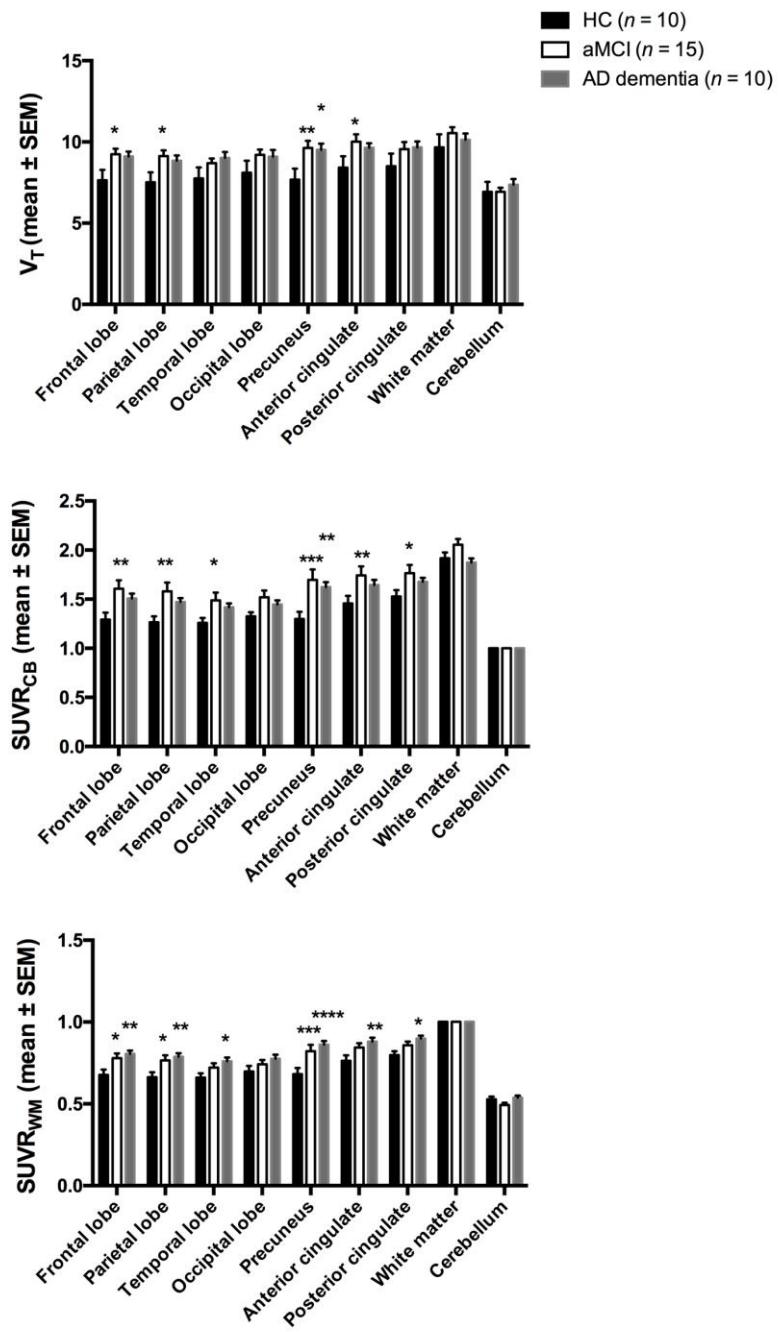


SUPPLEMENTAL FIGURE 1. Radiochromatograms at 2, 5, 7, 15, 30, 45 and 60 min p.i. of ^{18}F -AV45 in plasma, averaged over all subjects. The bottom right figure shows the percent peak areas of the parent and metabolites (M) (mean \pm SD) as a function of time.



SUPPLEMENTAL FIGURE 2. Uncorrected regional ^{18}F -AV45 V_T (above), SUVR_{CB} (middle) and SUVR_{WM} (below) (mean \pm SEM) for the three groups.

Supplemental Tables

SUPPLEMENTAL TABLE 1. Average percentage (\pm SD) of intact tracer and radiometabolites in the plasma as a function of time p.i. (all subjects).

Retention time Compound	1.5 min M1	4 min M2	7.5 min Parent	9 min M3
2 min	9.7 \pm 6.2	4.1 \pm 2.0	84.2 \pm 7.9	3.1 \pm 1.6
5 min	29.4 \pm 18.9	17.0 \pm 7.6	51.3 \pm 18.7	2.5 \pm 2.2
7 min	28.1 \pm 12.2	22.0 \pm 8.5	45.7 \pm 12.3	3.8 \pm 4.9
15 min	45.6 \pm 18.8	25.0 \pm 10.7	27.3 \pm 13.5	2.7 \pm 2.4
30 min	59.1 \pm 14.4	21.7 \pm 8.7	14.4 \pm 7.3	3.1 \pm 2.9
45 min	67.0 \pm 21.3	16.0 \pm 9.5	10.0 \pm 7.4	4.2 \pm 4.2
60 min	69.8 \pm 18.7	15.3 \pm 10.5	8.8 \pm 6.9	4.5 \pm 7.5

Data is presented as % peak area in the radiochromatogram.

Abbreviation: M = metabolite.

SUPPLEMENTAL TABLE 2. Pearson's correlation coefficient of SUVR_{CB} and SUVR_{WM} with the gold standard V_T within each diagnostic group.

Brain region & diagnose	$V_T - \text{SUVR}_{\text{CB}}$	$V_T - \text{SUVR}_{\text{WM}}$
Frontal lobe		
HC	0.52	0.63 §
aMCI	0.79 †	0.89 *
AD	0.64 §	0.72 §
Parietal lobe		
HC	0.55	0.65 §
aMCI	0.81 †	0.92 *
AD	0.64 §	0.68 §
Temporal lobe		
HC	0.37	0.53
aMCI	0.61 §	0.77 †
AD	0.03	0.38
Occipital lobe		
HC	0.55	0.71 §
aMCI	0.81 †	0.84 *
AD	0.92 †	0.89 †
Precuneus		
HC	0.61	0.72 §
aMCI	0.84 *	0.95 *
AD	0.62	0.60
Anterior cingulate		
HC	0.50	0.58
aMCI	0.91 *	0.83 †
AD	0.56	0.37
Posterior cingulate		
HC	0.32	0.46
aMCI	0.72 ‡	0.83 †
AD	0.65	0.55

Abbreviations: HC = healthy control; aMCI = amnestic mild cognitive impairment; AD = Alzheimer's disease.

Symbols denote significant correlations (* $p < 0.0001$, † $p < 0.001$, ‡ $p < 0.01$, § $p < 0.05$).

|| One AD subject outlier was left out.

SUPPLEMENTAL TABLE 3. Pearson's correlation coefficient of SUVR using whole cerebellar, pontine, centrum semiovale and composite reference regions with the gold standard V_T across all diagnostic groups.

Brain region	V_T – SUVR whole CB	V_T – SUVR pons	V_T – SUVR semiovale	V_T – SUVR composite
Frontal lobe	0.76 *	0.76 *	0.80 *	0.78 *
Parietal lobe	0.79 *	0.80 *	0.83 *	0.81 *
Temporal lobe	0.49 ‡	0.46 ‡	0.61 *	0.51 ‡
Occipital lobe	0.75 *	0.74 *	0.76 *	0.76 *
Precuneus	0.84 *	0.86 *	0.87 *	0.86 *
Anterior cingulate	0.81 *	0.75 *	0.68 *	0.80 *
Posterior cingulate	0.57 †	0.58 †	0.58 †	0.59 †

Symbols denote significant correlations (* $p < 0.0001$, † $p < 0.001$, ‡ $p < 0.01$).

SUPPLEMENTAL TABLE 4. Pearson's correlation coefficient of uncorrected SUVR_{CB} and SUVR_{WM} with V_T across all diagnostic groups.

Brain region	V _T – SUVR _{CB}	V _T – SUVR _{WM}
Frontal lobe	0.58 †	0.65 *
Parietal lobe	0.58 †	0.66 *
Temporal lobe	0.40 §	0.57 †
Occipital lobe	0.50 ‡	0.60 †
Precuneus	0.67 *	0.74 *
Anterior cingulate	0.61 †	0.58 †
Posterior cingulate	0.43 ‡	0.58 †

Symbols denote significant correlations (* p < 0.0001, † p < 0.001, ‡ p < 0.01, § p < 0.05).