

## A4 / LEARN Biomarker Assay Results Methods

Plasma samples were shared to various biotechnology companies that requested samples to support their ongoing research efforts to discover biomarkers for Alzheimer's disease. This document will provide the context and methods regarding the following biomarker-related datasets:

	Filename	File label	External Provider
1	biomarker_AB_Test.csv	Biomarker - Amyloid-Beta Tests	Araclon
2	biomarker_pTau217.csv	Biomarker - pTau-217 Digital Immunoassay	Lilly
3	biomarker_Plasma_Roche_Results.csv	Biomarker - Roche Plasma Assay	Roche

### 1. Amyloid-Beta Tests Methods

Plasma samples were shared with [Araclon Biotech](#) for the quantification of AB40 and AB42 peptides in the samples provided. These plasma samples were derived from a subset of whole blood samples collected from various clinical sites during screening visit 3. Araclon Biotech shared the following AB Test results:

Test code	Test Description
FP40	Concentration of AB40 in undiluted plasma sample (free in plasma)
TP40	Concentration of AB40 in diluted plasma sample (total in plasma)
FP42	Concentration of AB42 in undiluted plasma sample (free in plasma)
TP42	Concentration of AB42 in diluted plasma sample (total in plasma)
BP40	Concentration of AB40 bound to plasma components (bound in plasma)
BP42	Concentration of AB42 bound to plasma components (bound in plasma)
FP40/TP40	Ratio between AB40 free in plasma and AB40 total in plasma
FP42/TP42	Ratio between AB42 free in plasma and AB42 total in plasma
FP42/FP40	Ratio between AB42 free in plasma and AB40 free in plasma
TP42/TP40	Ratio between AB42 total in plasma and AB40 total in plasma

### 2. PTau-217 Digital Immunoassay Methods

Plasma samples were shared with [Eli Lilly and Company \(Lilly\)](#) to support the development of a pTau-217 assay in cognitively impaired subjects. Using the samples provided, the Lilly Clinical Diagnostics Laboratory produced data of the pTau-217 levels measured using an electrochemiluminescent immunoassay, with sample preparation automated by the Tecan Fluent workstation and detection performed on the MSD Sector S Imager 600MM.

### 3. Roche Elecsys Amyloid Assay Methods

Plasma samples were shared with [Roche Diagnostics](#) for testing of their Elecsys Robust Prototype Immunoassays. The following biomarkers were tested using their electrochemiluminescence immunoassays:

Test code	Test Description
APOE4	Plasma Apo
GFAP	Plasma GFAP
NF-L	Plasma Neurofilament Light Chain
AMYL40	Plasma Amyloid Peptide Beta 1-40
AMYL42	Plasma Amyloid Peptide Beta 1-42
TPP181	Plasma pTauC2