

## **ADNI-1/2 Longitudinal plasma neurofilament light (NFL)**

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### **Summary**

This is an analysis of the axonal protein neurofilament light (NFL) in longitudinal plasma samples from ADNI. NFL is, together with NFM and NFH, part of the structural neurofilament proteins, and is predominantly expressed in large-caliber myelinated axons that extend subcortically. Numerous studies have shown a mild to moderate increase in NFL in cerebrospinal fluid (CSF) in Alzheimer's disease (AD). Plasma NFL has previously been analyzed in ADNI-1 baseline samples, where plasma NFL concentrations were increased in AD [1].

### **Method**

Plasma NFL was analyzed by the Single Molecule array (Simoa) technique. The assay uses a combination of monoclonal antibodies, and purified bovine NFL as a calibrator. Details of the assay can be found in [2]. All samples were measured in singlicate. One sample contained NFL levels in plasma below the lower limit of quantification (6.7 pg/mL). To align the new results with the ones for the baseline (described in [1]) a set of 40 samples (20 from each sample set) were reanalyzed in a separate analytical run and the new results were adjusted using parameters from linear regressions.

### **Dataset Information**

This methods document applies to the following dataset(s) available from the ADNI repository:

<b>Dataset Name</b>	<b>Date Submitted</b>
Blennow Lab – ADNI-1-2 – Plasma NFL – Data file	10 September 2018

### **References**

1. Association of Plasma Neurofilament Light With Neurodegeneration in Patients With Alzheimer Disease. Mattsson N, Andreasson U, Zetterberg H, Blennow K. *JAMA Neurology*. 2017 May 1;74:557-566.
2. Plasma Concentration of the Neurofilament Light Protein (NFL) is a Biomarker of CNS Injury in HIV Infection: A Cross-Sectional Study. Gisslén M, Price RW, Andreasson U, Norgren N, Nilsson S, Hagberg L, Fuchs D, Spudich S, Blennow K, Zetterberg H. *EBioMedicine*. 2015 Nov 22;3:135-140.

## **About the Authors**

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