

Supplemental Table 1: Characteristics of the studies included in the meta-analysis

Study	Source and number of paired CSF and blood NfL samples	Disease affecting CNS only, CNS+PNS, or PNS only	Plasma or serum NfL measured	Blood NfL assay used	Correlation technique used	Correlation coefficient value	Quality score
Abdellhak et al[1], 2018	n=80 MS, n=20 controls	CNS only	Serum	Simoa	Spearman's	MS: r=0.7 controls: r= 0.6	7
Abdellhak et al[2], 2019	n=71 PPMS	CNS only	Serum	Simoa	Spearman's	r=0.6	7
Benatar et al[3], 2017	n=154 (n=18 controls, n=110 at risk ALS, n=16 ALS, n=10 phenoconverters)	CNS+PNS	Serum	ECL	Spearman's	r=0.7	8
Bergman et al[4], 2016	n=60 PMS	CNS only	Serum	Simoa	Pearson's	r=0.775	7
Byrne et al[5], 2017	n=29 (n=12 controls, n=2 premanifest HD, n=15 manifest HD)	CNS+PNS	Plasma	Simoa	Pearson's	r=0.868	7
Byrne et al[6], 2018	n=80 (n=20 controls, n=20 pre-HD, n=40 manifest HD)	CNS+PNS	Plasma	Simoa	Pearson's	r=0.914	8
deFlon et al[7], 2019	n=281 RRMS	CNS only	Plasma	Simoa	Spearman's	r=0.445	7
Disanto et al[8], 2017	n=132 MS	CNS only	Serum	Simoa	Pearson's	r=0.77	7
Fortea et al[9], 2018	n=94 (n=54 asymptomatic, n=18 prodromal AD, n = 22 AD)	CNS only	Plasma	Simoa	not reported	r=0.80	8
Gaiottino et al[10], 2013	n=20 AD, n=19 GBS, n=45 ALS, n=66 controls	AD: CNS only, GBS: PNS only, ALS: CNS+PNS	Serum	ECL	Spearman's	AD: r=0.48 GBS: r=0.79 ALS: r=0.70 controls r=0.11	6
Gisslen et al[11], 2016	n=140 (n=121 with HIV, n=19 controls)	CNS+PNS	Plasma	Simoa	Pearson's	r=0.89	7
Gong et al[12], 2018	N=40 ALS, n=40 controls	CNS+PNS	Serum	ELISA	Spearman's	ALS r=0.5997 controls r=0.0226	7

Hakansson et al[13], 2018	n=63 (n=41 MS, n=22 controls)	CNS only	Serum	Simoa	Pearson's	r=0.74	7
Halaas et al[14], 2019	n=130 with hip fracture and delirium, n=123 with hip fracture and no delirium	CNS+PNS	Serum	Simoa assay	Spearman's	Cases: r= 0.56 controls r= 0.69	6
Hansson et al[15], 2017	Lund: n=245 (n=147 PD, n=28 MSA, n=15 PSP, n=5 CBS, n=50 controls) London: n=97 (n=5 PD, n=29 MSA, n=26 PSP, n=11 CBS, n=26 controls)	CNS+PNS	Plasma	Simoa assay	Spearman's	Lund cohort: r=0.730 London cohort: r=0.840	7
Kalm et al[16], 2017	n=43 (n=20 CSF:serum albumin <10, n=15 CSF:serum albumin 10–20, n=8 CSF:serum albumin > 20)	CNS+PNS	Serum	Simoa	Pearson's	r=0.6303	5
Kuhle et al[17], 2016	n=33 (a variety of neurological disorders)	CNS+PNS	Serum	ELISA, ECL, Simoa	Spearman's	Simoa: r = 0.88 ECL: r = 0.78 ELISA: r = 0.38	7
Kuhle et al[18], 2016	n=31 RRMS	CNS only	Serum	ECL	Pearson's	r=0.62	8
Lu et al[19], 2015	n=38 ALS, n = 20 controls	CNS+PNS	Serum	ECL	Spearman's	ALS: r=0.78 controls: r=0.57	8
Mariotto et al[20], 2018	n=12 acquired peripheral neuropathy	PNS only	Serum	Simoa	Pearson's	r=0.71	8
Mariotto et al[21], 2019	n = 23 CNS syndromes+autoantibodies to neuronal cell surface antigens	CNS only	Serum	Simoa	Spearman's	r=0.461	8
Marques et al[22], 2019	n=137 (n=55 PD, n=29 APD, n=53 controls)	CNS+PNS	Serum	Simoa	Spearman's	r=0.72	9
Mattsson et al[23], 2017	n=391 (n=112 controls, n=189 MCI, n=90 AD)	CNS only	Plasma	Simoa	Spearman's	r=0.59	8
Meeter et al[24], 2016	n=55 genetic FTD	CNS only	Serum	ECL	Spearman's	r=0.87	9
Menke et al[25], 2015	n=25 ALS, n=17 controls	CNS+PNS	Serum	ECL	Spearman's	ALS: r=0.642 controls: r=0.677	7
Mielke et al[26], 2019	n=79 without dementia (n=64 cognitively unimpaired, n=15 MCI)	CNS only	Plasma	ELISA	Spearman's	r=0.568	6

Novakova et al[27], 2017	n=434 MS, n=45 OND, n=42 controls	CNS only	Serum	Simoa	Spearman's	MS: r=0.620 controls: r=0.385 OND: r=0.740	8
Piehl et al[28], 2018	n=66 MS	CNS only	Serum	Simoa	Spearman's	r=0.672	7
Rojas et al[29], 2018	n=22 PSP	CNS only	Plasma	Simoa	Pearson's	r=0.64	8
Rojas et al[30], 2016	n=15 PSP	CNS only	Plasma	Simoa	Pearson's	r=0.74	7
Sanchez-Valle et al[31], 2018	n=35 AD	CNS only	Serum	Simoa	Spearman's	r=0.72	7
Sehr et al[32], 2019	n = 15 RRMS	CNS only	Plasma	Simoa	Spearman's	r=0.74	8
Staffaroni et al[33], 2019	n=49 sporadic CJD	CNS+PNS	Plasma	Simoa	Pearson's	r=0.8	7
Steinacker et al[34], 2018	n=37 bvFTD	CNS only	Serum	Simoa	Spearman's	r=0.706	8
Weydt et al[35], 2016	n=95 (n=19 controls, n=12 asymptomatic ALS, n=64 symptomatic ALS)	CNS+PNS	Serum and plasma	ECL	Spearman's	r=0.79	7
Wilke et al[36], 2016	n = 112 (n = 41 FTD, n = 25 ALS, n = 46 controls)	FTD: CNS only, ALS: CNS+PNS	Serum	ECL	Pearson's	FTD: r=0.72 ALS: r=0.58 controls: r=0.53	9

Abbreviations: CSF = cerebrospinal fluid, NfL = neurofilament light chain protein, CNS = central nervous system, PNS = peripheral nervous system, MS = multiple sclerosis, RRMS = relapsing-remitting multiple sclerosis, PMS = progressive multiple sclerosis, ECL = Electrochemiluminescence immunoassay, Simoa = single-molecule array digital immunoassay, ELISA = enzyme-linked immunosorbent assay, ALS = Amyotrophic lateral sclerosis, PPMS = Primary progressive multiple sclerosis, HD = Huntington's disease, AD = Alzheimer's disease, PD = Parkinson's disease, MSA = multiple system atrophy, PSP = progressive supranuclear palsy, CBS = corticobasal syndrome, GBS = Guillain-Barré syndrome, APD = atypical Parkinsonism disorders, MCI = mild cognitive impairment, FTD = frontotemporal dementia, bvFTD = behavioural variant frontotemporal dementia, CJD = Creutzfeldt–Jakob disease, OND = other neurological disorder

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