

Table S1 The demographic data of the discovery cohort.

Variable	CN	MCI	AD	ADM	ADMO	ADS	ALS	HD	P
N	20	7	31	6	12	13	20	20	NA
Male/female	8/12	5/2	17/14	4/2	7/5	6/7	8/12	13/7	0.2
Age Onset, mean ± SD	NA	64.92±5.7	60.35±10.81	60.83±10.40	61.17±12.68	59.38±9.89	58.25±8.17	50.95±7.71	NA
Age Diagnosis, mean ± SD	63.30±8.81	66.14±4.81	63.13±10.37	62.33±10.03	63.08±12.93	63.54±8.55	59.3±7.80	58.3±4.81	0.851
MMSE, Mean ± SD	27.25±1.74	26.86±1.21	12.68±6.91	22.17±1.83	15.17±2.48	6.00±3.56	NA	NA	<0.001
Education(years), Mean ± SD	9.90±4.21	9.14±5.11	9.77±4.85	10.17±3.43	10.16±4.33	9.23±6.01	NA	NA	0.851
APOE E4 carrier (%)	15.00%	42.86%	58.06%	66.67%	58.33%	46.15%	NA	NA	0.04
Mean CSF Aβ42 pg/ml (SD)	1121.70±176.99	474.28±103.53	508.24±155.81	561.77±109.77	484.90±144.43	505.08±185.91	NA	NA	<0.001
Mean CSF total tau pg/ml (SD)	115.17±68.08	182.83±138.43	454.58±277.24	380.26±84.45	451.56±336.67	491.68±284.66	NA	NA	<0.001
Mean CSF phospho-tau pg/ml (SD)	59.23±35.25	54.18±19.18	78.67±36.23	59.12±28.82	85.70±39.14	81.18±35.85	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; *p*: NC VS.MCI+AD; NA: not applicable; SD: standard deviation.