

**Supplementary Table S1 The chemicals and reagents used in this study**

Reagent	Source	Identifier
Phorbolmyristate acetate, PMA	Sigma-Aldrich	P1585
Puromycin	Beyotime	ST551
Lipopolysaccharides from <i>Escherichia coli</i> O111:B4, LPS	Sigma-Aldrich	L2630
Adenosine 5'-triphosphate disodium salt hydrate, ATP	Sigma-Aldrich	A7699
Nigericin Sodium, Nig	CSNpharm	CSN11558
Uric acid sodium, MSU	Sigma-Aldrich	U2875
LP-533401	CSNpharm	CSN23915
Tropisetron, TPS	CSNpharm	CSN13073
Sarpogrelate, SGR	CSNpharm	CSN19474
SB-269970	CSNpharm	CSN13858
2-methyl-5-hydroxytryptamine, 2Met5HT	CSNpharm	CSN27304
5-hydroxytryptamine, 5-HT	CSNpharm	CSN10540
disuccinimidyl suberate	Sigma-Aldrich	S1885
KN-62	CSNpharm	CSN11254
Calmodulin, CaM	Proteintech	Ag17922
Calcium chloride, CaCl <sub>2</sub>	Aladdin Biochemical	C110769
Bovine serum albumin, BSA	BioFroxx	4240GR500
Diacerein, Dia	MedChemExpress	HY-N0283
Recombinant Human Interleukin-1 Receptor Antagonist Protein, IL1RA	MedChemExpress	HY-P7029A
IL-1 receptor inhibitor, TLR1	MedChemExpress	HY-W011401
BMS-345541	MedChemExpress	HY-10518
Azoxymethane, AOM	Sigma-Aldrich	A5486
Dextran Sulfate Sodium (36,000-50,000 M.Wt.), DSS	MP Biomedicals	216011050
4-chloro-DL-phenylalanine, pCPA	MedChemExpress	HY-B1368
Recombinant human IL1 $\beta$ , rhIL1 $\beta$	Proteintech	Ag26030
Acryl/Bis 30% Solution	Sangon Biotech	B546017
1.5 mol/L Tris-HCl (pH 8.8)	Beyotime	ST789
1.0 mol/L Tris-HCl (pH6.8)	Beyotime	ST768
Sodium dodecyl sulfate, SDS	BioFroxx	3250GR500
Ammoniumpersulfate substitute, APS substitute	Beyotime	ST005
N,N,N',N'-Tetramethylethylenediamina, TEMED	Aladdin Biochemical	T105496
PVDF membrane	Merck Millipore	IPVH00010
HEPES-KOH	BioConcept	5-31F00-H
Potassium chloride, KCl	Aladdin Biochemical	P301833
Nonidet P 40 Substitute, NP-40S	Aladdin Biochemical	N274285
Phenylmethanesulfonyl fluoride, PMSF	Beyotime	ST506
Paraformaldehyde	Aladdin Biochemical	C104188
Paraffin	Aladdin Biochemical	P100931
Fetal Bovine Serum, FBS	Biological Industries	04-001-1A
Triton X-100	Beyotime	ST797
4',6-diamidino-2-phenylindole, DAPI	Beyotime	C1002
Isopropyl $\beta$ -D-thiogalactoside, IPTG	Beyotime	ST098
1,4-piperazinediethanesulfonic acid, PIPES	Aladdin Biochemical	P105093
Hematoxylin-eosin, H&E	Servicebio	G1005
3, 3'-diaminobenzidine, DAB	Servicebio	G1212

**Supplementary Table S2 shRNA sequences used in this study**

Species	Targets		Sequences
human	<i>TPH1</i>	1#	5'-GATCCCCCAAGAAATTGGCTTGGCTTTTCAAGAGAAAGCCAAGCCAATTTCTTGGGTTTTTTG-3'
		2#	5'-GATCCCGGGAGGATAATATCCCACAATTCAAGAGATTGTGGGATATTATCCTCCCGTTTTTTG-3'
	<i>NLRP3</i>	1#	5'-GATCCGTGGATCTAGCCACGCTAATGTTCAAGAGACATTAGCGTGGCTAGATCCACTTTTTTG-3'
		2#	5'-GATCCGGCTGTAACATTCCGAGATTGTTCAAGAGACAATCTCCGAATGTTACAGCCTTTTTTG-3'
	<i>HTR3A</i>	1#	5'-GATCCCTACAGCATCACCTGGTTATTTCAAGAGAATAACCAGGGTGATGCTGTAGTTTTTTG-3'
		2#	5'-GATCCCCTGAGGACTTTGACAACATTTCAAGAGAATGTTGTCAAAGTCCTCAGGGTTTTTTG-3'
mouse	<i>Tph1</i>	1#	5'-GATCCCTCGCCTCTCTCCATATTCAATTCAAGAGATTGAATATGGAGAGAGGCGAGTTTTTTG-3'
		2#	5'-GATCCGCCATGAATGAGTTGCGGTATTTCAAGAGAATACCGCAACTCATTCATGGCTTTTTTTG-3'
	<i>Nlrp3</i>	1#	5'-GATCCCCGGCCTTACTTCAATCTGTTTTCAAGAGAAACAGATTGAAGTAAGGCCGGTTTTTTG-3'
		2#	5'-GATCCCCAGGAGAGAACCTCTTATTTTTCAAGAGAAAATAAGAGGTTCTCTCCTGGTTTTTTG-3'
	<i>Htr3a</i>	1#	5'-GATCCCTAGACAGAATAGCCTGGATTTCAAGAGAATCCAGGCTATTCTGTCTAGGTTTTTTG-3'
		2#	5'-GATCCTCAAGGAGTTCAGCATAGATATTCAAGAGATATCTATGCTGAACTCCTTGATTTTTTTG-3'

**Supplementary Table S3 Primer sequences for targeted genes used in this study**

Source	Gene		Primer Sequences
human	<i>TPH1</i>	Forward	ACGTCGAAAAGTATTTTGCGGA
		Reverse	ACGGTCCCCAGGTCTTAATC
	<i>NLRP3</i>	Forward	GATCTTCGCTGCGATCAACAG
		Reverse	CGTGCATTATCTGAACCCAC
	<i>IL1B</i>	Forward	ATGATGGCTTATTACAGTGGCAA
		Reverse	GTCGGAGATTCGTAGCTGGA
	<i>IL18</i>	Forward	TCTTCATTGACCAAGGAAATCGG
		Reverse	TCCGGGGTGCATTATCTCTAC
	<i>AADC</i>	Forward	TGGGGACCACAACATGCTG
		Reverse	TCAGGGCAGATGAATGCACTG
	<i>MAOA</i>	Forward	GAATCAAGAGAAGGCGAGTATCG
		Reverse	GGCAGCAGATAGTCCTGAAATG
	<i>HTR1A</i>	Forward	GACGTGACCGTCAGCTACC
		Reverse	GACGTGACCGTCAGCTACC
	<i>HTR1B</i>	Forward	GGGTTCCCTCAAGCCAACTTATC
		Reverse	GCCAATAGCATAACCAGCAGT
	<i>HTR1D</i>	Forward	CTCCAACAGATCCCTGAATGC
		Reverse	CCTGGTGAGTAAGATGGTGGT
	<i>HTR1F</i>	Forward	ACTTGACCTCAGAGGAACTGT
		Reverse	ATTGCAGCGATCACAAGGGAG
	<i>HTR2A</i>	Forward	CTTTGTGCAGTCTGGATTTACCT
		Reverse	ACTGATATGGTCCAAACAGCAAT
	<i>HTR2B</i>	Forward	TGATTTGCTGGTTGGATTGTTTG
		Reverse	ATGGATGCGGTTGAAAAGAGAA
	<i>HTR2C</i>	Forward	CTAATTGGCCTATTGGTTTGGCA
		Reverse	CCACCATCGGAGGTATTGAAAA
	<i>HTR3A</i>	Forward	GAAGCCAACCACCGTATCCAT
		Reverse	CCACATCCACGAACTCATTGAT
	<i>HTR3B</i>	Forward	TCTCCCTACCTCTAAGTGCCA
		Reverse	CTCAATGGTCCCAGATGAGTTC
	<i>HTR3C</i>	Forward	GAAGAGGCGACGCTTTTACCA
		Reverse	ACGGGTAGGGATGCTGTAGT
	<i>HTR3D</i>	Forward	CCCTACGTGGTAACTTTCTGG
		Reverse	TGTGATGAAGTGCTAGTGGCT
	<i>HTR3E</i>	Forward	GGAAGGGGCGTTACTTTCACC
		Reverse	CGGACGGAAGGGCTTTCTAT
	<i>HTR4</i>	Forward	CTCACGTTTCTCTCGACGGTT
		Reverse	AGCAGATCCGAAAAGCAAGA
	<i>HTR5A</i>	Forward	CCTGTGAACCTAACCTCCTTTTC
		Reverse	CGGTGGAAGGTGCGTACAC
	<i>HTR6</i>	Forward	GCAACACGTCCAACCTTCTTCC
		Reverse	TGCAGCACATCACGTCGAA

<b>Continued</b>			
<b>Source</b>	<b>Gene</b>		<b>Primer Sequences</b>
human	<i>HTR7</i>	Forward	CACCTCCGCTCTTTCCTTCTG
		Reverse	CGTAGTTGATCTGTTCCCCAC
	<i>CAMK2A</i>	Forward	GCTCTTCGAGGAATTGGGCAA
		Reverse	CCTCTGAGATGCTGTCATGTAGT
mouse	<i>Tph1</i>	Forward	AACAAAGACCATTCTCCGAAAG
		Reverse	TGTAACAGGCTCACATGATTCTC
	<i>Nlrp3</i>	Forward	ATTACCCGCCCGAGAAAGG
		Reverse	TCGCAGCAAAGATCCACACAG
	<i>Il1b</i>	Forward	GCAACTGTTCTGAACTCAACT
		Reverse	ATCTTTTGGGGTCCGTCAACT
	<i>Il18</i>	Forward	GACTCTTGCCTCAACTTCAAGG
		Reverse	CAGGCTGTCTTTTGCAACGA
	<i>Htr1a</i>	Forward	GACAGGCGGCAACGATACT
		Reverse	CCAAGGAGCCGATGAGATAGTT
	<i>Htr1b</i>	Forward	CGCCGACGGCTACATTTAC
		Reverse	TAGCTTCCGGGTCCGATACA
	<i>Htr1d</i>	Forward	ATCACCGATGCCCTGGAGTA
		Reverse	GCCAGAAGAGTGGAGGGATG
	<i>HTR1f</i>	Forward	ATCAACTCCCTCGTGATCGC
		Reverse	ACACGTACAACAGATGATGTCG
	<i>Htr2a</i>	Forward	TAATGCAATTAGGTGACGACTCG
		Reverse	GCAGGAGAGGTTGGTTCTGTTT
	<i>Htr2b</i>	Forward	GAACAAAGCACAACTTCTGAGC
		Reverse	CCGCGAGTATCAGGAGAGC
	<i>Htr2c</i>	Forward	CTAATTGGCCTATTGGTTTGGCA
		Reverse	CGGGAATTGAAACAAGCGTCC
	<i>Htr3a</i>	Forward	CCTGGCTAACTACAAGAAGGGG
		Reverse	TGCAGAAACTCATCAGTCCAGTA
	<i>Htr3b</i>	Forward	CTGTCTACCTGGACCTTTGCG
		Reverse	AACTCATCGTTCCAAACCTCTC
	<i>Htr4</i>	Forward	AGTTCCAACGAGGGTTTCAGG
		Reverse	CAGCAGGTTGCCCAAGATG
	<i>Htr5a</i>	Forward	ATGGATCTGCCTGTAAACTTGAC
		Reverse	CACTCGGAAAGCTGAGAGAAAA
	<i>Htr5b</i>	Forward	TTGCTGATCGCTGCCACTTT
		Reverse	GTCGAGGCCACCAAGTTATGT
	<i>Htr6</i>	Forward	GCTGTGCGTGGTCATCGTA
		Reverse	CATCAGGTCCGACGTGAAGAG
	<i>Htr7</i>	Forward	CCGACCTCTACGGCCATCT
		Reverse	TCTCGACTCTGCCATAGTTGAT