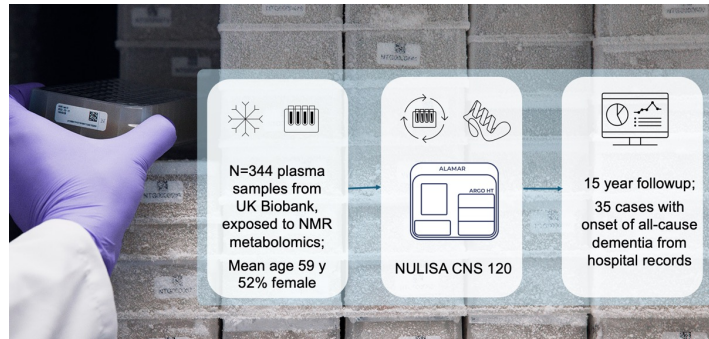


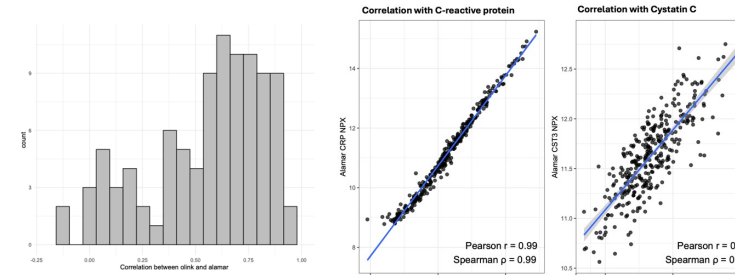
PROTEOMIC BIOMARKERS MEASURED FROM PLASMA SAMPLES EXPOSED TO NMR METABOLOMICS: A PILOT OF NULISA CNS IN UK BIOBANK

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Aims: To test the performance of plasma proteomics measured by the NULISA CNS assay in plasma samples previously exposed to NMR metabolomics measurement.

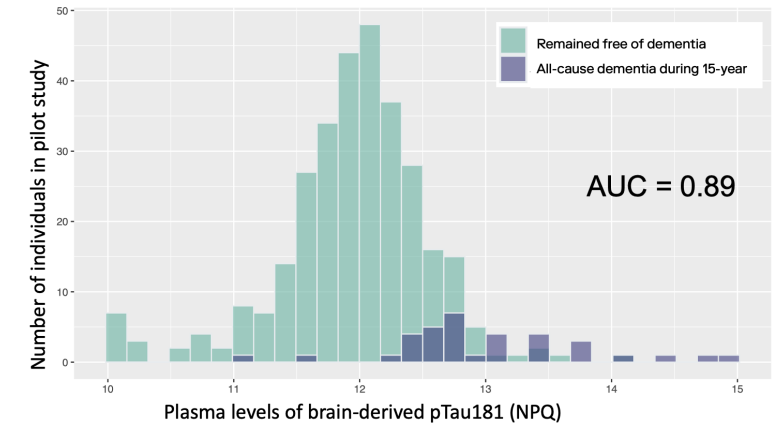


Comparison to Olink Explore and clinical assays



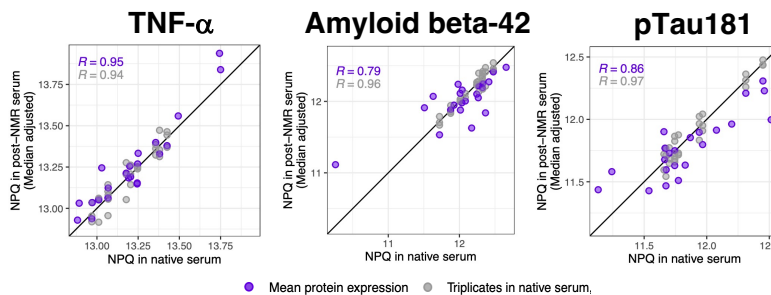
Left: Histogram of correlations for NULISA CNS proteins on Olink Explore. Proteins with low detectability in Olink were systematically less correlated with NULISA CNS.
Right: Correlation with clinical chemistry biomarkers was 0.99 for C-reactive proteins and 0.82 for Cystatin C.

Striking prediction of future dementia in UKB pilot



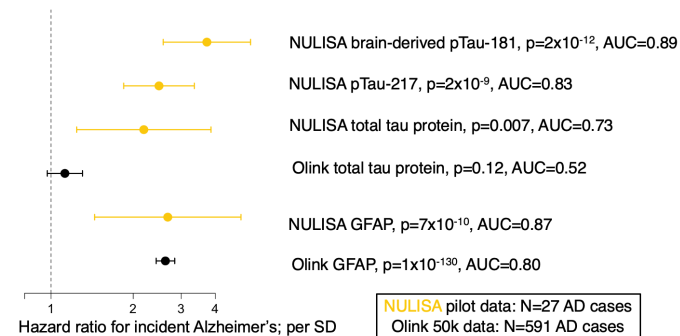
Blue: BD-pTau181 in people who developed dementia
Green: BD-pTau181 in people who remained AD-free

NMR-exposed compared to native serum samples



Purple: Consistency of NMR-exposed vs native serum
Grey: Consistency of triplicate samples in native serum

NULISA CNS vs Olink: Associations with incident AD



Black: Olink results from n=50,000 in UK Biobank
Yellow: NULISA results from n=344 in UK Biobank pilot

Conclusions:

Proteomics by NULISA CNS in NMR-exposed plasma samples from UK Biobank provide high-quality biomarker data.

Associations between key AD proteins and future risk of dementia are stronger than reported previously in general population studies.

This approach can be used to opportunistically profile existing biobank collections and combine proteomic and metabolomic biomarkers at biobank scale.