

Supplementary Material

Simple and Fast Assay for Apolipoprotein E Phenotyping and Glycotyping: Discovering Isoform-Specific Glycosylation in Plasma and Cerebrospinal Fluid

Supplementary Table 1. Characteristics of the study population.

| Variables | N=22 |
|---|-------------|
| ApoE, N (%) | |
| $\epsilon 2/\epsilon 3$ | 5 (22.7%) |
| $\epsilon 2/\epsilon 4$ | 2 (9%) |
| $\epsilon 3/\epsilon 3$ | 5 (22.7%) |
| $\epsilon 3/\epsilon 4$ | 5 (22.7%) |
| $\epsilon 4/\epsilon 4$ | 5 (22.7%) |
| Age, median (min, max) | 66 (52, 81) |
| Gender, N (%) | |
| female | 12 (54.5%) |
| male | 10 (45.5%) |
| Education, y, median (min, max) | 17 (12, 20) |
| Ethnicity, N (%) | |
| not Hispanic or Latinos | 18 (81.8%) |
| Hispanic or Latinos | 4 (18.2%) |
| MoCA, median (min, max) (missing = 6) | 25 (20, 30) |
| CDR, N (%) (missing = 1) | |
| 0 | 16 (72.7%) |
| 0.5 | 5 (22.7%) |

Supplementary Table 2. ApoE Assay reproducibility. Plasma samples from two individuals ($\epsilon 3/\epsilon 4$ and $\epsilon 4/\epsilon 4$) were analyzed three times (intra-assay CVs) on three different days (inter-assay CVs).

| | | Intra-assay CVs | | | | Inter-assay CVs | |
|---|---------------------|-----------------|-------|-------|--------|-----------------|-------|
| Sample 1 ($\epsilon 3/\epsilon 4$) | E4/E3 Ratio | | Day 1 | Day 2 | Day 3 | | |
| | | STDEV | 0.031 | 0.015 | 0.050 | STDEV | 0.090 |
| | | MEAN | 1.38 | 1.41 | 1.56 | MEAN | 1.45 |
| | | CV (%) | 2.25 | 1.06 | 3.21 | CV (%) | 6.21 |
| | Glycosylation Level | | Day 1 | Day 2 | Day 3 | | |
| | | STDEV | 0.015 | 0.011 | 0.012 | STDEV | 0.013 |
| | | MEAN | 0.121 | 0.132 | 0.135 | MEAN | 0.130 |
| CV (%) | | 12.4 | 8.33 | 8.89 | CV (%) | 10.0 | |
| Sample 2 ($\epsilon 4/\epsilon 4$) | Glycosylation Level | | Day 1 | Day 2 | Day 3 | | |
| | | STDEV | 0.008 | 0.002 | 0.003 | STDEV | 0.008 |
| | | MEAN | 0.134 | 0.125 | 0.118 | MEAN | 0.126 |
| | | CV (%) | 5.97 | 1.60 | 2.54 | CV (%) | 6.35 |

Supplementary Figure 1. Mass spectra resulting from the analysis of matched plasma and CSF from (a,b) heterozygous $\epsilon 2/\epsilon 3$, and (c,d) heterozygous $\epsilon 2/\epsilon 4$ individual. Matrix adduct peaks are labeled with *. For the glycan peak labeling, structure, and predicted masses, see Table 1.

