



Supplementary Figure 1. Neurodegeneration biomarker distributions in the SNAP MDD ($n=23$), A β -/ND- MDD ($n=23$) patients, and the A β -/ND- control subjects ($n=22$).

Supplementary Table 1. ROI group comparisons between the amyloid-negative MDD patients and control subjects.

Characteristic	A β - MDD $n = 46$	Controls $n = 22$	p value
Frontal	1.11 \pm 0.09	1.20 \pm 0.09	<0.001
Anterior cingulate	1.21 \pm 0.15	1.36 \pm 0.12	<0.001
Posterior cingulate	1.29 \pm 0.13	1.39 \pm 0.16	0.012
Occipital	1.23 \pm 0.09	1.29 \pm 0.10	0.011
Parietal	1.12 \pm 0.12	1.15 \pm 0.08	0.439
Precuneus	1.09 \pm 0.10	1.11 \pm 0.08	0.586
Temporal	1.05 \pm 0.09	1.14 \pm 0.10	0.003
Global cortex	1.11 \pm 0.08	1.19 \pm 0.08	0.001

Mesial temporal	1.00 ± 0.09	1.08 ±0.06	<0.001
Hippocampus	1.05 ± 0.12	1.15 ±0.09	0.001
Basal ganglia	1.10 ± 0.12	1.22 ±0.09	<0.001

Abbreviations: ROI: region of interest; MDD: major depressive disorder.

p values denote the significance of differences between the MDD patients and the control subjects using the Mann-Whitney U test.

Supplementary Table 2. ROI group comparisons among the SNAP MDD, A β -/ND- MDD, and control groups using non-PVC original data.

Characteristic	SNAP (A β -/ND+)	A β -/ND-	Controls	p value	Post-hoc analyses		
	MDD <i>n</i> = 23	MDD <i>n</i> = 23	<i>n</i> = 22		SNAP vs. Controls	A-N-MDD vs. Controls	SNAP vs. A-N-MDD
Frontal	1.03 \pm 0.10	1.09 \pm 0.06	1.14 \pm 0.08	<0.001	<0.001	0.156	0.091
Anterior cingulate	1.12 \pm 0.15	1.22 \pm 0.08	1.29 \pm 0.09	<0.001	<0.001	0.094	0.068
Posterior cingulate	1.22 \pm 0.11	1.32 \pm 0.11	1.35 \pm 0.14	0.003	0.003	>0.999	0.032
Occipital	1.16 \pm 0.09	1.23 \pm 0.07	1.24 \pm 0.10	0.007	0.008	>0.999	0.061
Parietal	1.03 \pm 0.10	1.12 \pm 0.10	1.08 \pm 0.09	0.012	0.216	0.78	0.009
Precuneus	1.03 \pm 0.10	1.06 \pm 0.06	1.05 \pm 0.08	0.701	-	-	-
Temporal	0.99 \pm 0.09	1.04 \pm 0.06	1.09 \pm 0.08	0.001	0.001	0.066	0.43
Global cortex	1.08 \pm 0.09	1.15 \pm 0.05	1.18 \pm 0.08	0.001	0.001	0.543	0.043
Mesial temporal	0.96 \pm 0.11	1.03 \pm 0.07	1.07 \pm 0.06	<0.001	<0.001	0.43	0.035
Hippocampus	1.00 \pm 0.12	1.09 \pm 0.09	1.14 \pm 0.08	<0.001	<0.001	0.361	0.047

Basal ganglia	1.03 ±0.14	1.12 ±0.08	1.16 ±0.09	0.002	0.001	0.273	0.172
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Abbreviations: ROI: region of interest; SNAP: suspected non-Alzheimer disease pathophysiology; MDD: major depressive disorder; ND: neurodegeneration; PVC: partial volume correction.

p values denote the significance of differences among the SNAP MDD, Aβ-/ND- MDD and control groups using the Kruskal-Wallis test.

Supplementary Table 3. ROI group comparisons among the SNAP MDD, A β -/ND- MDD, and control groups using ANCOVA.

Characteristic	SNAP (A β -/ND+)	A β -/ND-	Controls	p value	Post-hoc analyses		
	MDD <i>n</i> = 23	MDD <i>n</i> = 23	<i>n</i> = 22		SNAP vs. NC	A-N-MDD vs. NC	SNAP vs. A-N-MDD
Frontal	1.06 \pm 0.10	1.15 \pm 0.06	1.20 \pm 0.09	<0.001	<0.001	0.302	0.003
Anterior cingulate	1.14 \pm 0.16	1.27 \pm 0.11	1.36 \pm 0.12	<0.001	<0.001	0.236	0.006
Posterior cingulate	1.23 \pm 0.13	1.35 \pm 0.11	1.39 \pm 0.16	0.001	0.001	>0.999	0.007
Occipital	1.19 \pm 0.10	1.27 \pm 0.07	1.29 \pm 0.10	0.001	0.003	>0.999	0.007
Parietal	1.08 \pm 0.12	1.16 \pm 0.11	1.15 \pm 0.08	0.015	0.081	>0.999	0.022
Precuneus	1.06 \pm 0.11	1.11 \pm 0.07	1.11 \pm 0.08	0.088	-	-	-
Temporal	1.01 \pm 0.09	1.09 \pm 0.07	1.14 \pm 0.10	0.001	0.001	>0.999	0.011
Global cortex	1.07 \pm 0.09	1.15 \pm 0.05	1.19 \pm 0.08	<0.001	<0.001	0.74	0.002
Mesial temporal	0.95 \pm 0.09	1.05 \pm 0.06	1.08 \pm 0.06	<0.001	<0.001	0.739	<0.001
Hippocampus	1.00 \pm 0.11	1.11 \pm 0.09	1.15 \pm 0.09	<0.001	<0.001	>0.999	0.001

Basal ganglia	1.05 ±0.12	1.16 ±0.08	1.22 ±0.09	<0.001	<0.001	0.336	0.002
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Abbreviations: ROI: region of interest; SNAP: suspected non-Alzheimer disease pathophysiology; MDD: major depressive disorder; ND: neurodegeneration; ANCOVA: analysis of covariance.

^a ANCOVA was conducted to compare regional ¹⁸F-florbetapir SUVRs among the three groups using age and years of education as covariates; pairwise differences among the adjusted means were further evaluated with Bonferroni correction.