NEW Products

Diagnostic solutions for Neurodegenerative Diseases

Novelties

Neuro IP Kit

mAb coupled immunobeads for AD biomarker enrichment from plasma

Brain– derived Tau mAb 2B8

mAb 2B8 selectively binds to continuous exon 4-5 sequences on brain-derived Tau isoforms

p50 Tau mAb 15E3

Specifically binds the master phosphorylation site at amino acid position 50 (T) of Tau

Coming soon…

mAbs for CSF and plasma analysis of p217, p181 and p231 Tau

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ROBOSCREEN DIAGNOSTICS

Neuro IP Kit

Enrichment of AD biomarkers from plasma by immunoprecipitation

- pre-analytical enrichment of AD relevant proteins from plasma by Immunoprecipitation
- all non-specific matrix effects are eliminated and don't interfere downstream analysis after
- downstream analysis of the enriched AD biomarkers can be performed with a detection system of choice (e.g. SIMOA, Lumipulse, MSD, ELISA)

Combinable with mAb coupled immunobeads for the target of your choice

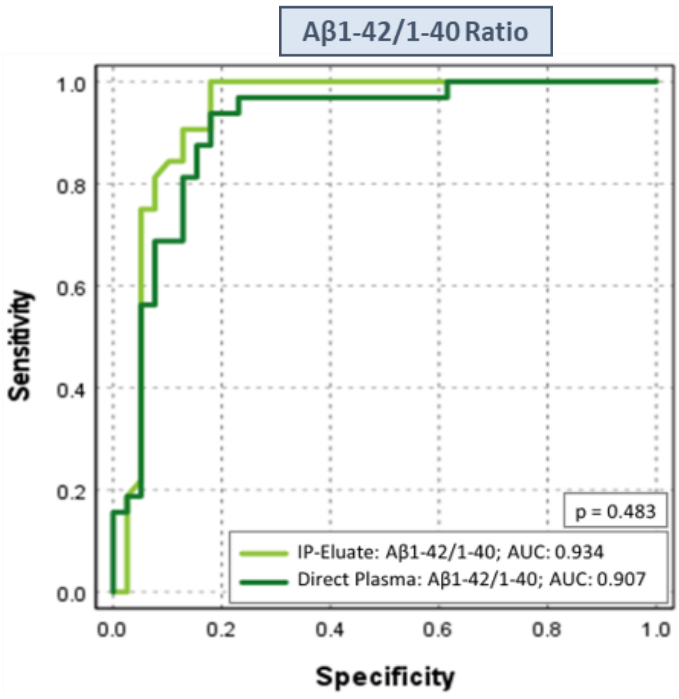
total Tau

p50-Tau

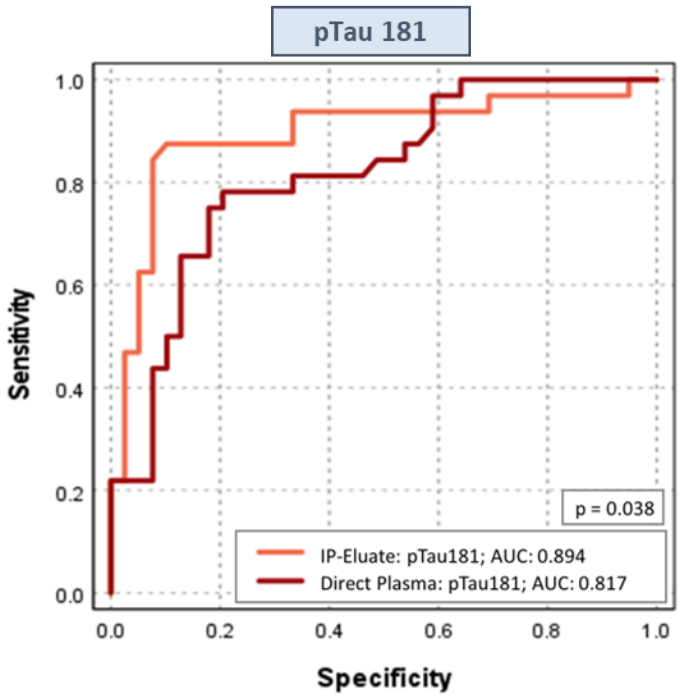
beta-Amyloid

brain-derived Tau

Measurement of plasma pTau181 and Aß42/40 on the Lumipulse G System with and without pre-analytical sample workup by magnetic bead immunoprecipitation showed great compatibility of the Neuro IP Kit with the Lumipulse platform. Pre-analytical Tau-IP improved the diagnostic contrast significantly (p=0.038). (The data presented here are from AD/PD 2023 Poster #368 by Barbara Morgado member of Jens Wiltfang's group, University Goettingen).



Pre-analytical Aß-IP increased the area under the ROC curve (AUC) for plasma Aß42/40 from 0.907 to 0.934 (p=0.48)



Pre-analytical Tau-IP increased the AUC for pTau181 significantly from 0.817 to 0.894 (p=0.038)

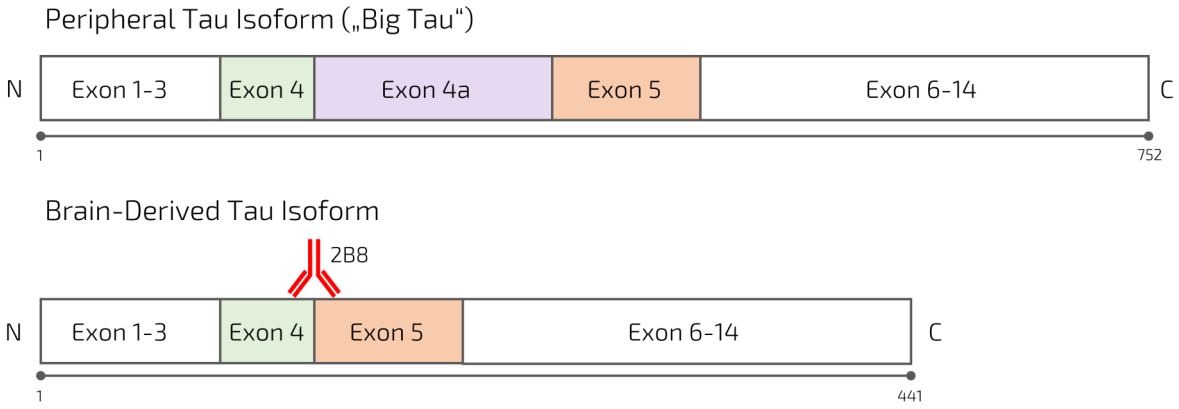
Brain-derived Tau

Anti-human TAU total mab 2B8

Specificity: human TAU441 (2N4R) amino acids 121-128

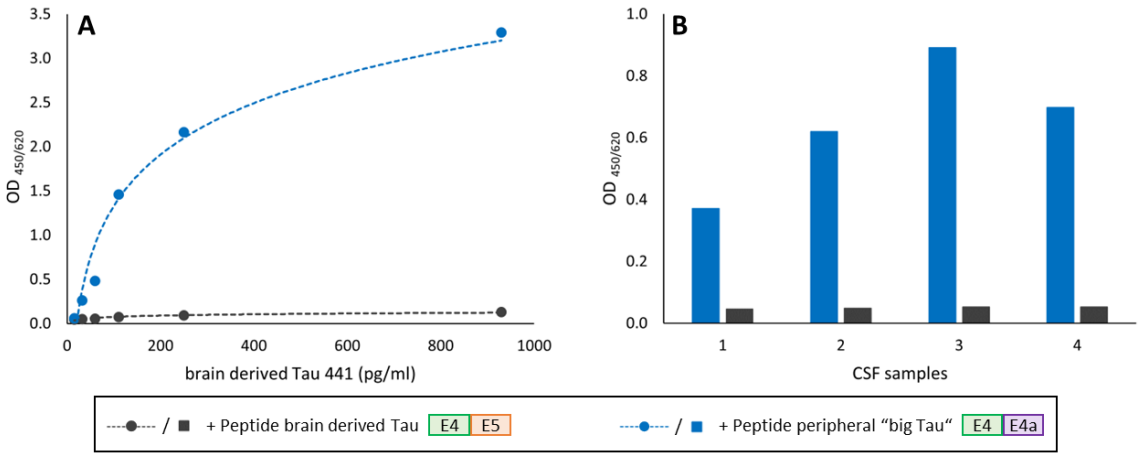
➔ mAb 2B8 selectively binds to continuous exon 4-5 sequences on brain-derived Tau isoforms, but not to peripheral „Big Tau“ isoforms containing the exon 4a insert

Schematic Illustration of the peripheral Tau isoform („Big tau“) including Exon 4a and the brain-derived Tau isoform lacking Exon 4a:



Competitive ELISA

Brain-derived tau binding by 2B8 is completely inhibited by its recombinant antigen comprising the exon 4-5 junction



Anti-human Tau total mAb 2B8 used as capture Ab in a Sandwich ELISA is not inhibited by a recombinant peptide comprising the exon 4-4a junction (E4-E4a), however, complete inhibition of mAb 2B8 by a recombinant peptide comprising the exon 4-5 junction (E4-E5) is observed (Figure A).

The binding of tau protein from cerebrospinal fluid (CSF) is not affected by the presence of peptide E4-E4a; in contrast, the binding of brain derived CSF tau by mAb 2B8 no longer occurs in the presence of the peptide E4-E5 (Figure B).

p50 Tau

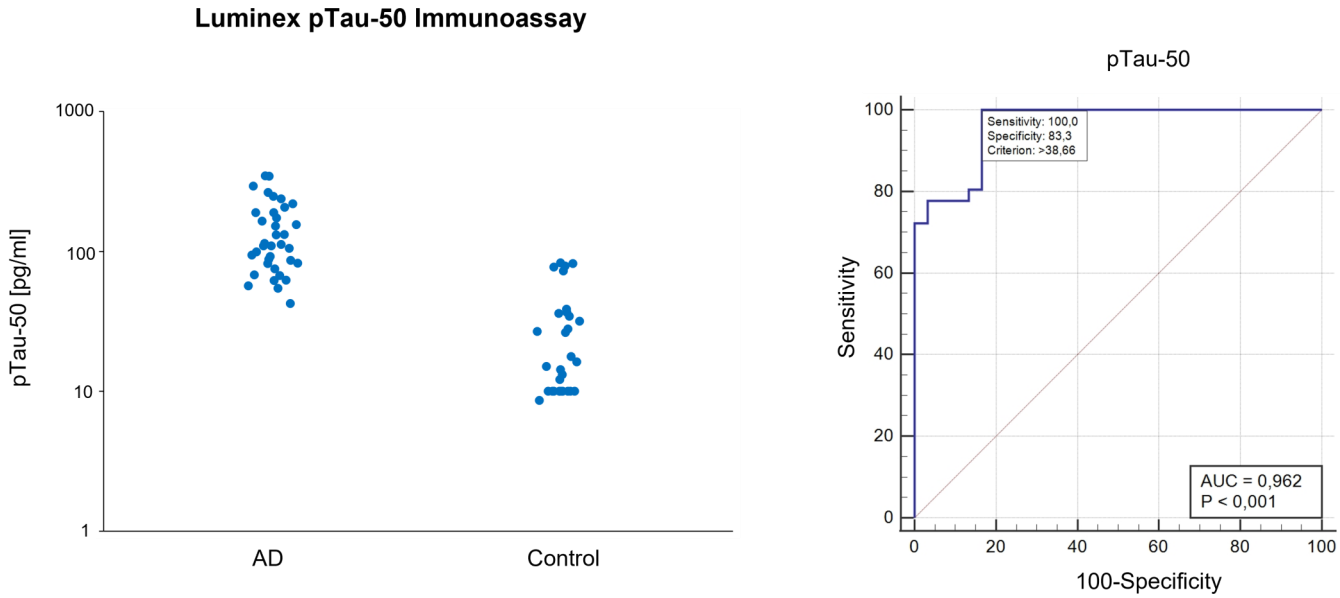
Anti-human phospho-50 TAU mab 15E3

Specificity: human TAU phosphorylated at amino acid position 50 (T)

➔ p50 is a master phosphorylation site

P50-Tau has the potential to distinguish AD from control patients

Analysis of AD (n=29) and Control (n=37) patients by measurement of CSF pTau-50 in a Luminex Immunoassay showed significant differences ($p < 0{,}001$) of phospho50-Tau between groups.



Pre-analytical enrichment of brain-derived Tau from Plasma samples and subsequent measurement of pTau-50 in a Chemiluminescence Immunoassay shows excellent differentiation between Alzheimer (AD, n=8) and Controls (n=7).