

Table S1. Antibodies used for western blot (WB) and immunohistochemistry (IHC) analyses

The following antibodies were used at the indicated dilutions. Antigen activation and signal amplification methods in immunohistochemistry are shown in parentheses.

Protein	Antibody	Dilution	
		WB	IHC (activation/amplification)
GCLC	Atlas Antibodies #HPA036359	1:5000	-
	Santacruz #sc390811	-	1:100 (Ac/TSA)
GCLM	Abcam #ab124827	1:2000	-
N1D (anti-A β)	Saido et al., Neurosci. Lett., 1996	-	1:200 (Ac/fluo-2 nd Ab)
HO1	Enzo Life Sciences #SPA-895	1:1000	-
NeuN	Abcam #ab104224	-	1:2000 (Ac/Envision)
cleaved-caspase3	Cell Signaling #9661S	-	1:200 (Ac/TSA)
Iba1	Wako #013-27691	-	1:100 (Ac/direct)
	Abcam #ab5076	-	1:1000 (Ac/direct)
GFAP	Merck Millipore #MAB3402	-	1:100 (Ac/direct)
TSPO (PBR)	Abcam #ab109497	-	1:200 (Ac/TSA)
HMGB1	Abcam #ab18256	1:5000	-
C1q	Abcam #ab71089 (discontinued)	-	1:100 (Ac/Envision)
	Abcam #ab227072	1:2000	-
	Abcam #ab182451	-	1:500 (Protease/TSA)
C3	Novus #NB200-540	-	1:100 (- /direct)
PSD95	Synaptic System # 124011	-	1:1000 (Ac/TSA)
GSDMD	Abcam #ab219800	1:2000	-
GSDME (DFNA5)	Abcam #215191	1:5000	1:200 (Ac/TSA)
Homer 1	Synaptic Systems #160004	-	1:500(Ac/direct)
β -actin	Sigma #A5441	1:20000	-

Ac: autoclave

Protease: reaction with protease solution

direct: direct immunofluorescence method in which Alexa-conjugated 2nd antibodies are used

TSA: fluorescence-indirect tyramide signal amplification (TSA) system

Envision: DAKO EnVision+ system

Table S2. Primers used for RT-PCR analyses.

Gene name/direction	Sequence of primers
<i>cst7</i> fw	ATGTCAGCAAAGCCCTGGTA
<i>cst7</i> rv	GGTCTTCCTGCATGTAGTTCG
<i>cx3cr1</i> fw	GGCCTAGAGCTCAAAGAAATCC
<i>cx3cr1</i> rv	CACAGACCTTCGATCCCAGT
<i>illb</i> fw	TGCCACCTTTTGACAGTGATG
<i>illb</i> rv	TGATGTGCTGCTGCGAGATT
<i>itgax</i> fw	TCGTATTTGGCTTCCCAGAC
<i>itgax</i> rv	CCATCATTAGACACCGTCACAT
<i>p2ry12</i> fw	CCCGGAGACACTCATATCCTT
<i>p2ry12</i> rv	GTCCCAGGGGAGAAGGTG
<i>trem2</i> fw	AGGGCCCATGCCAGCGTGTGGT
<i>trem2</i> rv	CCAGAGATCTCCAGCATC
<i>tyrobp</i> fw	TGGTGTGACTCTGCTGATTG
<i>tyrobp</i> rv	GTCTCAGCAATGTGTTGTTTCC
<i>apoE</i> fw	AAGCAACCAACCCTGGGAG
<i>apoE</i> rv	TGCACCCAGCGCAGGTA
<i>cstb</i> fw	TCTCCTACTTCTGATTCCGGGG
<i>cstb</i> rv	GAATCACAACAGAAGCTGCTCAA
<i>serpina3n</i> fw	TGGCTGGTTTCAGCTCTGT
<i>serpina3n</i> rv	GTCAGTGTTGATGGAGGCCA
<i>vim</i> fw	TTCTCTGGCACGTCTTGACC
<i>vim</i> rv	CGATCTGGACATGCTGTTCTT
<i>gatal</i> fw	TTTCATTCGCCCCGGAGGTAG
<i>gatal</i> rv	CAGGGTTCCA ACTCCCAGAG
<i>gsm</i> fw	ATGAGGAGCTGGGAGGAACT
<i>gsm</i> rv	GGTGCCACCCTTGATAGATGA
<i>osmr</i> fw	AGCACAAACCTGAGCCTTGA
<i>osmr</i> rv	CCTTGACCTCTTCGTGTCCA
<i>gclc</i> fw	GCCATGGGGCTGCTGT
<i>gclc</i> rv	ACATGTACTCCACCTCGTCA
<i>gclm</i> fw	CGCCTCCGATTGAAGATGGA
<i>gclm</i> rv	ATTGGGTTTTACCTGTGCCC
<i>gpx4</i> fw	CATTGGTCGGCTGCGTGA
<i>gpx4</i> rv	CGCGGGATGCACACATGG
<i>gsr</i> fw	ATGCCACGTGATCTCAGCAC
<i>gsr</i> rv	CTCAATGAGCAGCACACATACTG
<i>gss</i> fw	TCCAAGTGGTGACTTCCGTG
<i>gss</i> rv	TCCGTCTGAATGCCCACTTT
<i>ho-1</i> fw	CCTTCCCGAACATCGACAGCC
<i>ho-1</i> rv	GCAGCTCCTCAAACAGCTCAA

Table S3. Details of mouse strains used in experiments

Age: age in months, M/F: Male/ Female. “WT M2, F2” means “2 males and 2 females of WT were used in the experiment”.

Main Figures				Supplementary Figures			
Figure #	age	sex		Figure #	age	sex	
1A	4, 8, 14, 19	all mice		S1	3	all mice	
1B, C	3-11	all mice		S2A	6	all mice	
1D	8	WT	M1, F3	S2B	3-11	GCLC-KO	
		GCLC-KO	M2, F2	S2B	5-7	WT	
2A, D	5	all mice		S2C	8,14,19	WT	
2B, C	3, 4, 8, 19	all mice		S2C	4, 8, 14, 19	GCLC-KO	
2E-G	4	all mice		S3	14	all mice	
3A	4	WT	M2, F2	S4	7	all mice	
		GCLC-KO	F4	S5	8		M1, F1
3B	4	WT	M1, F3	S7	3	all mice	
		GCLC-KO	F4		8	all mice	
4A, B	5	all mice		S9A	8	GCLC-KO	F3
5	5	all mice				GSDMD-KO X GCLC-KO	M1, F2
6A	8	WT	M1, F3	S9B	4	GCLC-KO	M3, F1
		GCLC-KO	M2, F2			GSDMD-KO X GCLC-KO	M2, F2
6B	8	GCLC-KO	M2, F1	S10	4	GCLC-KO	M3, F1
		GSDME-KO X GCLC-KO	M2, F1			GSDME-KO X GCLC-KO	M1, F2
6C, D	8	GCLC-KO	M2, F1	S11	8	WT	M2, F1
		GSDME-KO X GCLC-KO	M3			GSDME-KO	M2, F1
6E	4	GCLC-KO	M3, F1	S12	24	all mice	
		GSDME-KO X GCLC-KO	M1, F2				
6F	3	all mice					
7A	18	all mice					
7B	24	all mice					
7D	12	all mice					
8A, B	12	all mice					
8C	6	all mice					
8D	6	all mice					
8E	12	all mice (GSDMD)					
	12	all mice (GSMDE)					