

**Supplementary Table S1.** Comparison of cerebral  $\beta$  burden between the low and high VAT metabolism groups

Variables	Low VAT metabolism group	High VAT metabolism group	<i>p</i>
Composite SUVR <sub>FBB</sub> <sup>a</sup>	1.35 (0.16)	1.62 (0.33)	<0.001
Left lateral frontal cortex	1.21 (0.17)	1.46 (0.33)	0.001
Right lateral frontal cortex	1.20 (0.16)	1.44 (0.31)	0.002
Left lateral temporal cortex	1.32 (0.16)	1.56 (0.29)	<0.001
Right lateral temporal cortex	1.24 (0.15)	1.48 (0.29)	<0.001
Left lateral parietal cortex	1.28 (0.19)	1.59 (0.40)	<0.001
Right lateral parietal cortex	1.21 (0.19)	1.49 (0.36)	0.001
Left cingulate	1.48 (0.20)	1.79 (0.40)	<0.001
Right cingulate	1.57 (0.16)	1.85 (0.32)	<0.001

<sup>a</sup> Composite regional standardized <sup>18</sup>F-FBB uptake value ratio (SUVR<sub>FBB</sub>) was calculated as the average of the SUVR of the lateral frontal, lateral temporal, and lateral parietal cortices; and cingulate cortex.

**Supplementary Table S2.** Association between visceral adipose tissue  $SUV_{max}$  and cerebral  $A\beta$  burden in subjects with dementia

Regions	Univariable model		Multivariable model		
	$r$	$p$	Adjusted $R^2$	Standardized $\beta^b$	$p$
Composite <sup>a</sup>	0.533	0.011	0.248	0.533	0.011
Left lateral frontal cortex	0.481	0.024	0.193	0.481	0.024
Right lateral frontal cortex	0.463	0.030	0.175	0.463	0.030
Left lateral temporal cortex	0.506	0.016	0.219	0.506	0.016
Right lateral temporal cortex	0.446	0.038	0.195	0.446	0.038
Left lateral parietal cortex	0.574	0.005	0.296	0.574	0.005
Right lateral parietal cortex	0.590	0.004	0.316	0.590	0.004
Left cingulate	0.509	0.015	0.336	0.529	0.008
Right cingulate	0.520	0.013	0.350	0.539	0.006

<sup>a</sup> Composite regional standardized  $^{18}F$ -FBB uptake value ratio ( $SUVR_{FBB}$ ) was calculated as the average of the  $SUVR$  of the lateral frontal, lateral temporal, and lateral parietal cortices, as well as the cingulate.

<sup>b</sup> Values represent the standardized linear regression coefficients ( $\beta$ ) of the correlation between the visceral adipose tissue maximum standardized uptake value ( $SUV_{max}$ ) and  $SUVR_{FBB}$ , after adjusting for age, sex and white matter hyperintensity volume.

**Supplementary Table S3.** Association between visceral adipose tissue SUV<sub>mean</sub> and cerebral A $\beta$  burden in subjects with dementia

Regions	Univariable model		Multivariable model		
	<i>r</i>	<i>p</i>	Adjusted R <sup>2</sup>	Standardized $\beta^b$	<i>p</i>
Composite <sup>a</sup>	0.417	0.054	0.133	0.417	0.054
Left lateral frontal cortex	0.389	0.074	0.109	0.389	0.074
Right lateral frontal cortex	0.382	0.079	0.103	0.382	0.079
Left lateral temporal cortex	0.390	0.073	0.109	0.390	0.073
Right lateral temporal cortex	0.359	0.101	0.129	0.359	0.101
Left lateral parietal cortex	0.445	0.038	0.157	0.445	0.038
Right lateral parietal cortex	0.481	0.024	0.193	0.481	0.024
Left cingulate	0.379	0.082	0.226	0.426	0.040
Right cingulate	0.390	0.073	0.239	0.437	0.034

<sup>a</sup> Composite regional standardized <sup>18</sup>F-FBB uptake value ratio (SUV<sub>FBB</sub>) was calculated as the average of the SUV<sub>R</sub> of the lateral frontal, lateral temporal, and lateral parietal cortices, as well as the cingulate.

<sup>b</sup> Values represent the standardized linear regression coefficients ( $\beta$ ) of the correlation between the visceral adipose tissue mean standardized uptake value (SUV<sub>mean</sub>) and SUV<sub>FBB</sub>, after adjusting for age, sex and white matter hyperintensity volume.

**Supplementary Table S4.** Association between visceral adipose tissue  $SUV_{max}$  and cerebral  $A\beta$  burden in cognitively unimpaired subjects

Regions	Univariable model		Multivariable model		
	<i>r</i>	<i>p</i>	Adjusted $R^2$	Standardized $\beta^b$	<i>p</i>
Composite <sup>a</sup>	0.213	0.396	0.393	0.319	0.117
Left lateral frontal cortex	0.172	0.494	0.172	0.138	0.564
Right lateral frontal cortex	0.228	0.362	0.433	0.338	0.088
Left lateral temporal cortex	0.197	0.434	0.341	0.298	0.157
Right lateral temporal cortex	0.127	0.616	0.361	0.223	0.276
Left lateral parietal cortex	0.182	0.471	0.158	0.259	0.269
Right lateral parietal cortex	0.068	0.789	0.119	0.096	0.692
Left cingulate	0.262	0.293	0.380	0.364	0.080
Right cingulate	0.263	0.292	0.350	0.361	0.089

<sup>a</sup> Composite regional standardized  $^{18}F$ -FBB uptake value ratio ( $SUVR_{FBB}$ ) was calculated as the average of the  $SUVR$  of the lateral frontal, lateral temporal, and lateral parietal cortices, as well as the cingulate.

<sup>b</sup> Values represent the standardized linear regression coefficients ( $\beta$ ) of the correlation between the visceral adipose tissue maximum standardized uptake value ( $SUV_{max}$ ) and  $SUVR_{FBB}$ , after adjusting for age, sex and white matter hyperintensity volume.

**Supplementary Table S5.** Association between visceral adipose tissue  $SUV_{mean}$  and cerebral  $A\beta$  burden in cognitively unimpaired subjects

Regions	Univariable model		Multivariable model		
	$r$	$p$	Adjusted $R^2$	Standardized $\beta^b$	$p$
Composite <sup>a</sup>	0.119	0.638	0.345	0.243	0.242
Left lateral frontal cortex	0.045	0.858	0.151	0.037	0.878
Right lateral frontal cortex	0.140	0.580	0.386	0.269	0.185
Left lateral temporal cortex	0.205	0.414	0.360	0.327	0.118
Right lateral temporal cortex	0.101	0.691	0.349	0.207	0.318
Left lateral parietal cortex	0.105	0.677	0.125	0.196	0.409
Right lateral parietal cortex	-0.071	0.779	0.051	-0.005	0.983
Left cingulate	0.162	0.520	0.321	0.281	0.187
Right cingulate	0.222	0.376	0.332	0.339	0.114

<sup>a</sup> Composite regional standardized  $^{18}F$ -FBB uptake value ratio ( $SUVR_{FBB}$ ) was calculated as the average of the  $SUVR$  of the lateral frontal, lateral temporal, and lateral parietal cortices, as well as the cingulate.

<sup>b</sup> Values represent the standardized linear regression coefficients ( $\beta$ ) of the correlation between the visceral adipose tissue mean standardized uptake value ( $SUV_{mean}$ ) and  $SUVR_{FBB}$ , after adjusting for age, sex and white matter hyperintensity volume.

**Supplementary Table S6.** Association between visceral adipose tissue  $SUV_{max}$  and cerebral  $A\beta$  burden in subjects with mild cognitive impairment

Regions	Univariable model		Multivariable model		
	<i>r</i>	<i>p</i>	Adjusted $R^2$	Standardized $\beta^b$	<i>p</i>
Composite <sup>a</sup>	0.145	0.620	-0.128	0.127	0.677
Left lateral frontal cortex	0.006	0.985	-0.303	0.029	0.932
Right lateral frontal cortex	0.056	0.848	-0.346	0.026	0.941
Left lateral temporal cortex	0.080	0.785	-0.314	0.056	0.871
Right lateral temporal cortex	0.065	0.826	-0.331	-0.003	0.994
Left lateral parietal cortex	0.054	0.853	-0.161	0.077	0.805
Right lateral parietal cortex	0.095	0.747	-0.214	0.074	0.818
Left cingulate	0.180	0.538	-0.093	0.156	0.604
Right cingulate	0.178	0.543	-0.086	0.219	0.472

<sup>a</sup> Composite regional standardized  $^{18}F$ -FBB uptake value ratio ( $SUVR_{FBB}$ ) was calculated as the average of the  $SUVR$  of the lateral frontal, lateral temporal, and lateral parietal cortices, as well as the cingulate.

<sup>b</sup> Values represent the standardized linear regression coefficients ( $\beta$ ) of the correlation between the visceral adipose tissue maximum standardized uptake value ( $SUV_{max}$ ) and  $SUVR_{FBB}$ , after adjusting for age, sex and white matter hyperintensity volume.

**Supplementary Table S7.** Association between visceral adipose tissue SUV<sub>mean</sub> and cerebral A $\beta$  burden in subjects with mild cognitive impairment

Regions	Univariable model		Multivariable model		
	<i>r</i>	<i>p</i>	Adjusted R <sup>2</sup>	Standardized $\beta^b$	<i>p</i>
Composite <sup>a</sup>	0.131	0.656	-0.128	0.126	0.677
Left lateral frontal cortex	0.033	0.910	-0.297	0.076	0.824
Right lateral frontal cortex	0.038	0.897	-0.346	0.014	0.968
Left lateral temporal cortex	0.066	0.823	-0.307	0.093	0.785
Right lateral temporal cortex	0.017	0.953	-0.331	-0.012	0.972
Left lateral parietal cortex	0.084	0.775	-0.151	0.124	0.697
Right lateral parietal cortex	0.108	0.712	-0.217	0.060	0.855
Left cingulate	0.174	0.552	-0.088	0.168	0.574
Right cingulate	0.156	0.594	-0.085	0.225	0.471

<sup>a</sup> Composite regional standardized <sup>18</sup>F-FBB uptake value ratio (SUV<sub>FBB</sub>) was calculated as the average of the SUV<sub>R</sub> of the lateral frontal, lateral temporal, and lateral parietal cortices, as well as the cingulate.

<sup>b</sup> Values represent the standardized linear regression coefficients ( $\beta$ ) of the correlation between the visceral adipose tissue mean standardized uptake value (SUV<sub>mean</sub>) and SUV<sub>FBB</sub>, after adjusting for age, sex and white matter hyperintensity volume.