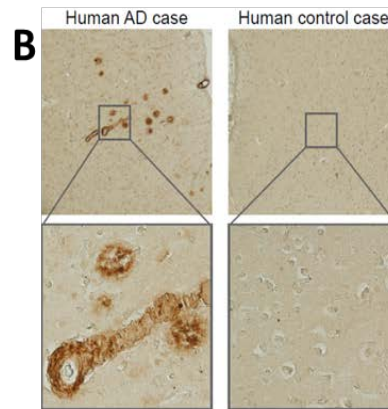
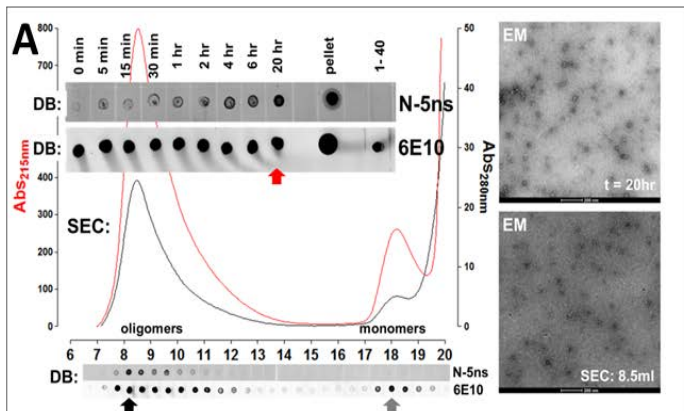


Licensing Opportunity

# Novel Antibody Tools for Targeting Beta-Amyloid Peptide Oligomerization



**A.** A $\beta$  peptide oligomerization monitored by size exclusion chromatography (SEC), electron microscopy (EM) and dotblotting (DB) using a representative novel antibody (N-5ns). A $\beta$  1-42 oligomerization was probed by DB using N-5ns, revealing a time dependent increase in the «N-5ns» positive signal following 20hr in vitro aggregation (red arrow). EM imaging revealed the presence of typical amyloid oligomers of heterogeneous morphologies. A $\beta$  oligomers were subjected to centrifugation and the supernatant containing soluble oligomers were separated from the insoluble pellet containing mainly fibrils. Soluble oligomers were then subjected to SEC purification, which allowed fractionation of oligomers and monomers. The SEC fractions containing oligomers were probed by DB using «N-5ns» and «6E10» (black arrow). The presence of oligomers in the SEC fraction volume 8.5ml, together with the positive DB signal found for «N-5ns» was confirmed by EM imaging. The high selectivity of «N-5ns» for binding specific epitopes present in A $\beta$  oligomers is corroborated by the finding that «N-5ns» does not bind A $\beta$  monomers present in SEC fraction volume 18ml as compared to «6E10» (grey arrow). **B.** Immunohistochemistry staining of amyloid plaques in post-mortem human brain tissue from a patient with Alzheimer's disease (AD) (left) and a control subject (right), using the novel antibody "N-5ns".

Ref. Nr

6.1332

Keywords

Beta-amyloid, oligomer, antibody, Alzheimer.

Intellectual Property

WO2015150322, US and EP patent pending

Publications

Alzheimers Dement. 2016  
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## Description

Amyloid-beta (A $\beta$ ) peptide oligomerization plays a central role in the pathogenesis of Alzheimer's disease (AD). There is a need for diagnostic agents that can detect pre-oligomeric A $\beta$  aggregates prior to the accumulation of large, insoluble A $\beta$  plaques.

Our anti-A $\beta$  peptide antibodies detect new targets associated with **early A $\beta$  fragment seeds** and **small oligomeric entities**.

## Advantages

Antibodies do not bind the soluble, monomeric form of full-length A $\beta$ 1-42 and A $\beta$  1-40.

Antibodies allow binding of specific epitopes present in small A $\beta$  seeds and oligomers.

Antibodies can distinguish between the soluble, monomeric form of A $\beta$  and the toxic oligomeric morphology.

## Status

Validation in-vivo for diagnostic use: Immunoblotting, immunoprecipitation (IP), Immunohistochemistry, ELISA

## Offering

In licensing, collaboration for preclinical to clinical development (diagnostic and therapeutic)

