Supporting information

Table S1. The numbers of cored and diffuse plaques labeled with qFTAA and hFTAA in different neocortex regions of rpAD and spAD cases.

| LCOs-stained plaques	Rapidly Progressive AD			Slowly Progressive AD		
	Frontal	Occipital	Temporal	Frontal	Occipital	Temporal
qFTAA (Cored)	65	63	59	49	46	47
qFTAA (Diffuse)	41	38	26	30	39	53
hFTAA (Cored)	34	24	16	12	15	14
hFTAA (Diffuse)	50	42	44	14	36	27

Table S2. Heat map of statistical differences between rpAD and spAD for distinct amyloid plaque morphotypes labeled with qFTAA and hFTAA. Distribution of p-values for different spectral attributes of (A) hFTAA and (B) qFTAA in diffuse and cored plaques in different anatomical areas of rpAD and spAD cases

A

Plaques type	hFTAA spectrum wv ratio	Frontal P	Occipital P	Temporal P
Diffuse	550/510	0.773851	0.072882	0.000023
Diffuse	580/510	0.91783	0.074463	0.000039
Diffuse	580/500	0.775709	0.177533	0.002167
Diffuse	550/500	0.869628	0.169321	0.002172
Cored	550/510	0.005598	0.11206	0.002965
Cored	580/510	0.006311	0.116872	0.005995
Cored	550/500	0.000068	0.000547	0.009073
Cored	580/500	0.000118	0.02255	0.016235

B

Plaques type	qFTAA spectrum wv ratio	Frontal P	Occipital P	Temporal P
Cored	500/510	0.00035	0.084676	0.002149
Diffuse	500/510	0.000343	0.000001	0.526484

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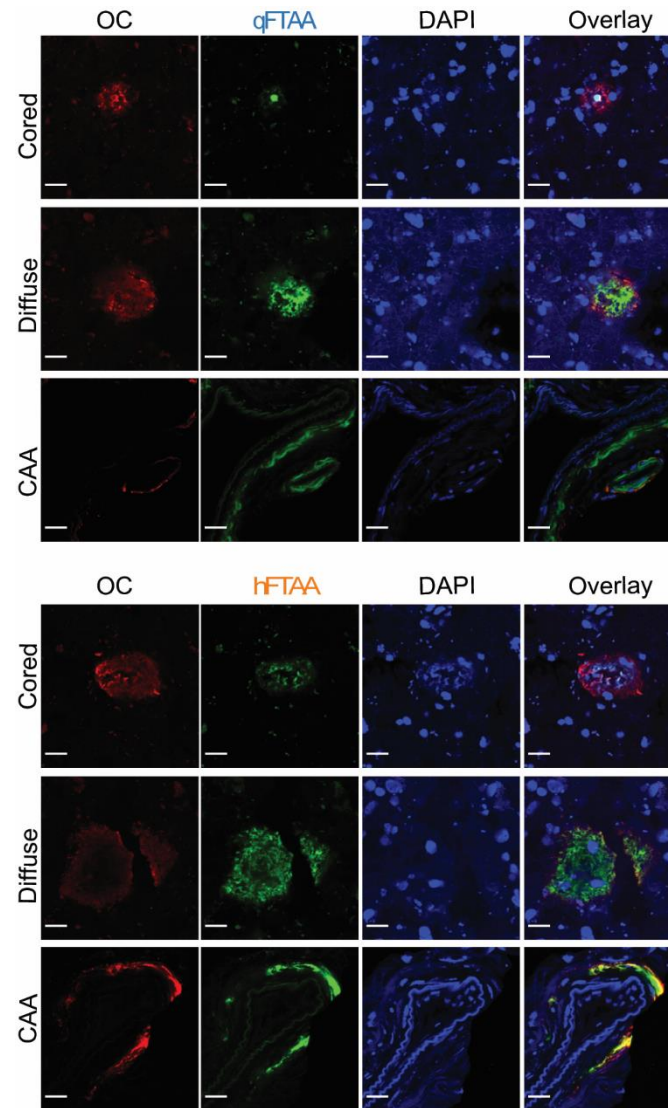
Figure S1. Distinct deposit patterns of Aβ detected with qFTAA, hFTAA, and conformation-sensitive antibody (OC).
Typical confocal fluorescent images obtained with qFTAA, hFTAA, and conformation-sensitive OC antibody in different amyloid plaque morphotypes and cerebral amyloid angiopathy (CAA). Red fluorescence represents OC-positive Aβ deposits; green fluorescence represents Aβ aggregates labeled with qFTAA or hFTAA; DAPI-stained nuclei are in blue; scale bars – 20μm.