

# Benefits for new immunoassays for measuring A-beta-42 in CSF

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(HealthDay)—Concentrations of cerebrospinal fluid (CSF)  $\beta$ 42-amyloid

42 (A $\beta$ 42) derived from new immunoassays may show improved agreement with visual flutemetamol F18 ([ $^{18}$ F]flutemetamol)-labeled positron emission tomography (PET) assessment, according to a study published online Nov. 6 in *JAMA Neurology*.

Shorena Janelidze, Ph.D., from Lund University in Sweden, and colleagues examined the concordance between CSF A $\beta$ 42 levels measured using five different immunoassays and visual amyloid PET analysis in a study involving 262 patients with [mild cognitive impairment](#) or subjective cognitive decline who had undergone [ $^{18}$ F]flutemetamol-labeled PET. Levels of CSF A $\beta$ 42 were analyzed using the classic INNOTEST, modified INNOTEST, full automated Lumipulse (FL), EUROIMMUN (EI), and Meso Scale Discovery (MSD) assays.

The researchers found that the mass spectrometry-derived A $\beta$ 42 values showed higher correlations with the modified A $\beta$ 42-INNOTEST, A $\beta$ 42-FL, A $\beta$ 42-EI, and A $\beta$ 42-MSD assays versus the classic A $\beta$ 42-INNOTEST assay. Recombinant A $\beta$ 1-40 peptide partially quenched the signal in the classic A $\beta$ 42-INNOTEST assay. Better concordance with visual [ $^{18}$ F]flutemetamol PET status was seen for the classic A $\beta$ 42-INNOTEST assay versus the newer assays (area under the receiver operating characteristic curve, 0.92 versus 0.87 to 0.89;  $P \geq 0.01$ ). When A $\beta$ 42-to-A $\beta$ 40, A $\beta$ 42-to-total tau, or A $\beta$ 42-to-phosphorylated tau ratios were used, the accuracies of the newer assays improved significantly.

"These findings suggest the benefit of implementing the CSF A $\beta$ 42-to-A $\beta$ 40 or A $\beta$ 42-to-tau ratios as a biomarker of amyloid deposition in clinical practice and trials," the authors write.

Several authors disclosed financial ties to the pharmaceutical industry. GE Healthcare sponsored doses of [ $^{18}$ F]flutemetamol injection, and

EUROIMMUN provided test kits.

**More information:** [Abstract/Full Text](#)

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