Supplemental Tables

Supplemental Table 1. Comparison of regional volume measurements between healthy controls and patients with mild cognitive impairment (MCI).

	Raw Mean ± SD		Model Results*		
Region	**Control (N=17)**	**MCI (N=14)**	**B (SE)**	***P***	***d* (95% CI)**
Cerebellar CTX	97.11 ± 8.77	90.69 ± 10.81	-6.42 (3.40)	0.07	-0.72 (-1.45 to 0.01)
Frontal CTX	150.28 ±13.64	150.28 ± 13.64	-1.43 (5.32)	0.79	-0.10 (-81 to 0.60)
Parietal CTX	95.48 ± 7.98	95.48 ± 7.98	-0.27 (3.33)	0.93	-0.03 (-0.74 to 0.68)
Temporal CTX	83.07 ± 7.61	82.49 ± 7.12	-1.90 (2.49)	0.46	-0.23 (-0.94 to 0.48)
Occipital CTX	40.45 ± 4.95	38.96 ± 4.90	-1.49 (1.72)	0.39	-0.31 (-1.03 to 0.39)
Cingulate CTX	17.80 ± 2.32	17.09 ± 2.29	-0.70 (0.81)	0.40	-0.32 (-1.03 to 0.39)
Thalamus	13.89 ± 1.00	12.99 ± 1.36	-0.90 (0.41)	0.04	-0.82 (-1.56 to -0.09)
Striatum	16.08 ± 1.20	16.23 ± 2.32	0.15 (0.63)	0.81	0.09 (-0.61 to 0.80)
Hippocampus	7.89 ± 0.68	6.91 ± 0.95	-0.98 (0.28)	0.001	-1.29 (-2.06 to -0.51)
Basal Forebrain	5.29 ± 0.31	5.12 ± 0.42	-0.18 (0.13)	0.18	-0.52 (-1.24 to 0.19)
Total ICV	1470.69 ± 147.91	1514.91 ± 286.37	-	0.98	0.01 (-0.70 to 0.72)

Note: Regional volumes are presented in cm^3. B, unstandardized beta coefficient; CI, Confidence interval; Cohen's *d* =effect size; CTX, Cortex; ICV, intracranial volume; SD, standard deviation; SE, standard error. *All regional volumes were analyzed using a single mixed effects regression model controlling for age. Total ICV was analyzed using an analysis of covariance controlling for age.

Supplemental Table 2. Comparison of regional ^{18}F-ASEM total distribution volume (V_T) values derived from partial volume corrected images from healthy controls and patients with mild cognitive impairment (MCI)

	Raw Mean ± SD		Model results*		
Region	**Control (N=17)**	**MCI (N=14)**	**B (SE)**	***P***	***d* (95% CI)**
Cerebellar CTX	21.25 ± 4.02	25.13 ± 4.06	3.88 (1.39)	0.009	1.00 (0.25 to 1.75)
Frontal CTX	29.94 ± 5.21	34.49 ± 4.48	4.55 (1.69)	0.01	0.97 (0.22 to 1.72)
Parietal CTX	32.76 ± 5.17	37.51 ± 5.44	4.75 (1.84)	0.01	0.93 (0.19 to 1.68)
Temporal CTX	29.12 ± 5.13	33.34 ± 4.77	4.23 (1.72)	0.02	0.89 (0.15 to 1.63)
Occipital CTX	29.49 ± 5.18	34.04 ± 4.25	4.55 (1.66)	0.01	0.99 (0.24 to 1.74)
Cingulate CTX	27.17 ± 4.69	31.34 ± 4.79	4.17 (1.65)	0.01	0.91 (0.17 to 1.55)
Thalamus	27.69 ± 5.00	31.05 ± 4.75	3.36 (1.70)	0.05	0.71 (-0.01 to 1.44)
Striatum	27.62 ± 6.18	32.95 ± 5.04	5.33 (1.98)	0.01	0.97 (0.22 to 1.72)
Hippocampus	22.73 ± 4.60	25.81± 3.73	3.07 (1.47)	0.04	0.76 (0.02 to 1.49)
Basal Forebrain	24.62 ± 4.68	29.40 ± 4.77	4.78 (1.64)	0.007	1.05 (0.30 to 1.81)

B, unstandardized beta coefficient; Cohen's *d* =effect size; CI =confidence interval; SD=standard deviation; SE =standard error. *All regional V_T values were analyzed using a single mixed effects regression model controlling for age. Data are presented as mean ± standard deviation. CTX, Cortex.

Supplemental Table 3. Regional ^{18}F-ASEM total distribution volume (V_T) derived from images without partial volume correction (PVC) from healthy controls and patients with mild cognitive impairment (MCI).

Regions	Control (N=17)	MCI (N=14)
Cerebellar CTX	16.86 ± 3.04	19.96 ± 3.38
Frontal CTX	21.64 ± 3.84	24.97 ± 3.80
Parietal CTX	23.11 ± 3.37	26.32 ± 4.35
Temporal CTX	22.37 ± 3.88	25.17 ± 4.10
Occipital CTX	21.70 ± 3.51	24.51 ± 3.33
Cingulate CTX	21.66 ± 3.75	24.42 ± 4.20
Thalamus	22.69 ± 4.65	26.53 ± 4.10
Striatum	23.58 ± 4.43	27.57 ± 5.01
Hippocampus	19.39 ± 3.29	22.03 ± 3.55
Basal Forebrain	22.03 ± 3.79	25.86 ± 3.85

Data are presented as mean ± standard deviation. Linear mixed effects regression models controlling for age revealed no difference between the two cohorts overall (when region identifiers were not included in the model) or in any of the ten regions. The overall group difference in V_T derived from data without PVC was significant after additionally (in addition to age) controlling for race, sex, and *APOE* ε4 carrier status ($F_{1,24}$=9.06, P =0.006). CTX, Cortex.

Supplemental Table 4. Partial correlations (*r*) between ^{18}F-ASEM V_T and verbal memory function among 14 patients with mild cognitive impairment (MCI).

	CVLT Short Delay Free Recall		CVLT Long Delay Free Recall	
Region of Interest	**r**	***P***	**r**	***P***
Cerebellar CTX	0.14	0.65	0.49	0.09
Frontal CTX	-0.16	0.61	0.21	0.48
Parietal CTX	-0.30	0.33	0.09	0.78
Temporal CTX	-0.12	0.70	0.21	0.48
Occipital CTX	-0.03	0.93	0.34	0.26
Cingulate CTX	-0.12	0.70	0.21	0.48
Thalamus	-0.11	0.73	0.16	0.60
Striatum	-0.10	0.76	0.07	0.81
Hippocampus	0.06	0.84	0.34	0.26
Basal Forebrain	-0.06	0.84	0.23	0.44

Regional ^{18}F-ASEM V_T values were estimated using data from partial volume corrected images. There were no significant partial correlations, adjusted for age. CTX, Cortex; CVLT, California Verbal Learning Test.