

Supplementary material

Table S1 The total mortality and exclusion rates of experimental mice

Group	Mortality Rate	Excluded
Experiment 1		
Sham	0.00% (0/12)	0
SAH	16.67%(3/18)	3
SAH+ Vehicle	20%(2/10)	2
SAH+ Ferrostatin-1	18.18%(2/11)	3
Experiment 2		
Sham	0.00%(0/24)	0
SAH	21.43%(11/42)	7
SAH+ Vector	22.22%(10/45)	5
SAH+ AAV-AQP4	15%(6/40)	4
Experiment 3		
SAH+ Vector	27.27%(3/11)	2
SAH+ AAV-AQP4	20%(2/10)	2
SAH+ AAV-AQP4+ Vehicle	30%(3/10)	1
SAH+ AAV-AQP4+ Fer-1	22.22%(2/9)	1
Experiment 4		
Vector	25%(2/8)	0
AAV-AQP4	14.29%(1/7)	0
Total	18.29%(47/257)	30

Sham	0.00%(0/36)	0
SAH	21.36%(44/206)	30

Table S2 Detailed AQP4 overexpression adeno-associated virus information

Final sequence:

TGAGGGGAGCTCTCCCATAGCTGGGCTGCGGCCCAACCCACCCCT
CAGGCTATGCCAGGGGGTGTGCCAGGGGCACCCGGGCATCGCCAGTCTA
GCCACTCCTTCATAAAGCCCTCGCATCCCAGGAGCGAGCAGAGCCAGAG
CAGGTTGGAGAGGAGACGCATCACCTCCGCTGCTCGCCGGGATCCGCCA
CCATGAGTGACAGAGCTGCGGCAAGGCGGTGGGGTAAGTGTGGACATTCC
TGCAGTAGAGAGAGCATCATGGTGGCTTTCAAAGGAGTCTGGACTCAGGC
TTTCTGGAAGGCAGTCTCAGCAGAATTTCTGGCCACGCTTATCTTTGTTTTG
CTCGGTGTGGGATCCACCATAAACTGGGGTGGCTCAGAAAACCCCTTACCT
GTGGACATGGTCCTCATCTCCCTTTGCTTTGGACTCAGCATTGCTACCATGG
TGCAGTGCTTTGGCCACATCAGTGGTGGCCACATCAATCCCGCTGTGACTG
TAGCCATGGTGTGCACACGAAAGATCAGCATCGCTAAGTCCGTCTTCTACA
TCATTGCACAGTGCCTGGGGGCCATCATTGGAGCCGGCATCCTCTACCTGG
TCACACCTCCAGTGTGGTTGGAGGATTGGGAGTCACCACGGTTCATGGA
AACCTCACCGCTGGCCATGGGCTCCTGGTGGAGTTAATAATACTTTCCAG
TTGGTGTTCACTATTTTTGCCAGCTGTGATTCCAACGAACTGATGTTACTG
GTTCAATAGCTTTAGCAATTGGATTTCCGTTGCAATTGGACATTTGTTTGC
AATCAATTATACTGGAGCCAGCATGAATCCAGCTCGATCTTTTGGACCCGCA
GTTATCATGGGAAACTGGGCAAACCACTGGATATATTGGGTTGGACCAATC
ATGGGCGCTGTGCTGGCAGGTGCCCTTTATGAGTATGTCTTCTGTCCTGATG
TGGAGCTCAAACGTCGCCTTAAGGAAGCCTTCAGCAAAGCCGCGCAGCAG
ACAAAAGGGAGCTACATGGAGGTGGAGGACAACCGGAGCCAAGTGGAGA
CGGAAGACTTGATCCTGAAGCCCGGAGTGGTGCATGTGATTGACATTGACC
GTGGAGAAGAGAAGAAGGGGAAAGACTCTTCGGGAGAGGTATTGTCTTCC
GTACGGGATCCCGCCACCATGGTGGAGCAAGGGCGAGGAGCTGTTCACCGG
GGTGGTGCCCATCCTGGTCGAGCTGGACGGCGACGTAAACGGCCACAAGT
TCAGCGTGTCCGGCGAGGGCGAGGGCGATGCCACCTACGGCAAGCTGACC
CTGAAGTTCA

Carrier name: GV697

Component order: GFAP-MCS-EGFP-TK PolyA

Cloning site: BamHI / BamHI

Control number: CON517

Carrier map:

https://www.genechem.com.cn/index/supports/tool_search.html?keywords=GV697

Table S3 Resource Identifiers for antibodies

Antibody ID	-	AB_823664	AB_2799571
Antibody name	Anti-Transferrin antibody (EPR12763)	β -Tubulin (9F3) Rabbit mAb	AQP4 (D1F8E) XP® Rabbit mAb
Target antigen	Mouse	Mouse, Rat, Cow, Human	Mouse, Rat, Human
Vendor	Abcam	Cell Signaling Technology	Cell Signaling Technology
Cat number	Ab278498	#2128	#59678
Proper Citation	Abcam Cat# ab278498	Cell Signaling Technology Cat# 2128, RRID:AB_823664	Cell Signaling Technology Cat# 59678, RRID:AB_2799571
Dilution	WB: 1:1000	WB: 1:1000	IF: 1:300
Reference	Reference(1)	References (589)	Reference(5)
Clonality	Monoclonal antibody	Monoclonal antibody	Monoclonal antibody
Clone ID	-	Clone 9F3	Clone D1F8E
Host Organism	Rabbit	Rabbit	Rabbit
Comments	WB ICC Flow Cyt	Flow Cyt, IF, IHC-P, WB	IP, WB, IHC-P,IF

Table S4 Resource Identifiers for antibodies

Antibody ID	AB_2161028	AB_2099233	-
Antibody name	Mouse/Rat CD31/PECAM-1 Antibody	Anti-rabbit IgG, HRP-linked Antibody	Anti-NeuN antibody[EPR12763]-mouse IgG2a
Target antigen	Mouse, Rat	Rabbit	Mouse, Rat, Human
Vendor	R&D systems	Cell Signaling Technology	Abcam
Cat number	AF3628	#7074	Ab279296
Proper Citation	R&D Cat# AF3628, RRID:AB_2161028	Cell Signaling Technology Cat# 7074, RRID:AB_2099233	Abcam Cat# ab279296
Dilution	IF: 1:300	WB: 1:2000	IF: 1:300
Reference	References (147)	Reference(9900)	Reference(0)
Clonality	Polyclonal antibody	Monoclonal antibody	Monoclonal antibody
Clone ID		-	-
Host Organism	Goat	Goat	Mouse
Comments	WB, ICC/IF, Flow	WB IP IHC	IP, WB, ICC, IF, IHC-P

Table S5 Resource Identifiers for antibodies

Antibody ID	AB_141607	AB_2535792	AB_2535853
Antibody name	Donkey anti-Mouse IgG Alexa Fluor 488	Donkey anti-Rabbit IgG Alexa Fluor 488	Donkey anti-Goat IgG Alexa Fluor 555
Target antigen	Mouse	Rabbit	Goat
Vendor	Thermo Fisher scientific	Thermo Fisher scientific	Thermo Fisher scientific
Cat number	A-21202	A-21206	A-21432
Proper Citation	Thermo Fisher scientific Cat# A-21202, RRID:AB_141607	Thermo Fisher scientific Cat# A-21206, RRID:AB_2535792	Thermo Fisher scientific Cat# A-21432, RRID:AB_2535853
Dilution	IF: 1:300	IF: 1:300	IF: 1:300
Reference Clonality	Reference(3099) Monoclonal antibody	References (4202) Monoclonal antibody	Reference(487) Monoclonal antibody
Clone ID	-	-	-
Host Organism	Donkey	Donkey	Donkey
Comments	IHC, ICC, IF	ICC, IF, IHC-P	ICC, IF, IHC-P

Figure S1

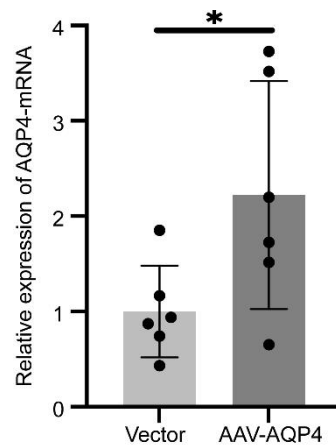


Figure S1. qPCR revealed that AQP4 mRNA expression in AAV-AQP4 group was higher compared with the vector group. The expression level of AQP4-mRNA (NM_009700.3) after AAV-AQP4 treatment were detected by qPCR analyses. n = 6 per group. Data are the mean \pm standard deviation (SD). (t-test $t=2.320$, * $P = 0.0427$).

Figure S2

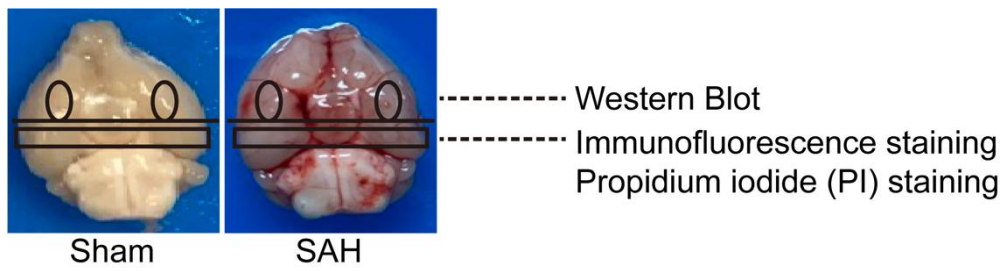


Figure S2. Schematic diagram of whole brain pictures and sampling sites of sham group and SAH group. The brain tissues were collected from the base of the temporal lobe and stored immediately -80°C for Western Blot. Coronal brain sections containing the basal temporal lobe were used for PI staining.