Supplemental Table 1: GFAP levels in the CSF of individuals with neurological conditions reflecting a wide range of etiologies are elevated

CONDITION	CONTROLS			PATIENTS			S	REF
	n	mean ± SD ng/L	range	n	mean ± SD ng/L	range		
Vascular								
vasculitis	nr	[<750 younger][a] [<1250 older] [a]	nr	32	10,791 ± 7646 (SEM)	nr	L	(1)
ischemic infarcts	18	7404 ± 2099 (SEM)	4138–11,518	25	16,005 ± 17,302 (SEM)	nr	L	(2)
infarcts	25	[~100–1300] [a]	nr	9	nr	~1000–100,000 [b]	L	(3)
ischemic infarcts - spinal cord	5	600 ± 300	300–1000	3	354,700 ± 459,000	2000–10^6	nr	(4)
ischemia – aortic aneurysm repair	nr	[375 ± 159 younger 95% < 700 671 ± 263 older 95% < 1200] [a]	nr	2	nr	190,000–330,000 [b]	L	(5)
subarachnoid hemorrhage	nr	95% < 9 (lumbar)	nr	5	18,950 ± 16,078	1550–40,630	V	(6)
Trauma								
traumatic brain injury	nr	95% < 9 (lumbar)	nr	11	16678 ± 15022	515–43,730	V	(6)
Developmental								
autism	10	67 ± 17 (SEM)	16–163	47	185 ± 20 (SEM)	~16–600	L	(7)
basal ganglia	10	[61 ± 17 (SEM)] [a]	nr	3	227 ± 34 (SEM)	nr	L	(8)
hydrocephalus	nr	700 ± 900 (lumbar)	nr	41 27 12	Gr 1: 19,000 ± 26,000 Gr 2: 20,000 ± 21,000 Gr 3: 2.2 x 10^6 ± 3 x 10^6	nr	V	(9)
encephalopathies and white matter disorders	10	[67 ± 54] [a]	nr	nr	progr 223 ± 186 non-progr 128 ± 86	15–869 15–264	nr	(10)
metabolic - unspecified	nr	[< 10,000] [a]	nr	16	metabolic/storage	0–94,000	L	(11)
cerebral white matter	nr	[67 ± 17 (SEM)] [a]	nr	26	1188 ± 2508 (SEM)	nr	nr	(12)
neonatal asphyxia	8	538 median	458–1051	22	1428 median	427–49,706	L	(13)

premature birth	10	222 median	87–554	17 10	normal pre-term 106 (ns) abnormal pre-term 576	 15–362 265–16,000	L	(14)
Genetic								
Alexander disease	nr	[<175] [a]	nr	3	na	4760–30,000	nr	(15)
Infectious and Inflammatory								
multiple sclerosis	5	142 ± 26	nr	13	RR 386 ± 169	nr	L	(16)
multiple sclerosis	25	250 ± 34	125–450	58 5 21 15	RR 300 (ns) [b] PR 300 (ns) [b] SP 375 [b] PP 400 [b]	125–600 [b] 125–700 [b] 130–625 [b] 130–900 [b]		(17)
meningitis/ encephalitis	25	nr	~100–1300	13	nr	~1000–30,000 [b]	L	(3)
Lyme neuroborreliosis	9	208 median	32–776	23	510 median [b]	nr	nr	(18)
systemic lupus erythematosus	99	_ 436 ± 152 (SEM) _ 387 ± 194	nr	31 54	NPSLE 1904 ± 975 (SEM) w/o CNS 534 ± 234	nr	L	(19)
neuromyelitis optica	5	600 ± 300	300–1000	10 3	7666 ± 15267[c] before Rx 17,827±26142 after Rx 1.8 ± 1.5	8000–80,000,000[b]	nr	(4)
Guillain-Barrè	30	330 median	nr	12 9	AIDP 350 median (ns) axonal 550 median	nr	nr	(20)

Degenerative								
dementia	nr	[<10,000] [a]	nr	64 24 7 26	AD 10,800 multi-infarct 39,500 CJD 65,000 undefined 14,700	0–56,000 0–564,000 9000–175,000 0–53,000	L	(11)
dementia	25	nr	~100–1300	7/9	AD / vascular	~400–2000 [b]	L	(3)
dementia	39	569 ± 265	nr	8 5 29 20	pure AD 936 ± 431 (ns) frontal lobe 721 ± 208 (ns) AD-type 1081 ± 561 vascular 1270 ± 1142	nr	L	(21)
dementia	13 9 8	2960 ± 1040 young 2800 ± 1460 adult 3990 ± 1590 senescent	nr	27	AD 8960 ± 7800	nr	nr	(22)
dementia	nr	95% < 9	nr	68	1374 ± 11098	<5–91,540[d]	L	(6)
Miscellaneous								
normal pressure hydrocephalus	18	4300 ± 700 (SEM)	2000–14,000	12	96,000 ± 23,000[e] (SEM)	~5000–258,000	L	(23)
normal pressure hydrocephalus	40	637 ± 295	nr	65	1116 ± 1085	nr	L	(24)
normal pressure hydrocephalus	nr	95% < 9 (lumbar)	nr	12	1197 ± 1226	<5–2970	V	(6)
seizures	33	93 ± 88	<50–440	52	232 ± 440	<50–3100	nr	(25)
schizophrenia	17	1190 ± 920	nr	12	1210 ± 810 (ns)	nr	L	(26)

All values have been converted to ng/L to facilitate comparison. Unless otherwise noted, values are given as mean ± standard deviation (SD). Additional abbreviations used are “n” number of patients or controls, “SEM” standard error of the mean, “ns” not significant, “AD” Alzheimer’s disease, “CJD” Creutzfeldt-Jakob disease, “ADIP” acute demyelinating inflammatory neuropathy, “GBM” glioblastoma multiforme, “NPSLE” neuropsychiatric systemic lupus erythematosus, “RR” relapsing remitting, “PR” progressive remitting, “SP” secondary progressive, and “PP” primary progressive, “na” not applicable, “nr” not reported. “S” refers to lumbar (L) or ventricular (V) points of collection of CSF if specified by the authors – others are most likely lumbar.

[a] Values for controls surrounded brackets were derived from a prior study, literature, or manufacturer using the particular assay.
[b] Data was presented in graphical form, from which these are estimated values.
[c] Whether standard deviation or standard error of the mean was not specified.

[d] The outlier value at the high end was from a patient who had autopsy-proven CJD.
[e] Eight patients had ventricular samples collected as well, in each case giving values that were higher than those found in lumbar samples.

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Supplemental Table 2: GFAP appears in the serum under certain circumstances

CONDITION	CONTROLS			PATIENTS			REF
	n	mean ± SD ng/L	range	n	mean ± SD ng/L	range	
Vascular							
ischemic stroke	46	95% < 40	14–660	22	2000 ± 1500 (SEM) [a]		(1)
hemorrhagic stroke	523	<1.8 3.8–7.2	nr	42	112 ± 477	0–3096	(2)
subarachnoid hemorrhage	81	< 150	nr	116	1130 mean; 330 median	30–34,430	(3)
Trauma							
traumatic brain injury	70	97.5% < 33	2–49	25	100 ± 180 at admission	nr	(4)
traumatic brain injury	72	95% < 49	150–760	3	nr	5000–13,000	(5)
traumatic brain injury - non-survivors		manufacturer data	30–300	39	~6000 median		(6)
traumatic brain injury	218	61 ± 44; 95 % < 150	nr	59	4520 ± 8690; 1170 median	140–49,580	(7)
Developmental							
hydrocephalus (not altered)	8	200 ± 200	nr	27 12	grade 1: 300 ± 300 (ns) grade 2: 500 ± 300 (ns)	nr	(8)
Infectious and inflammatory							
multiple sclerosis	30	410 median	nr	30	2810 median	nr	(9)
Guillain-Barrè syndrome	30	410 median	nr	17 20	axonal : 740 median	nr	(9)

					ADIP: 580 median		
Neoplastic							
glioma	nr	< 150	nr	31	high grade: 239	30–1210	(10)
GBM	50 54	healthy: 0 non GBM: 0 median	0 0–24	50	GBM: 180 median	0–5600	(11)
Miscellaneous							
schizophrenia (not altered)	17	180 ± 150	nr	12	160 ± 150 (ns)	nr	(12)

All values have been converted to ng/L to facilitate comparison. Unless otherwise noted, values are given as mean ± standard deviation (SD). ADIP, acute demyelinating inflammatory neuropathy; GBM, glioblastoma multiforme; n, number of patients or controls; ns, not significant; SEM, standard error of the mean.

[a] Data was presented in graphical form, from which these are estimated values.

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