

# Supporting Information

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Table S1. Neuropsychological testing results for apoE  $\epsilon$ 4 carriers and noncarriers, stratified by diagnostic group

Subjects (n)	AD		bvFTD		Controls	
	$\epsilon$ 4- (21)	$\epsilon$ 4+ (30)	$\epsilon$ 4- (23)	$\epsilon$ 4+ (8)	$\epsilon$ 4- (46)	$\epsilon$ 4+ (10)
<b>Memory</b>						
CVLT-SF, Trial 4 (Correct)	4.5 (1.5)	4.6 (1.9)	4.8 (2.8)	4.8 (2.8)	8.1 (1.0)	8.0 (1.2)
CVLT-SF Long Delay (Free Recall)	1.2 (1.3)	1.0 (1.8)	3.0 (3.1)	2.4 (2.1)	7.1 (1.8)	6.0 (4.2)
CVLT Delayed (Recognition Hits)	7.1 (2.2)	7.0 (1.8)	8.1 (2.1)	7.6 (1.8)	8.2 (1.6)	8.3 (1.5)
CVLT Recognition (False Positives)	6.9 (4.7)	5.5 (3.0)	6.4 (5.6)	5.9 (5.4)	0.8 (1.5)	1.3 (2.5)
Modified Rey-O 10-min recall (0-17)	3.0 (3.3)	2.1 (3.5)	7.2 (5.0)	6.7 (5.2)	12.9 (3.4)	11.9 (3.7)
<b>Visuospatial function</b>						
Modified Rey-O Copy (0-17)	11.5 (5.0)	10.9 (6.3)	14.8 (2.9)	13.3 (4.5)	16.2 (1.0)	16.2 (1.0)
<b>Language</b>						
Boston Naming Test (0-15)	9.7 (3.5)	11.3 (4.0)	11.3 (3.6)	11.5 (5.1)	14.5 (0.8)	14.4 (0.7)
Animal Fluency (1 min)	9.1 (3.7)	9.4 (4.8)	9.7 (7.6)	9.0 (5.5)	22.1 (5.3)	23.0 (7.3)
<b>Executive function</b>						
Modified Trails (correct lines per min)	6.7 (8.4)	7.0 (7.2)	8.9 (10.1)	14.3 (19.5)	31.7 (12.2)	35.6 (18.9)
Backward Digit Span	3.2 (1.3)	3.6 (1.5)	3.3 (2.3)	4.0 (2.0)	5.4 (1.2)	5.6 (1.0)
D-word Fluency (1 min)	8.9 (4.7)	9.6 (5.6)	7.0 (5.3)	4.6 (3.6)	16.2 (4.6)	16.8 (3.9)

Data are presented as mean (standard deviation). Comparisons between  $\epsilon$ 4 carriers and noncarriers within each diagnostic group were performed by using Kruskal-Wallis one-way ANOVA. No significant differences were found between  $\epsilon$ 4 carriers and noncarriers in any of the groups.

**Table S2. VBM results of statistical significance of apoE  $\epsilon$ 4 carriers versus controls in each disease group in regions of gray matter that were identified in the contrast carriers vs. both noncarriers and controls**

Anatomic region (Brodmann area)		x	y	z	AD $\epsilon$ 4+ vs. controls T value	AD $\epsilon$ 4- vs. controls T value
Inferior parietal/angular gyrus (39)	R	38	-64	44	6.1	4.2
	L	-34	-68	44	5.0	3.2
Inferior parietal/supramarginal gyrus (40)	R	50	-40	54	5.6	4.7
	L	-66	-30	28	4.7	4.3
Hippocampus (NA)	R	28	-12	-14	6.0	3.4
Precuneus (7)	R	2	-56	48	6.4	5.5
Middle frontal gyrus (46)	R	50	30	34	5.6	5.0
					bvFTD $\epsilon$ 4+ vs. controls T value	bvFTD $\epsilon$ 4- vs. controls T value
Dorsolateral frontal cortex/ inferior frontal gyrus (pars triangularis) (45/46)	R	48	32	28	7.7	5.8
Inferior frontal gyrus (operculum) (44)	L	-48	44	-6	5.2	3.5
Supplementary motor area (6)	R	8	14	50	6.9	3.9
Anterior insula (48)	R	38	20	4	7.1	5.2
	L	-36	16	6	5.6	3.2
Superior frontal gyrus (8/9)	R	18	22	56	6.2	5.4
	L	-20	52	30	4.9	4.5
Middle frontal gyrus (46)	R	40	40	32	7.5	4.5
	L	-44	48	12	5.0	3.3
Superior orbitofrontal gyrus (11)	R	30	60	-4	6.7	5.2
	L	-28	62	-4	5.3	4.3
Inferior orbitofrontal gyrus (46)	L	-48	44	-6	5.2	3.3
Anterior cingulate cortex (32)	R	6	44	24	6.3	4.9
	L	-2	36	36	5.8	4.3
Middle cingulate cortex (32)	R	8	24	42	6.7	4.7
Superior temporal gyrus (22)	R	68	-38	-28	4.8	3.3

The table illustrates how the regions involved in carriers vs. noncarriers are the same but with greater significance and slightly greater extent in the carriers. L, left; R, right; NA, not applicable.