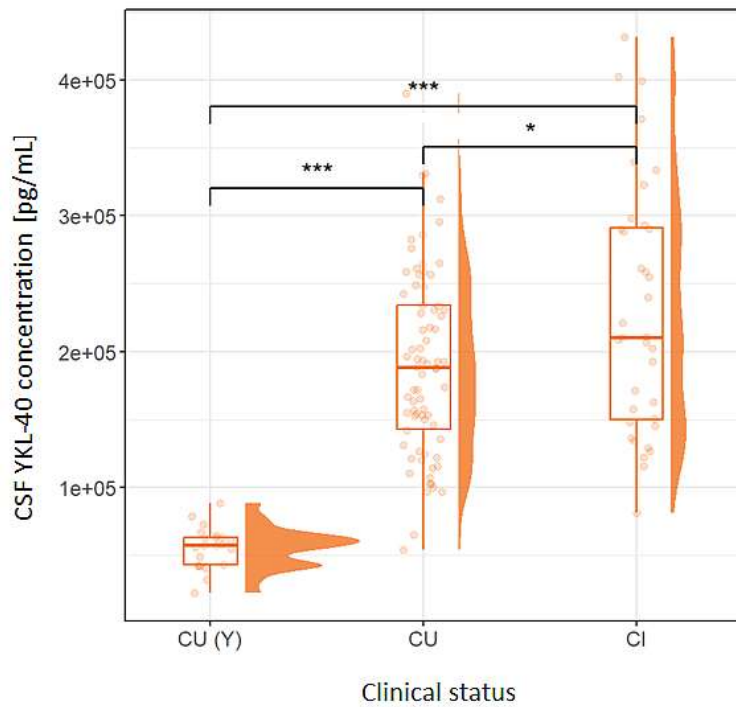


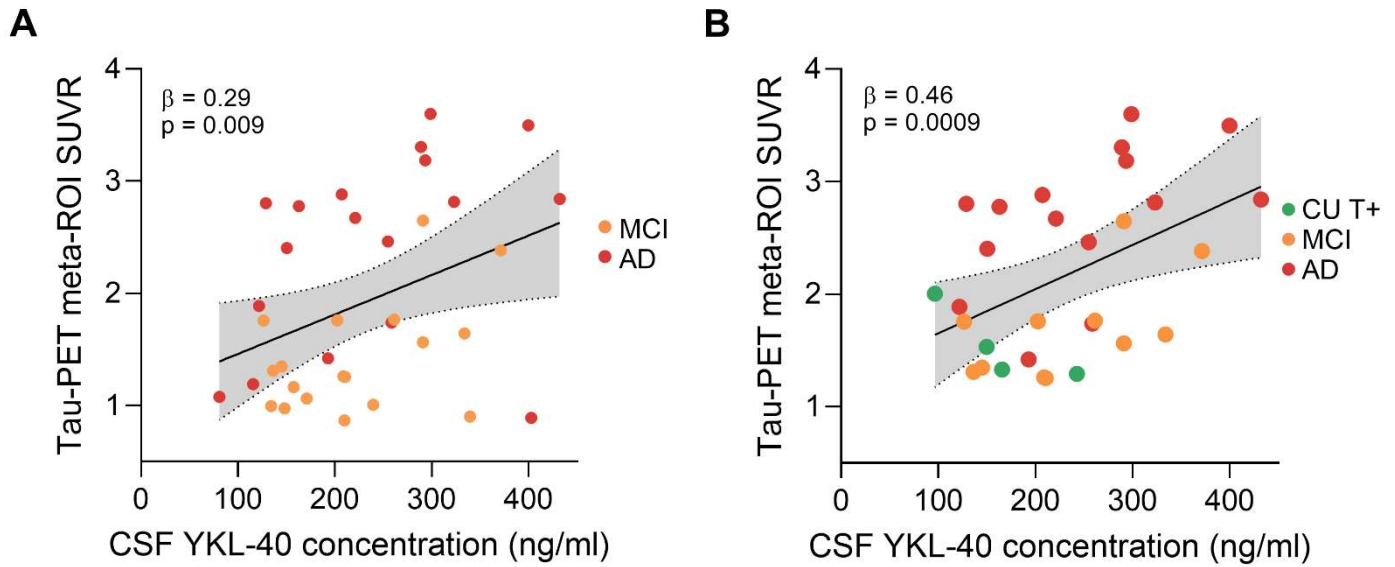
List of Supplementary Materials

	<i>APOE</i> ε4 carriers	<i>APOE</i> ε4 non-carriers	p-value
No.	50	82	-
Age, mean (SD), y	62.22 (16.1)	60.63 (20.3)	.62
Male, no. (%)	25 (50)	33 (40)	.27
Education, mean (SD), y	15.44 (3.10)	15.11 (3.08)	.56
MMSE, mean (SD)	27.04 (4.51)	28.62 (2.14)	.02
CDR SoB, mean (SD)	1.95 (2.95)	0.61 (1.49)	.008
[¹⁸ F]AZD4694 SUVR, mean (SD)	1.82 (0.58)	1.54 (0.51)	.006
[¹⁸ F]MK6240 SUVR, mean (SD)	1.45 (0.73)	1.10 (0.51)	.004

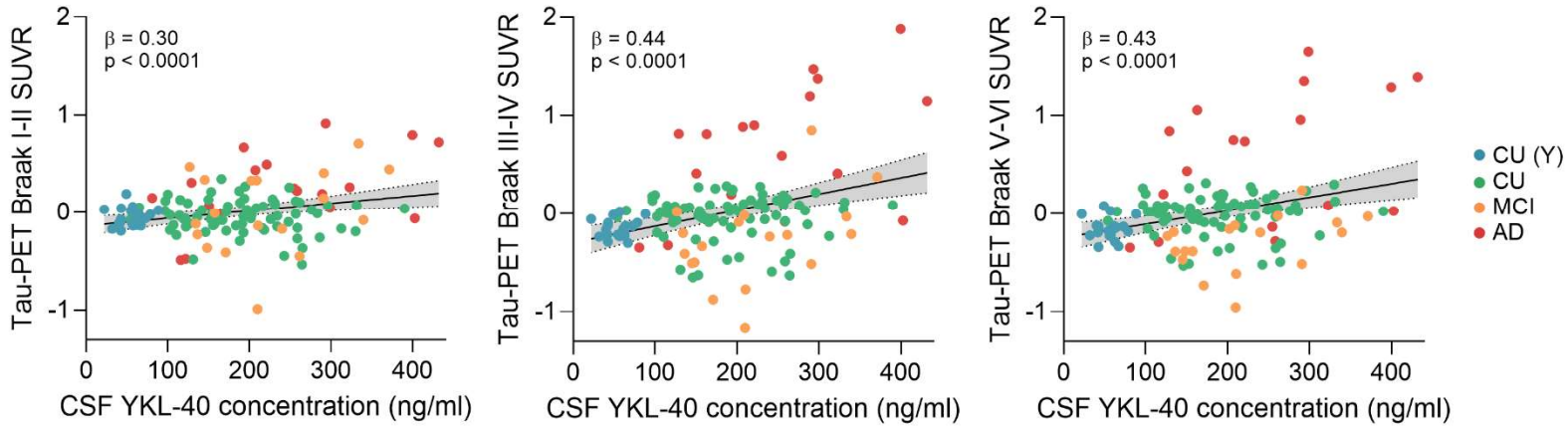
Table S1. Demographics of TRIAD sample according to *APOE* ε4 carriership. Independent-samples t tests (two-sided) were performed to compute comparisons between *APOE* ε4 carriers and non-carriers for continuous variables. We employed contingency χ^2 tests (two-sided) for sex. Values for [¹⁸F]AZD4694 SUVR represent global amyloid-PET SUVR, while [¹⁸F]MK6240 SUVR reflects tau-PET SUVR in the temporal meta-ROI.



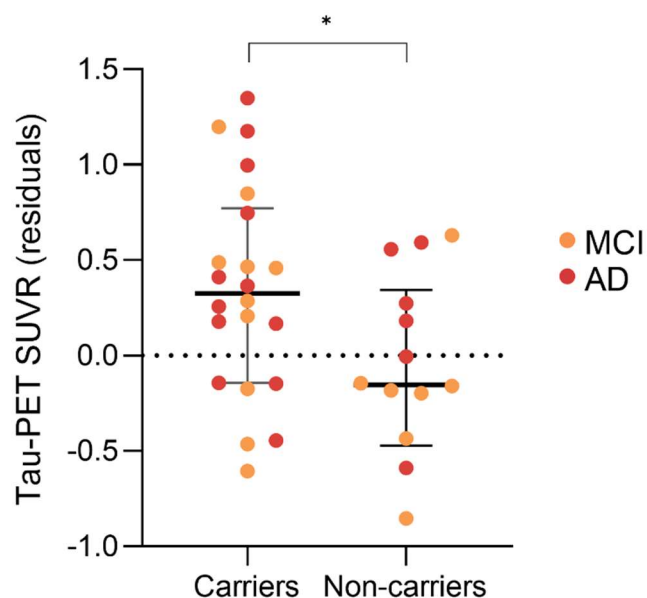
Supplementary Figure 1. CSF YKL-40 levels are elevated in cognitively impaired individuals compared to young and CU individuals. Boxplots showing median and interquartile range of CSF YKL-40 concentration according to clinical status. Stars show level of significance of two-sided Wilcoxon signed-rank tests (p-values: CU (Y) vs. CU, $p = 1.2 \times 10^{-11}$; CU (Y) vs. CI, $p = 3.9 \times 10^{-10}$; CU vs. CI, $p = 0.038$). CU (Y) = cognitively unimpaired young individuals ($n = 22$); CU = cognitively unimpaired older individuals ($n = 74$); CI = cognitively impaired older adults ($n = 36$).



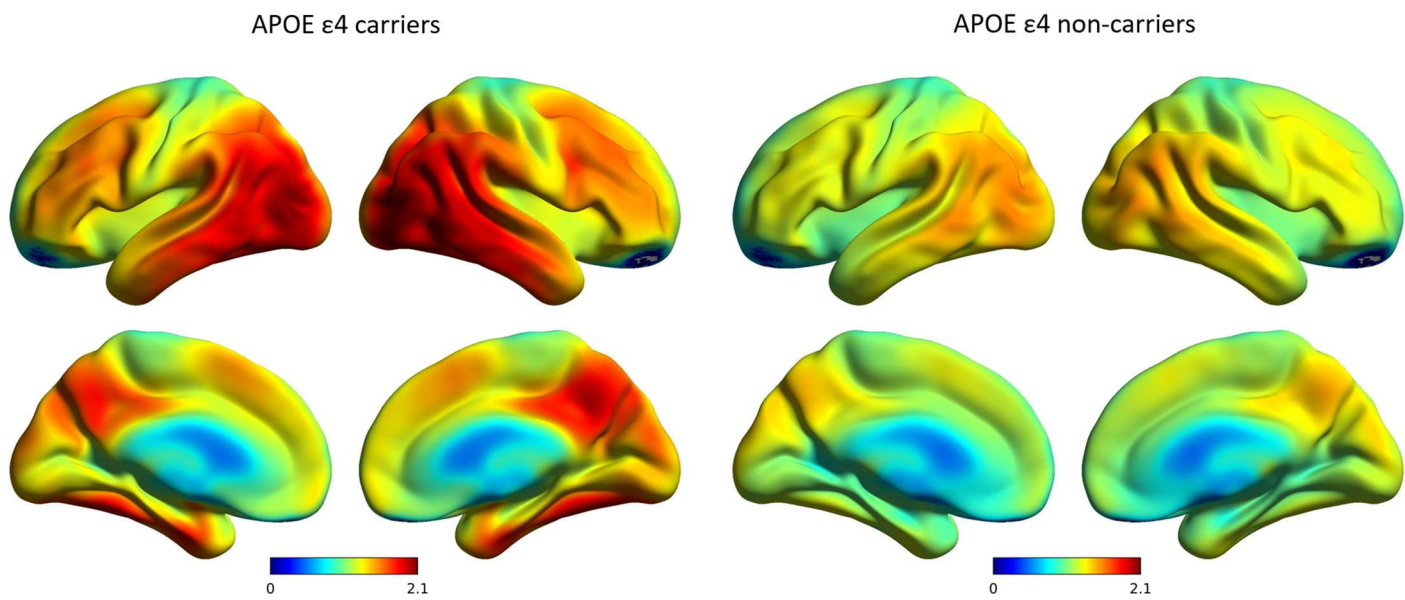
Supplementary Figure 2. Sensitivity analyses (A) excluding the cognitively unimpaired individuals (n = 36), and (B) including only tau-PET-positive individuals (n = 30). We employed a two-sided linear regression model controlling for age, sex and amyloid- β . Beta coefficient represents standardized beta value.



Supplementary Figure 3. Association between CSF YKL-40 and tau-PET SUVR across Braak ROIs. We employed a two-sided linear regression model controlling for age, sex and amyloid- β . Beta coefficient represents standardized beta value (Braak I-II, $p = p < 2.2 \times 10^{-16}$; Braak III-IV, $p = p < 2.2 \times 10^{-16}$; Braak V-VI; $p < 2.2 \times 10^{-16}$. $n = 132$ (22 young individuals, 74 CU individuals, 18 individuals with MCI, 18 individuals with AD).



Supplementary Figure 4. Sensitivity analyses excluding cognitively unimpaired individuals. Tau-PET SUVR controlling for global amyloid- β in regions of interaction displayed in orange, in *APOE* $\epsilon 4$ carriers and non-carriers, $n = 36$ (22 *APOE* $\epsilon 4$ carriers, 14 *APOE* $\epsilon 4$ non-carriers). Points show individual values, with error bars indicating the median and interquartile range. Stars show level of significance of two-sided Wilcoxon rank-sum tests ($p = 0.016$).



Supplementary Figure 5. Average tau-PET SUVR images according to *APOE* ϵ 4 status.