

Table S3 The demographic data of validation cohort.

Variable	CSF samples									
	CN	MCI	AD	ADM	ADMO	ADS	ALS	HD	FTD	P
N	73	31	73	18	39	16	25	15	3	NA
Male/female	49/24	13/18	34/39	8/10	16/23	10/6	15/10	9/6	2/1	0.02
Age Diagnosis, mean ± SD	61.30 ± 10.75	63.39 ± 6.66	63.31 ± 8.15	64.39 ± 7.27	63.87 ± 8.81	61.31 ± 7.41	65.08 ± 3.26	49.60 ± 6.08	62.00 ± 4.35	0.144
MMSE, Mean ± SD	28.37 ± 1.10	25.00 ± 2.38	14.99 ± 6.07	21.67 ± 2.06	15.05 ± 3.26	6.20 ± 3.05	NA	NA	NA	<0.001
Education(years), Mean ± SD	9.67 ± 4.87	10.71 ± 3.67	8.07 ± 4.12	10.28 ± 2.85	7.64 ± 4.26	6.73 ± 4.37	NA	NA	NA	0.38
APOE E4 carrier (%)	13.30%	32.00%	45.00%	50.00%	43.60%	37.50%	NA	NA	NA	<0.001
Mean CSF Aβ42 pg/ml	624.21 ± 322.53	569.45 ± 269.95	455.39 ± 216.74	576.78± 340.65	515.38 ± 377.62	383.35 ± 220.01	NA	NA	NA	0.02
Mean CSF total tau pg/ml	380.31 ± 308.93	374.88 ± 261.45	535.90 ± 431.30	444.92 ± 228.85	816.08 ± 203.51	645.41 ±404.65	NA	NA	NA	0.19
Mean CSF phospho-tau pg/ml	44.53 ± 25.34	93.47 ± 80.61	130.87 ± 83.52	92.01 ±63.64	116.29 ± 89.93	139.35± 81.08	NA	NA	NA	<0.001
Variable	Serum samples									
	CN	MCI	AD	ADM	ADMO	ADS	ALS	HD	FTD	P
N	61	44	115	21	52	42	30	24	14	NA
Male/female	37/24	26/18	72/43	13/8	30/22	29/13	24/6	13/11	7/7	0.03
Age Diagnosis, mean ± SD	61.92 ± 9.76	65.53 ± 8.66	64.22 ± 9.45	67.05±9.02	64.23±10.23	61.98±8.43	64.83 ± 3.23	51.04 ± 6.45	60.86 ± 8.80	0.67
MMSE, Mean ± SD	27.82 ± 1.64	24.13 ± 2.94	13.63.92 ± 7.13	21.10±1.55	13.88±4.10	6.33±3.18	NA	NA	NA	<0.001
Education(years), Mean ± SD	8.98 ± 4.51	9.81 ± 2.97	7.21 ± 4.94	10.95±4.71	7.10±4.57	5.35±4.58	NA	NA	NA	0.07
APOE E4 carrier (%)	10.90%	40.60%	45.23%	38.10%	51.92%	40.48%	NA	NA	NA	<0.001

CN: cognitive normal; MCI: mild cognitive impairment; AD: Alzheimer's disease; ADM: AD mild stage, ADMO:AD moderate stage; ADS: AD severe stage; ALS: amyotrophic lateral sclerosis; HD: Huntington's disease; FTD: frontotemporal dementia; p: NC VS. MCI+AD; NA: not applicable; SD: standard deviation