ADNI Alzheimer's Disease Neuroimaging Initiative

ADNI CSF GAP-43

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Introduction

This is an analysis of the synaptic protein growth-associated protein 43 (GAP-43) also called neuromodulin in cerebrospinal fluid (CSF) on ADNI-1, ADNI-2 and ADNI-GO samples.

Summary (or Abstract)

In this study, CSF GAP-43 levels were analyzed with by an in-house ELISA method [1]. The GAP-43 analyzes were performed at the Clinical Neurochemistry Lab by a board-certified laboratory technician. In total, 18 ELISA plates were analyzed in four analytical runs. The total number of data points is 1268.

Methodology

CSF GAP-43 was analyzed using ELISA technology, by an in-house ELISA method described previously in detail [1]. The ELISA was developed combining the mouse monoclonal GAP-43 antibody NM4 (coating antibody) (Fujirebio, Ghent, Belgium) and a polyclonal GAP-43 antibody (detector antibody) (ABB-135, Nordic Biosite, Täby, Sweden), which recognize the C-terminal of GAP-43. The analyses were performed by board-certified laboratory technicians. Values are given as pg/mL. The assay range is 312-20.000 pg/mL. The total number of data points is 1268.

Analyses and QC samples
Leftover CSF samples from clinical routine of the Clinical Neurochemistry Laboratory, Sahlgrenska University Hospital, Mölndal, Sweden, were used as quality control (QC1 and QC2) samples.

During sample runs in the clinical evaluation study, the repeatability CV% of QC1 and QC2, was 5.5% versus 11% and the inter-assay CV% was 6.9% versus 15.6%.

References

1. Sandelius A, Portelius E, Kallen A, et al. Elevated CSF GAP-43 is Alzheimer's disease specific and associated with tau and amyloid pathology. Alzheimers Dement 2019;15:55-64.

About the Authors

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