Figure S1 . DESI-MSI quantification of LPC(16:0) abundance in mouse renal tissues

A Bar chart of relative intensity of the target ion LPC(16:0)(m/z 496 .3403)detected by MSI. (Mean $\pm$ SEM, n=5. ** P <0.01 vs. HCTD group)

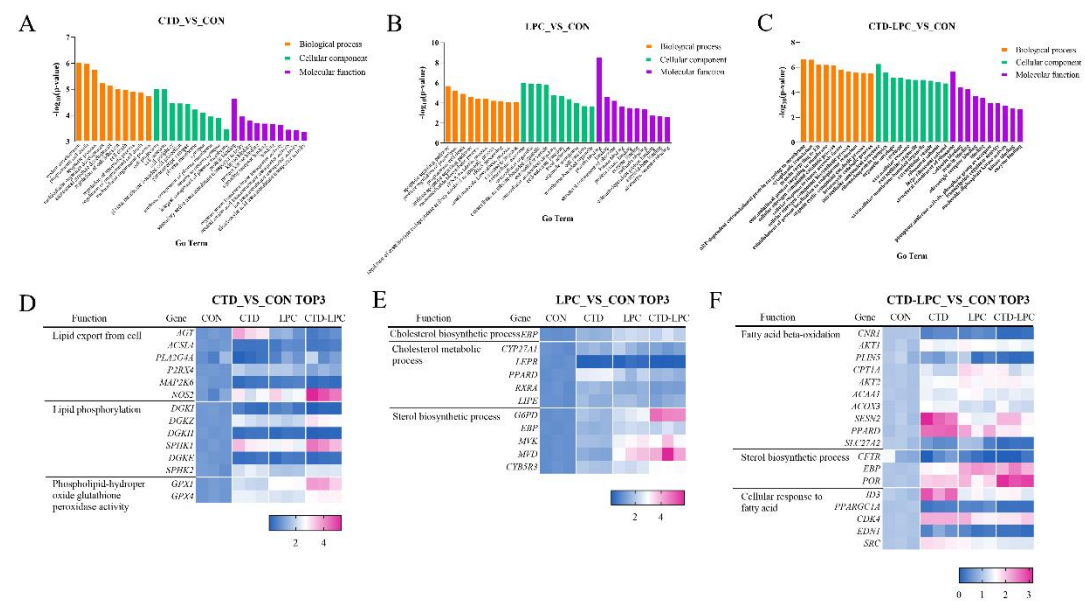
Supplementary Fig. S2



Supplementary Figure S2 . Transcriptomic analysis results of CTD alone or combined with LPC(16:0)

A–C Bubble plots of differentially expressed genes for CTD vs. CON, LPC vs. CON, and CTD+LPC vs. CON comparison groups; D–F Volcano plots of differentially expressed genes for CTD vs. CON, LPC vs. CON, and CTD+LPC vs. CON comparison groups. n = 3 biological replicates.

Supplementary Fig. S3



Supplementary Figure S3 . Transcriptomic analysis of CTD alone or combined with LPC(16:0)

A–C GO functional enrichment analyses of differentially expressed genes from CTD vs. CON, LPC vs. CON, and CTD+LPC vs. CON groups; **D–F** Heatmaps illustrating the top three lipid metabolism-associated molecular function terms across the three comparison groups. n = 3 biological replicates.

Supplementary Table S4 . Primer sequences for real-time PCR

Gene	Species	Forward	Reverse
<i>ACA1A</i>	Mice	tctccaggacgtgaggctaaa	cgctcagaaattgggcgatg
<i>ACOX-1</i>	Mice	tcgaagccagcgttacgag	ggtctgcgatgctccaaattcc
<i>ACADM</i>	Mice	agggtttagtttgagttgacgg	ccccgctttgtcatattccg
<i>CPT1A</i>	Mice	ctccgctgagccatgaag	caccagtgatgatgccattct
<i>EHHADH</i>	Mice	atggctgagtatctgaggctg	ggtccaaactagctttctggag
<i>LOX-1</i>	Mice	caagatgaagcctgcgaatga	acctggcgtaattgtgtccac
<i>LDLR</i>	Mice	cctcagctaccagcacctct	agccatgtcaccttggaatt
<i>PLIN2</i>	Mice	gacctgtgtcctccgcttat	caaccgcaatttgtggctc
<i>PPARGC1A</i>	Mice	tatggagtgcacatagagtgtgct	ccacttcaatcccccagaaaag
<i>GAPDH</i>	Mice	ggttgtctcctgcgacttca	tgggccagggtttcttactcc
<i>CHOP</i>	Human	ggaaacagagtgggtcattccc	ctgcttgagccggttcattctc
<i>GADD34</i>	Human	agccacggaggataaaagaaca	ctgaacgatactcccaggacc
<i>GRP78/Bip</i>	Human	gaaagaaggttaccatgcagt	caggccataagcaatagcagc
<i>SPHK1</i>	Human	gtggcagcttcgaacctat	gtgtgcagagacagcaggttca
<i>β-actin</i>	Human	cctggcaccagcacaat	gggccggactcgtcatac