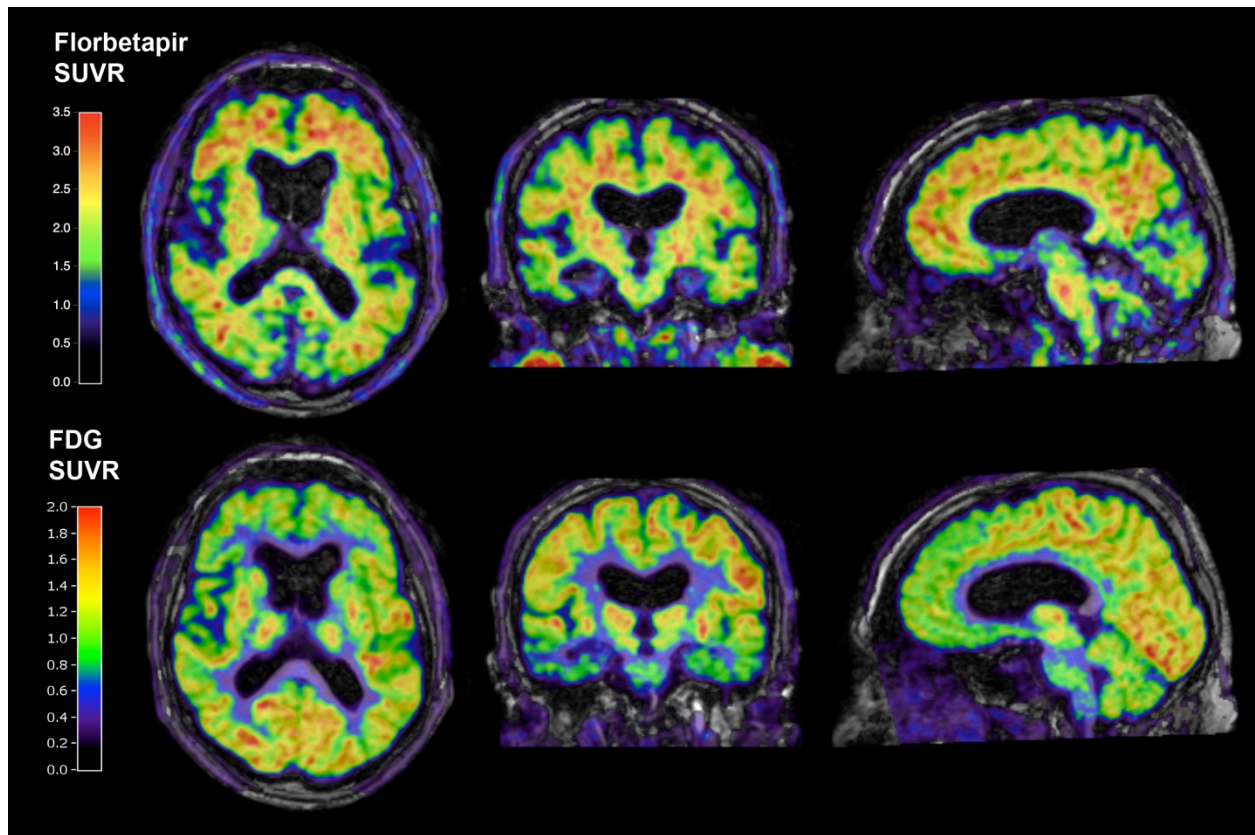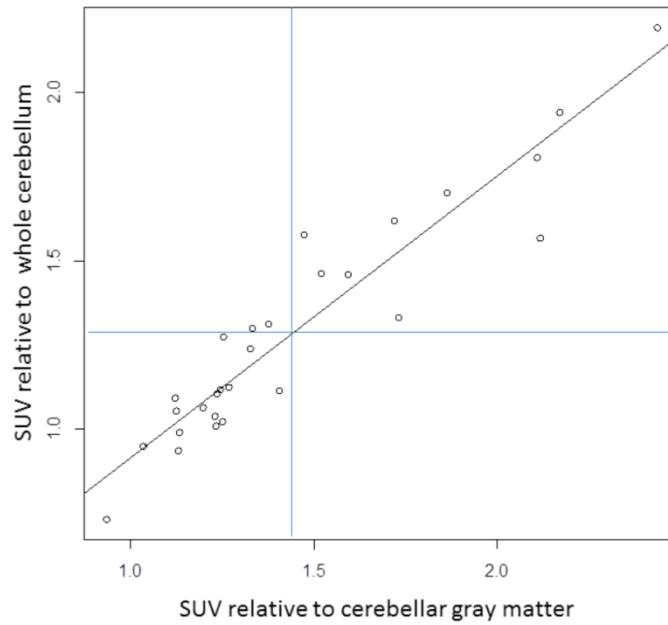**Supplemental Figure 1**

Representative transaxial, coronal and sagittal grey matter object maps derived from a modified probabilistic anatomical atlas (*17*) projected onto individual subject T1-weighted MR scan and florbetapir PET image in radiological convention. Regions of interest shown (right and left) are: frontal lobe (yellow and light green), temporal lobe (purple), parietal lobe (orange), occipital lobe (dark yellow), anterior cingulate (white), posterior cingulate (red), caudate nucleus, putamen, thalamus (all red), brainstem (light green), cerebellum (dark green).

Supplemental Figure 2

Images of ^{18}F-florbetapir and ^{18}F-FDG PET images coregistered to T1 weighted MR images from FTD participant with positive amyloid imaging. Florbetapir image is of SUVR from static frame 50-60 minute post-injection, normalized to grey matter cerebellar values. FDG image is of SUVR from a static frame 20-60 minutes post-injection, normalized to grey matter cerebellar values. All images are displayed in radiological convention.

Supplemental Figure 3

Scatter plot, regression line, and threshold for separation of controls and AD for SUVRs calculated

with reference to cerebellar grey matter and whole cerebellum.

Supplemental Table 1

Key demographic data and visual ratings of florbetapir scans (1: positive, 0 negative) of all subjects.
The overall vote is the average of the four readers, with fractional numbers (0.25, 0.5 and 0.75)
representing cases with discordant ratings.

Subject	Age	Sex	*APOE* genotype	Whole cortical SUVR	Reader A	Reader B	Reader C	Reader D	Vote	Diagnosis
1	62	M	4/4	1.473	1	1	1	1	1	AD
2	66	M	3/4	1.233	0	1	0	0	0.25	AD
3	55	M	3/3	1.375	1	0	0	0	0.25	AD
4	62	M	3/3	2.116	1	1	1	1	1	AD
5	58	M	3/3	2.169	1	1	1	1	1	AD
6	65	F	3/4	2.434	1	1	1	1	1	AD
7	59	M	3/3	1.861	1	1	1	1	1	AD
8	62	M	4/4	1.719	1	1	1	1	1	AD
9	70	F	3/4	1.594	1	1	1	1	1	AD
10	67	F	4/4	1.731	1	0	1	1	0.75	AD
11	57	M	3/4	1.244	1	0	0	0	0.25	FTD
12	67	M	3/4	.935	1	1	1	0	0.75	FTD
13	60	M	3/3	1.034	0	0	1	0	0.25	FTD
14	62	M	2/3	1.134	0	1	1	0	0.5	FTD
15	78	M	3/3	1.252	1	0	0	1	0.5	FTD
16	45	M	3/4	1.122	0	0	0	0	0	FTD
17	62	M	3/3	1.130	0	0	0	0	0	FTD
18	69	M	4/4	2.107	1	1	1	1	1	FTD
19	62	M	-	1.199	0	0	0	0	0	HC
20	58	M	-	1.268	0	0	0	0	0	HC
21	55	F	-	1.229	0	0	0	0	0	HC
22	55	F	-	1.255	1	0	1	1	0.75	HC
23	67	M	-	1.333	0	0	1	0	0.25	HC
24	64	F	-	1.405	0	0	0	0	0	HC
25	62	F	-	1.328	0	0	0	0	0	HC
26	67	M	-	1.236	0	0	0	0	0	HC
28	65	F	-	1.519	1	0	0	1	0.5	HC
28	70	F	-	1.125	0	0	0	0	0	HC