

Supplemental Table S1. Numbers of mice used in this study

Figures	WT							AQP4 KO		5xFAD									5xFAD/AQP4 KO										
	long term	8 w	16 w	24 w	32 w	40 w	48 w	long term	48 w	long term	8 w	16 w	20 w	24 w	32 w	36 w	40 w	45 w	long term	8 w	16 w	20 w	24 w	32 w	36 w	40 w	45 w		
	F	M	F	M	F	M	F	F	F	F	M	F	M	F	M	F	M	F	F	M	F	M	F	M	F	M	F		
Fig. 1								11		11									11										
Fig. 2, Supplemental Fig. S2							1		1			5					6				5						10		
Fig. 3a, Fig. 4m-n, Fig. 5a-b, Fig. 6a, Supplemental Fig. S6	5	6	6	6	6	5	6	6	6	6		6	6	6	6	6(2)*	6	6		6	6	6	6	6	6	6	6(1)*	6	6
Fig. 3b-e, Fig. 4a-j, Fig. 6b-g Supplemental Fig. S3, S5							1										3										3		
Fig. 4k-l																		3										3	
Fig. 5c-f														9**	7**									9**	7				
Supplemental Fig. S1	16							20		20											20***								
Supplemental Fig. S4, S7													2			2						2				2			

*Numbers in parentheses are individuals added for measurement of soluble and insoluble A β . **A β ₄₀ were not measured for one individual due to a shortage of the sample. ***Eighteen mice were used for the measurement of body weight and grip strength at 38-42 weeks of age due to death of two individuals.

Supplemental Table S2. Primers used for qPCR analysis

Genes	Sequence
Total AQP4	5'-AACCTCACCGCTGGCCATGGGCTCCTG-3' 5'-TACGGAAGACAATACCTCTCCCGAAGAGTC-3'
GAPDH	5'-ACTGGTGTCTTCACCACCATGGAGAAGGC-3' 5'-CATGAGGTCCACCACCCTGTTGCTGTAGC-3'
GFAP	5'- CTCGGCACCCCTGAGGCAGAAGCTCCAAGATGAAAC-3' 5'- CTTAGACCGATAACCACTCCTCTGTCTCTTGCATG-3'
TREM2	5'- ACCTCTCCACCAGTTTCTCCTGCTGCTGATCACAG-3' 5'- AGTACTTTCTGCAGGACCTCAGCCTCTCGGCCTCG-3'
CX3CR1	5'-CGTGAGACTGGGTGAGTGACTGGCACTTCCTGCAG-3' 5'- CAATGAAGAAGAAGGCAGTCGTGAGCTTGCACATG-3'
IL1- β	5'-AGGCCTAATAGGCTCATCTGGGATCCTCTC-3' 5'- GTTCATCTCGGAGCCTGTAGTGCAGTTGTC-3'
IL6	5'- TTCTTGGGACTGATGCTGGTGACAACCACG-3' 5'- AGGTAGCTATGGTACTCCAGAAGACCAGAG-3'
ADAM10	5'- AGCATGCTGCTAGTAGTGGTCCTGAGCTCCTGAG-3' 5'- GATGCCTGTGTTCAATGACTTCTTCTTGCCATCTG-3'
BACE1	5'- AGAGGCAGCTTTGTGGAGATGGTGGACAACCTGAG-3' 5'- ATGTTGGGAATGTGGGTCTGCTTCACCAGGGAGTC-3'
NEP	5'- CAGCCCCATTCTTCAGTGCTCAGCAATCCAATC-3' 5'- ATGTTCAGTATCTTGTGAAGATCACCAAACCCGAC-3'
IDE	5'- CACCCCACTACCTGGAGAGCAGAGTAGAAGCCTTC-3' 5'- CAGTCATGTTGTGAATCACTTCAGGTTGTGGCAAG-3'