

Simoa™ Neurology Assays

A range of assays for the ultra-sensitive detection of CNS biomarkers using the Simoa Platform.

Analyte	LoD (pg/mL)	LoQ (pg/mL)	Dynamic Range (pg/mL)	Median Endogenous (pg/mL)	Sample Volume†	Sample Type**	Species
AB40	0.522	1.23	0-800	65.97	32.5 µL	C, E	Human
AB42	0.044	0.137	0-400	4.70	32.5 µL	C, E	Human
α-Synuclein	0.955	4.12	0-10,000	4,145	19 µL	C, E, S	Human
BDNF	0.011	0.034	0-64,000	11,306	33 µL	C, E, S	Human
GFAP*	0.211	0.686	0-4,000	88.0	46 µL	C, E, S	Human
Mouse Tau	0.615	0.823	0-2,400	26.7	33 µL	C, E, S	Mouse
NF-light*	0.038	0.174	0-2,000	5.33	46 µL	C, E, S	Human
NSE	1.296	9.88	0-120	7,845	2 µL	C, E, S	Human
pNF-Heavy	0.663	2.88	0-8,400	30.82	55 µL	C, E, S	Human
P-Tau181*	0.23	5.16	0-1080	36.8	46 µL	C, E, S	Human
P-Tau 231	0.293	1.03	0-2,000	22.0	46 µL	C, E,	Human
Tau	0.019	0.061	0-360	1.65	46 µL	C, E, S	Human
TDP43	0.20	0.41	0-4800	2.29	45 µL	C, E, S	Human
UCH-L1*	1.05	3.43	0-20,000	9.51	46 µL	C, E, S	Human

*Banyan GFAP™ and Banyan UCH-L1™

†pTau181 is not yet released, preliminary data based on CSF measuring

Assays	Analytes	LoD (pg/mL)	LoQ (pg/mL)	Dynamic Range (pg/mL)	Median Endogenous (pg/mL)	Sample Volume†	Sample Type**	Species
Neurology 2-Plex A	AB42	0.025	0.171	0-800	8.1	46 µL	C, E, S	Human
	Tau	0.020	0.067	0-400	2.75			
Neurology 3-Plex A	AB40	0.196	0.675	0-800	209	46 µL	C, E, S	Human
	AB42	0.045	0.142	0-400	111			
	Tau	0.019	0.063	0-400	1.43			
Neurology 4-Plex	Tau	0.024	0.053	0-400	2.21	46 µL	C, E, S	Human
	NF-Light	0.104	0.241	0-2000	10.6			
	GFAP	0.221	0.467	0-4000	89.7			
	UCH-L1	1.74	5.45	0-40,000	12.1			

†Smaller sample volumes possible with on board pre-dilutions | **C = CSF, E = EDTA plasma, L = cell lysate, S = serum

Selected Recent Simoa Neurology Publications

Hansson O, Janelidze S, Hall S, et al.

Blood-based NfL: A biomarker for differential diagnosis of parkinsonian disorder.

Neurology. 2017;88(10):930-937.

O'Bryant SE, Mielke MM, Rissman RA, et al.

Blood-based biomarkers in Alzheimer disease: Current state of the science and a novel collaborative paradigm for advancing from discovery to clinic.

Alzheimers Dement. 2017;13(1):45-58.

Gill J, Merchant-Borna K, Jeromin A, Livingston W, Bazarian J.

Acute plasma tau relates to prolonged return to play after concussion.

Neurology. 2017;88(6):595-602.

Alosco ML, Tripodis Y, Jarnagin J, et al.

Repetitive head impact exposure and later-life plasma total tau in former National Football League players.

Alzheimers Dement (Amst). 2017;7:33-40.

Song L, Lachno DR, Hanlon D, et al.

A digital enzyme-linked immunosorbent assay for ultrasensitive measurement of amyloid- β 1-42 peptide in human plasma with utility for studies of Alzheimer's disease therapeutics.

Alzheimers Res Ther. 2016;8(1):58.

Shahim P, Gren M, Liman V, et al.

Serum neurofilament light protein predicts clinical outcome in traumatic brain injury.

Sci Rep. 2016;6:36791.

Mattsson N, Zetterberg H, Janelidze S, et al.

Plasma tau in Alzheimer disease.

Neurology. 2016;87(17):1827-1835.

Mattsson N, Andreasson U, Zetterberg H, Blennow K.

Association of Plasma Neurofilament Light in Patients with Alzheimer Disease.

JAMA Neurol. 2017

Meeter LH, Dopfer EG, Jiskoot LC, et al.

Neurofilament light chain: a biomarker for genetic frontotemporal dementia.

Ann Clin Transl Neurol. 2016;3(8):623-36.

Rohrer JD, Woollacott IO, Dick KM, et al.

Serum neurofilament light chain protein is a measure of disease intensity in frontotemporal dementia.

Neurology. 2016;87(13):1329-36.

Bogoslovsky T, Wilson D, Chen Y, et al.

Increases of Plasma Levels of Glial Fibrillary Acidic Protein, Tau, and Amyloid β up to 90 Days after Traumatic Brain Injury.

JNeurotrauma. 2017;34(1):66-73.

Rojas JC, Karydas A, Bang J, et al.

Plasma neurofilament light chain predicts progression in progressive supranuclear palsy.

Ann Clin Transl Neurol. 2016;3(3):216-25.

Kuhle J, Barro C, Andreasson U, et al.

Comparison of three analytical platforms for quantification of the neurofilament light chain in blood samples: ELISA, electrochemiluminescence immunoassay and Simoa.

Clin Chem Lab Med. 2016;54(10):1655-61.

Andreasson U, Blennow K, Zetterberg H.

Update on ultrasensitive technologies to facilitate research on blood biomarkers for central nervous system disorders.

Alzheimers Dement (Amst). 2016;3:98-102.