Light the way to your next discovery

SMC® Neurofilament Light Chain (NF-L) Assay

Neurofilament Light Chain (NF-L) is one of the most highly studied neuroscience biomarkers in both academic and clinical research. To support your neuroscience research needs, we offer the SMC® Human NF-L High Sensitivity Immunoassay Kit (**Cat. No. 03-0202-00**). Single Molecule Counting (SMC®) kits using ultrasensitive immunoassay technology and the SMCxPRO® instrument platform, enable accurate, precise, and reproducible measurement of NF-L in human serum, plasma, and cerebrospinal fluid (CSF) samples.

Every SMC® kit undergoes a comprehensive development and manufacturing process to meet our in-depth verification criteria:

- Spike and recovery
- Dilutional linearity
- Parallelism in normal and diseased samples
- Intra- and inter-assay precision
- Temperature and freeze/thaw stability testing

The SMC® NF-L Assay Features Comprehensive Verification to Ensure Your Success	
Standard Curve Range	0.43 pg/mL – 1,500 pg/mL
Lower Limit of Quantification (LLOQ)[1]	0.87 pg/mL
Inter-Assay %CV	9.60%
Sample Volume (µL) (Serum; K2 EDTA Plasma; CSF)	50; 50; 25
Sample Values: Mean (Range) pg/mL (Serum; K2 EDTA Plasma; CSF)	8.1 (1.9-21.9); 2.7 (1.4-3.8); 97.5 (85.4-180.3)
Spike Recovery[2]: Mean % (Serum; K2 EDTA Plasma; CSF)	93; 94; 123
Dilution Linearity[3]: Mean % (Serum; K2 EDTA Plasma; CSF)	110; 106; N/A
Parallelism[4]: Mean % (Serum; K2 EDTA Plasma; CSF)	N/A; N/A; 99

Assay Verification Characteristics for the SMC® NF-L Assay. Thorough characterization is performed for all SMC® high sensitivity immunoassays to ensure reliable measurements in human serum, K2 EDTA plasma, and cerebrospinal fluid.

1. Lower limit of quantitation (LLOQ): lowest point on standard curve with CV <20% and accuracy within 20% of expected values

2. Spike recovery: expressed as % accuracy of measurement of recombinant standard analyte in each sample matrix serially-diluted starting from the recommended dilution factor

3. Dilution linearity: expressed as % accuracy of measurement of endogenously expressed analyte in each reported sample matrix serially-diluted starting from the recommended dilution factor

4. Parallelism: expressed as % accuracy of measurements of endogenously expressed analyte serially-diluted starting from the recommended dilution factor

Kit Ordering Information

Product Description	Cat. No.
SMC® Human NF-L High Sensitivity Immunoassay Kit	03-0202-00

For Research Use Only. Not For Use In Diagnostic Procedures.

Accurate Sample Measurements

A

NF-L Standard Curve

Instrument Response vs [NF-L] (pg/mL)

Legend: Standard • 1:2 Serum • 1:2 Plasma • 1:4 CSF

B

Serum [NF-L] (pg/mL)
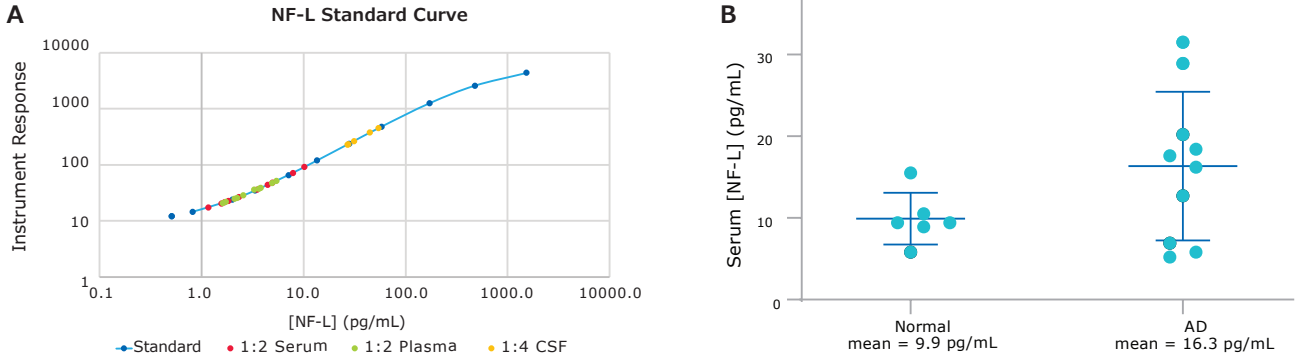
Normal — mean = 9.9 pg/mL

AD — mean = 16.3 pg/mL

Figure 1. **Sample data from the SMC® NF-L assay**. Alzheimer's disease (AD) and (normal/non-AD) human samples were commercially sourced and run in the SMC® NF-L assay according to protocol. **(A)** Serum (n=10, red), K2 EDTA plasma (n=10, green), and CSF (n=5, yellow) samples accurately fall within the standard curve range (blue). **(B)** NF-L serum concentrations of AD (n=10) show nearly double that of normal (n=6) samples.
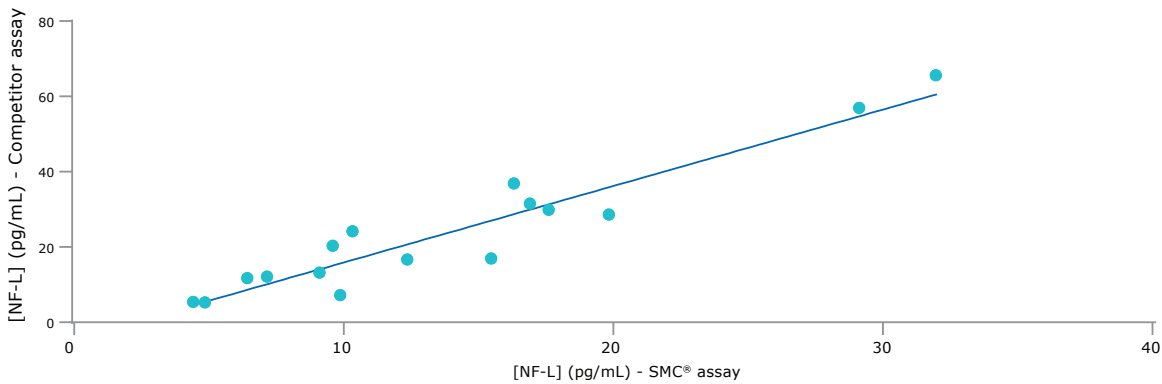
Competitor Assay Correlation

[NF-L] (pg/mL) - Competitor assay vs [NF-L] (pg/mL) - SMC® assay

Figure 2. **The SMC® NF-L assay correlates with the leading competitor kit**. Human serum samples (n=6 normal/non-AD and n=10 AD) were commercially sourced and run according to protocols in the SMC® NF-L assay and in a NF-L kit offered by a leading competitor. NF-L concentration values were interpolated from each assay standard curve and plotted as shown. Good correlation ($R^2=0.92$) exists between the two assays.

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