

Supplementary Table 1

Detailed information for reagents, antibodies, primers, and plasmids were listed in the Supplementary Table 1.

REAGENT or RESOURCE	SOURCE	IDENTIFIER
Antibody		
HSP70 antibody	Invitrogen	Cat #MA3-008; RRID: AB_325456
Anti-AKT1 (phospho S473) antibody	Abcam	Cat # ab81283; RRID: AB_2224551
Anti-TNF alpha antibody	abcam	Cat #ab215188; RRID: AB_2935774
HSP70 Polyclonal antibody	Abclonal	Cat #A1507; RRID: AB_2761952
Anti-Ki67	Abcam	Cat# ab15580; RRID: AB_443209
MAP2 Rabbit antibody	Cell Signaling Technology	Cat #4542s; RRID: AB_10693782
MAP2 Mouse mAb	Invitrogen	Cat # MA1-19426 RRID:RRID:AB_107685 3
anti-rabbit IgG	Cell Signaling Technology	Cat #7074; RRID: AB_2099233
anti-mouse IgG	Sigma Aldrich	Cat #A9044; RRID: AB_258431
Caspase-3 Rabbit pAb	Abclonal	Cat #A2156; RRID: AB_2862975
Piezo1 (Extracellular Domain) Polyclonal Antibody	proteintech	Cat #15939-1-AP; RRID: AB_2231460
Doublecortin Rabbit pAb (A17469)	Abclonal	Cat # A17469;

		RRID: AB_2769126
Anti-GFAP Antibody	HUABIO	Cat #R1308-9; RRID: AB_3073239
IL1 β Rabbit pAb	Abclonal	Cat #A1112; RRID: AB_2758416
Donkey anti-Mouse IgG (H+L) Secondary Antibody, Alexa Fluor 488	Invitrogen	Cat#A21202; RRID: AB_141607
Donkey anti- Rabbit IgG (H+L) Secondary Antibody, Alexa Fluor 594	Invitrogen	Cat#A21207; RRID: AB_141637
Donkey anti- Rabbit IgG (H+L) Secondary Antibody, Alexa Fluor 488	Invitrogen	Cat# A21206; RRID: AB_2535792
Anti-Iba1 antibody [EPR16589]	Abcam	Cat # ab178847; RRID: AB_2832244
Alexa Fluor® 700 anti-mouse Ly-6C Antibody	BioLegend	Cat # 128024; RRID: AB_10643270
Purified anti-mouse CD16/32 Antibody	BioLegend	Cat # 101335; RRID: AB_312800
APC/Cyanine7 anti-mouse/human CD11b	BioLegend	Cat # 101226; RRID: AB_830642
PerCP/Cyanine5.5 anti-mouse CD45	BioLegend	Cat # 103132; RRID: AB_893340
FITC anti-mouse Ly-6G	BioLegend	Cat # 127606; RRID: AB_1236494
β -Actin antibody	Beijing Ray Antibody Biotech	Cat #4970S; RRID: AB_2756462
IL-6 Rabbit antibody	Cell Signaling Technology	Cat # 12912; RRID: AB_2798059
IL-4 Rabbit antibody	Abclonal	Cat # A14660;

		RRID: AB_2769962
IL-10 Rabbit antibody	Abclonal	Cat # A2171; RRID: AB_2764189
Cleaved Caspase-3 Rabbit antibody	Cell Signaling Technology	Cat # 9664; RRID: AB_2070042
Bacterial and virus strains		
pCMV delta R8.2	Addgene	Cat # 12263
pLV_CMV_His-VSVG	Addgene	Cat # 212643
pAAV-CMV- <i>Apol11a</i> -linker-EGFP	This paper	N/A
pAAV-CMV-sh <i>Apol11a</i> -EGFP	This paper	N/A
Chemicals, peptides, and recombinant proteins		
0.25% Trypsin-EDTA (1x), phenol red	Gibco	Cat #25200072
4% paraformaldehyde	Biosharp	Cat # BL539A
NBD-cholesterol	Invitrogen	Cat #N1148
Neural Tissue Dissociation Kits	Miltenyi	Cat #130-092-628
triphenyltetrazolium chloride	Sigma-Aldrich	Cat #T8877
phosphate-buffered saline (PBS)	Boster	Cat #AR0030-50
Tribromoethanol	Jizhi Biochemical Technology	Cat #T15840
Percoll	GE Healthcare	Cat #17089102
HiScript II Q RT SuperMix for qPCR (+gDNA wiper)	Vazyme	Cat#R223-01
ChamQ SYBR qPCR Master Mix (High ROX Premixed)	Vazyme	Cat#Q341-02
4, 6-diamidino-2-phenylindole (DAPI)	Thermo Fisher Scientific	Cat #D9542
goat serum	BOSTER	Cat #AR0009

citric acid buffer (10 mM citrate, pH 6.0)	BIOISCO	Cat #BO158-100ml
DMEM	Gibco	Cat #C11995500BT
FBS	ExCell Biotech	Cat #FSP500
papain	Sigma-Aldrich	Cat #P5306
poly (D-lysine)	Sigma-Aldrich	Cat #P6407
Neurobasal-A	Gibco	Cat #LIFE-21103-049
B27	Gibco	Cat #17504044
Yoda1	Sigma-Aldrich	Cat #SML1558
MCB-22-174	MCE	Cat #HY-165607S
glucose-free DMEM medium	Gibco	Cat #11966-025
Cell counting kit-8	Dojindo	Cat #CK04
nitrocellulose membrane	Bio-Rad Laboratories	Cat #1704159
Enhanced chemiluminescence kit	PerkinElmer	Cat #NEL105001EA
TRIzol reagent	Thermo Fisher Scientific	Cat # 15596018
EZ-press RNA Purification Kit	EZBioscience	Cat # B0004D
Tissue RNA Purification Kit PLUS	EZBioscience	Cat # EZB-RN001-plus
isoflurane	RWD	Cat #R510
ceftiofur injection	IVDC	Cat # 669849R
Banamine	Merck	Cat # 669849R
silicone	RWD	Cat #MSMC21B120PK50
GSK690693	YUANYE	Cat #S81130
recombinant heatshockprotein70 (r-HSP70)	Abcam	Cat #ab113187
Critical commercial assays		
brain derived neurotrophic factor (BDNF)	ExCell Biotech	Cat #EM025
Mouse dopamine,DA ELISA Kit	CUSABIO	Cat #CSB-E08661m

Mouse platelet factor 4 (PF4)	CUSABIO	Cat #CSB-E07884m
Mouse Heat Shock Protein 70 (HSP70) ELISA Kit	CUSABIO	Cat #CSB-E08311m
BCA protein content detection kit	KeyGEN BioTECH	Cat#KGP902
Pig Heat Shock Protein 70 (HSP70) ELISA Kit	CUSABIO	Cat #CSB-E08317p-1
Pig Brain-Derived Neurotrophic Factor(BDNF) ELISA kit	CUSABIO	Cat # CSB-EL002655PI
Pig Platelet Factor 4(PF4) ELISA kit	CUSABIO	Cat # CSB-EL017809PI
Mouse I terleukin-1 receptor type 2 (IL-1R2) ELISA Kit	EIAab	Cat #E0066m
Mouse Interleukin 1 β (IL-1 β) ELISA Kit	CUSABIO	Cat #CSB-E08054m
Mouse Tumor Necrosis Factor Alpha (TNF- α) ELISA Kit	CUSABIO	Cat # CSB-E04741m
Mouse Procollagen I N-Terminal Propeptide ELISA Kit	Solarbio	Cat # SEKM-0234
Mouse C-terminal telopeptide of type I collagen ELISA Kit	Jingmei Biotechnology Co., Ltd.	Cat # JM-11571M2
Western Lightning Plus ECL	Perkinelmer	Cat#0RT2655
Nissl kit	Beyotime Biotechnology	Cat #C0117
hematoxylin-eosin (HE)	Biosharp	Cat #BL700A
Deposited data		
RNA-sequencing data	SRA	https://www.ncbi.nlm.nih.gov/sra/?term
Experimental models: Cell lines		
MLO-Y4	BNCC	Cat #360862

HT22	ATCC	Cat # SCC129
HEK293	ATCC	Cat # CRL-1573
Software and algorithms		
K-Viewer	KFBIO	https://www.kfbio.cn/k-v iewer/
Image J	Image J	https://imagej.nih.gov/ij/
Nikon	Zeiss	<a href="https://www.zeiss.com/micr
oscopy/int/products/micr
osc
ope-software/zen.html">https://www.zeiss.com/m icr oscopy/int/products/micr osc ope-software/zen.html
GraphPad Prism 10.1.2	Prism	<a href="http://www.graphpad
prism.cn/prism.html">http://www.graphpad prism.cn/prism.html
Adobe Illustrator 2023	Adobe	<a href="https://www.adobe.co
m/cn/creativecloud/ro
c/business.html?mv=
product&mv2=accc">https://www.adobe.co m/cn/creativecloud/ro c/business.html?mv= product&mv2=accc
package FastQC v0.11.9	bioinformatics	<a href="https://www.bioinformati
cs.babraham.ac.uk/projec
ts/fastqc/">https://www.bioinformati cs.babraham.ac.uk/projec ts/fastqc/
Ensembl reference genomes GRCm39	bioinformatics	http://www.ensembl.org
Adobe Illustrator 2023	Adobe	https://www.adobe.com
Figdraw	Figdraw	https://www.figdraw.com
Sequences of Primers, plasmids, and siRNAs		
<i>Hspa1a</i> forward primer TGGTGCAGTCCGACATGAAG	This paper	N/A
<i>Hspa1a</i> reverse primer GCTGAGAGTCGTTGAAGTAGGC	This paper	N/A

<i>Il-1r2</i> forward primer GTTTCTGCTTTCACCACTCCA	This paper	N/A
<i>Il-1r2</i> reverse primer GAGTCCAATTTACTCCAGGTCAG	This paper	N/A
<i>Serpine1</i> forward primer TTCAGCCCTTGCTTGCCTC	This paper	N/A
<i>Serpine1</i> reverse primer ACACTTTTACTCCGAAGTCGGT	This paper	N/A
<i>Gapdh</i> forward primer AGGTCGGTGTGAACGGATTG	This paper	N/A
<i>Gapdh</i> reverse primer AACCAATGCGAGATCCTGACAAC	This paper	N/A
<i>Tnf-α</i> forward primer CCCTCACACTCAGATCATCTTCT	This paper	N/A
<i>Tnf-α</i> reverse primer GCTACGACGTGGGCTACAG	This paper	N/A
<i>Il-1β</i> forward primer TCAGGCAGGCAGTATCACTCA	This paper	N/A
<i>Il-1β</i> reverse primer CACGGGAAAGACACAGGTAGCT	This paper	N/A
<i>Il-6</i> forward primer TAGTCCTTCCTACCCCAATTCC	This paper	N/A
<i>Il-6</i> reverse primer TTGGTCCTTAGCCACTCCTTC	This paper	N/A
<i>Il-4</i> forward primer GGTCTCAACCCCCAGCTAGT	This paper	N/A
<i>Il-4</i> reverse primer GCCGATGATCTCTCTCAAGTGAT	This paper	N/A
<i>Il-10</i> forward primer	This paper	N/A

GCTCTTACTGACTGGCATGAG		
<i>Il-10</i> reverse primer CGCAGCTCTAGGAGCATGTG	This paper	N/A
<i>Tgf-β</i> forward primer CTCCCGTGGCTTCTAGTGC	This paper	N/A
<i>Tgf-β</i> reverse primer GCCTTAGTTTGGACAGGATCTG	This paper	N/A
<i>Apol11a</i> forward primer GGAAGATTCCTTGCCTGCAC	This paper	N/A
<i>Apol11a</i> reverse primer TTCAACAATGCGACGTTCCAC	This paper	N/A
<i>Gfap</i> forward primer CGGAGACGCATCACCTCTG	This paper	N/A
<i>Gfap</i> reverse primer AGGGAGTGGAGGAGTCATTCG	This paper	N/A
<i>HSP70</i> (pig) forward primer AGGGAATTGGAGCAGGTGTG	This paper	N/A
<i>HSP70</i> (pig) reverse primer ACGCCGGCTTAATCATTAC	This paper	N/A
<i>IL-1R</i> (pig) forward primer AGGTCGGTGTGAACGGATTTG	This paper	N/A
<i>IL-1R</i> (pig) reverse primer TGTAGACCATGTAGTTGAGGTCA	This paper	N/A
<i>Iba-1</i> forward primer ATCAACAAGCAATTCCTCGATGA	This paper	N/A
<i>Iba-1</i> reverse primer CAGCATTCGCTTCAAGGACATA	This paper	N/A
<i>Piezo1</i> -Flox genotyping forward primer CTTAAGCCCATCTCACAGCTGAAGC	This paper	N/A

<i>Piezo1</i> -Flox genotyping reverse primer CCAGTGATTCTCATGGAATGTGG	This paper	N/A
<i>Sost</i> -cre genotyping Forward primer TGCTCCAGCCCGTCCTTATTG	This paper	N/A
<i>Sost</i> -cre genotyping reverse primer CGCCCGGTTTCATGGTCTGGT	This paper	N/A
<i>shApol1a</i> primer GATTTAGCCGAAGCCTTTAAA	This paper	N/A
<i>Apol1a</i> gene ATGGATTGGAATGAGATCTTAGAGG GCATTAAGAAAGTGGAACGTCGCAT TGTTGAAAAAGCCATTGATAACTTC ACGGAAAAGTTCTTAAGAACAGATC TGAGGAGCCTTATAACTGAAGATGG AGCCTGGAATGGATTTGTGGAAGCA GCAGAGTTGTCAAGGGAGGAGGGA GAAGCACTGCGTGATGCTCTGAAGG AACGTTTAGCACAGGATCCCACAGA TGAAAATGACAGACCTCAAAGGGA ACAGCAGAAAGAGCGGTTTCTGCG AGAGTTTCCTCAGTTGAAGAAGAAA CTTGAGGACCACATTAGGAAGCTCC GAGAGCTGGCTGACAAATTTGACCA GGTGCACAAGGACTGCACCATCTCT AATGTGGTGTCCACTTCTGCTAGTGC TGCTCCGGAGTCCTGGCCCTCCTT GGTTTGGCTCTGTCAACCGTTACAG CAGGGGCCAGTCTGGCACTCTCAGC ATCCTCTGTGGCTCTGGGAGCAACA	This paper	N/A

TCATCTGTGAGTAGCTTTACGACCAC CGCTGTGGAAGAATCAATGAGACTG TCATATGAATCTGAAGCCAGAAACC TGATTGGAGCCAGCATGAACGTTCT TGAAGAGATCTTAAAGATCATGCCC AAGATCACATACAAGTTTTATAGTAC AGTTGCAGATTTAGCCGAAGCCTTT AAAACCCTCAAGGATCAGATCCAAA CCATCAGGAGAGCCAGGTCCATCTC TCGCAGGGGAGCACAGGCCAGGAA CCTCCCATCCACTGGAAGAAGCTCT GGGCAGGTTGTCCCCCAGATGACCA GAGGGGCCAGGTTTCAAAAAGGAG TGTTTACAAGTGTGCTCCTTGGATGG GATGTGTATGACCTTGTGAACCAATC AAAGGATCTGTATTATGGGGCAAAA ACAAAGTCAGGTGGAGCACTGCGG GACCTGGCTCGCAAGCTGGAGGAG AACCTTCAGGAATTTGAGCAGAAGT GCAAGGCTCTGCAGTCAGACCTGCC TCAG		
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