



Neurofilament Light (NfL)

Valuable tool for diagnostics and maintenance of neurological disease

Neurofilament light (NfL) is a promising biomarker for diagnosis and management of neurological diseases and evaluating axonal damage. In response to brain damage, NfL levels increase in both cerebrospinal fluid (CSF) and blood. High sensitivity immunoassays for NfL in blood samples allow for repeated and less invasive monitoring of patients.¹⁻³

Clinical diagnostic tool in

- Alzheimer's disease
- Multiple Sclerosis
- Parkinson's disease
- ALS
- Traumatic brain injury (TBI)

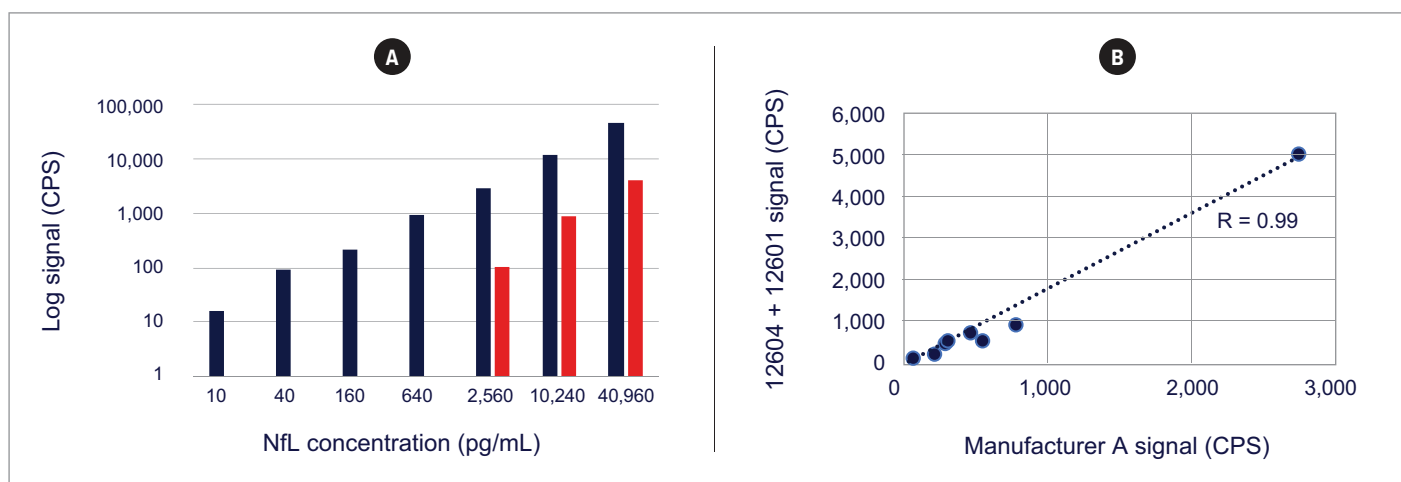
Related neurology analytes from Medix Biochemica

- Alpha-synuclein
- NSE
- S100B
- GFAP
- UCH-L1

Medix Biochemica offers monoclonal antibodies

- NfL detection from CSF and blood
- High sensitivity - 10 pg/mL in spiked samples
- No cross-reactivity with S100B, NSE, NfM or NfH
- *In vitro* produced by scalable procedures, ideal for assay development and manufacturing

Medix Biochemica mAb vs. Manufacturer A in FIA



A. Detection of NfL in spiked serum samples in FIA assay with Medix Biochemica antibody pair 12603 + 12604 (blue) and Manufacturer A antibodies (red). The Medix Biochemica antibody pair showed greater sensitivity, down to 10 pg/ml, compared to Manufacturer A.

B. NfL detection from CSF clinical samples using Medix Biochemica antibody pair 12604 + 12601 showed good correlation to measured values with Manufacturer A antibodies.

Products and Ordering

Monoclonal NfL antibodies

Product Code	Description	Subclass
100984	Anti-h NfL 12601 SPTN-5	IgG1
100985	Anti-h NfL 12603 SPTN-5	IgG1
100986	Anti-h NfL 12604 SPTN-5	IgG2b

Recombinant NfL antigens

Product Code	Description	Purity
LA666	Neurofilament L (1-544)	>85%

Medix Biochemica offers also a wide range of related biospecimens for control and test materials for assay development.

[> Related Specimens](#)

Product Code	Description
991-19-S	Cerebrospinal Fluid - Single Donors
991-19-P	Cerebrospinal Fluid - Pooled Donors
991-24-S-ALZ	Serum - Alzheimer's Disease
991-58-S-ALZ	Plasma - Alzheimer's Disease
991-24-S-PD	Serum - Parkinson's Disease
991-58-S-PD	Plasma - Parkinson's Disease
991-24-S-MCI	Serum - Mild Cognitive Impairment
991-58-S-MCI	Plasma - Mild Cognitive Impairment
991-24-S-MS	Serum - Multiple Sclerosis
991-58-S-MS	Plasma - Multiple Sclerosis

Pair recommendations

		Detection		
		12601	12603	12604
Capture	12601		■	■
	12603	■		■
	12604	■		

12604 (capture) + 12601 (detection) recommended for FIA applications.
12601 (capture) + 12604 (detection) recommended for CLIA applications.

Kinetic measurements

	Association rate constant	Dissociation rate constant
12601	2.3×10^5 1/Ms	Antigen does not dissociate in the testing conditions
12603	3.8×10^5 1/Ms	
12604	1.7×10^5 1/Ms	

References

- Gaetani L, Blennow K, Calabresi P, et al. (2019). Neurofilament light chain as a biomarker in neurological disorders. *Journal of Neurology, Neurosurgery & Psychiatry* 90:870-881.
- Hoyer-Kimura C, Konhilas JP, Mansour HM, et al. (2021). Neurofilament light: a possible prognostic biomarker for treatment of vascular contributions to cognitive impairment and dementia. *J Neuroinflammation* 18:236.
- Khali M, Teunissen CE, Otto M, et al. (2018). Neurofilaments as biomarkers in neurological disorders. *Nat Rev Neurol* 14:577-589.

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