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Datasheet for 200-401-E88

Amyloid Oligomers (A11) Antibody

Overview

Description:	Anti-Amyloid Oligomers (A11) (RABBIT) Antibody - 200-401-E88
Item No.:	200-401-E88
Size:	100 µL
Applications:	IF, IHC, IP, WB, Other
Reactivity:	Human, Mouse, Rat
Host Species:	Rabbit

Product Details

Background:	Amyloid monomeric proteins can sometimes oligomerize into destructive amyloid fibrils. Amyloidogenic conformations of non-disease related proteins can be created by partial protein misfolding or denaturation. Many degenerative diseases are known to be related to the accumulation of misfolded proteins as amyloid fibers. These include the amyloid-β peptide plaques and tau neurofibrillary tangles in senile plaques of Alzheimer's symptomology, the deposition of α-synuclein in the Lewy bodies of Parkinson's disease, and accumulation of polyglutamine-containing aggregates in Huntington's disease. Anti-Amyloid Oligomers A11 Antibody is useful for researchers interested in Neuroscience research.
Synonyms:	Rabbit Anti-Amyloid Oligomer αβ Antibody, Rabbit Anti-Amyloid Oligomer alpha beta Antibody, Rabbit Anti-Amyloid Oligomers A11 Antibody, Amyloid beta A4 protein, Amyloid Oligomer AlphaBeta Antibody, APP Antibody, ABPP, APPI, Alzheimer disease amyloid protein, Cerebral vascular amyloid peptide, PreA4, Protease nexin-II, A4, AD1
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	APP
Reactivity:	Human, Mouse, Rat
Immunogen Type:	Conjugated Peptide

Immunogen:	Amyloid Oligomers (A11) Antibody was produced from whole rabbit serum prepared by repeated immunizations with synthetic molecular mimic of soluble oligomers.
Purity/Specificity:	Anti-Amyloid Oligomers (A11) Antibody was purified by Protein A chromatography. A BLAST analysis was used to suggest cross-reactivity with Amyloid Oligomers (A11) from Eukaryotes, Human, Mouse, and Rat based on 100% homology with the immunizing sequence. Recognizes all types of amyloid oligomers. Appears to recognize a peptide backbone epitope that is common to amyloid oligomers, but is not found in native proteins, amyloidogenic monomer or mature amyloid fibrils. Cross-reactivity with Amyloid Oligomers (A11) from other sources has not been determined.
Relevant Links:	• NCBI - NM_000484.2 • UniProtKB - P05067 • GeneID - 8666

Application Details

Tested Applications:	IF, IHC, IP, WB
Suggested Applications:	Other (Based on references)
Application Note:	Anti-Amyloid Oligomers (A11) Antibody is tested for use in IP, IF microscopy, IHC, and WB. Specific conditions for reactivity should be optimized by the end user.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	0.1-10 µg/mL
IF:	User Optimized
IHC:	1:1000-10,000
IP:	1:200
WB:	1:200

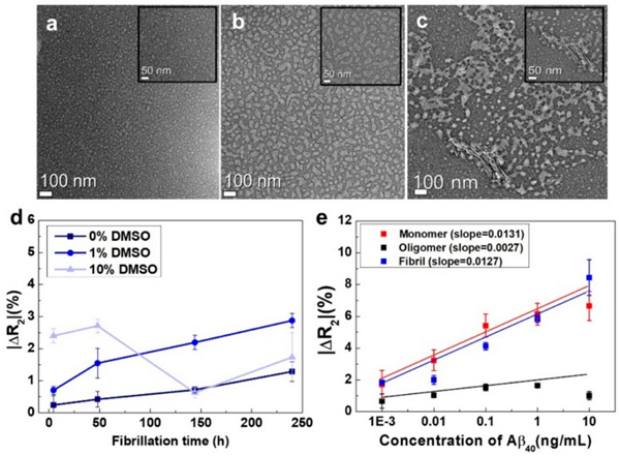
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	n/a Each
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.09% (w/v) Sodium Azide
Stabilizer:	50% (v/v) Glycerol

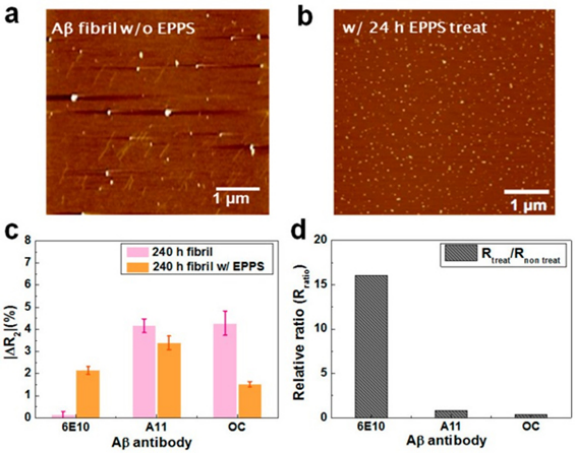
Shipping & Handling

Shipping Condition:	Wet Ice
Storage Condition:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

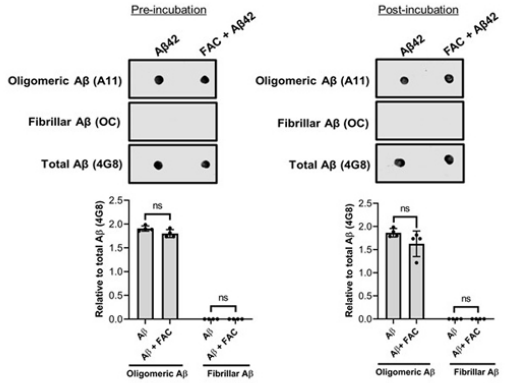
Images



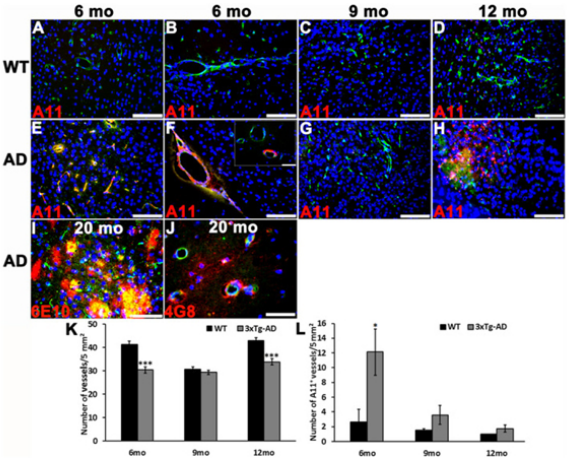
Immunofluorescence Microscopy
(a) Structural characterization of Aβ40 monomers; (b) oligomers; and (c) fibrils by conventional TEM. TEM images were taken from Aβ40 samples with (a) no incubation; (b) incubation at 37 °C for 6 days; and (c) incubation at 37 °C for 10 days; (d) The aggregation characteristics of Aβ40 solutions with different DMSO concentrations. To estimate the extent of Aβ40 aggregation, we employed rGO sensors with OC antibodies, which specifically interacted with the fibrils. The ΔR2 values of the rGO sensors were measured when Aβ40 solutions with different incubation times were added at each DMSO concentration (n = 12); (e) Performance test of the rGO sensors with respect to the concentration of each conformation of Aβ40 (n = 7). Three different types of antibodies as receptors for capturing monomers, oligomers, and fibrils of Aβ40, including monoclonal 6E10 antibodies specific for Aβ sequence 1–16, polyclonal A11 antibodies (p/n 200-401-E88) for Aβ40 oligomers, and polyclonal OC antibodies (p/n 200-401-E87) for Aβ40 fibrils. Fig 3. PMID: 29843431



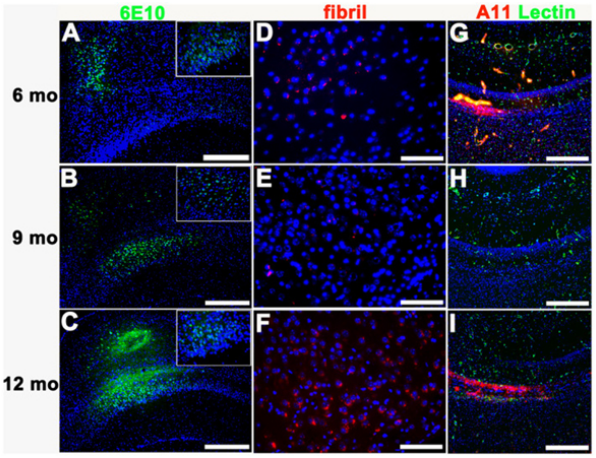
Immunofluorescence Microscopy
(a) Atomic force microscopy (AFM) images of Aβ40 samples incubated for 10 days without or (b) with 4-(2-hydroxyethyl)-1-piperazinepropanesulphonic acid (EPPS) treatment. The Aβ40 solution incubated for 10 days was treated with EPPS for 24 h and then analyzed by AFM. (c) The ΔR2 values of the sensors with respect to EPPS treatment time (no treatment and 24 h); (d) Relative ratios of ΔR2 values for monomers, oligomers, and fibrils. Fig 5. PMID: 29843431



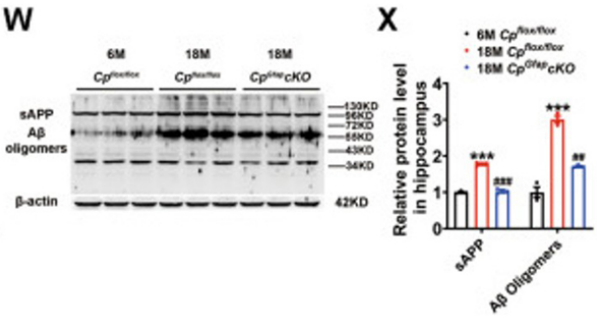
Dot Blot
Effect of 16hr-incubation at 37° C on the conformation of Aβ. 1μM Aβ42 was incubated in cell culture media, with or without 50μM FAC, for 16 hrs. Before and after the incubation, fractions of each solution were used to assess changes in Aβ conformation by dot blot analyses. Primary antibodies A11 (1:1000 dilution), OC (1:1000 dilution) and 4G8 (1:1000 dilution) were used to detect, oligomeric, fibrillar and total Aβ respectively. Two-tailed student's t-test was used to determine the significance of the data. ns denotes no significant difference. Data are represented as mean ± SD from 4 independent experiments (n = 1 incubation per experiment). Figure S2. PMID: 31693761



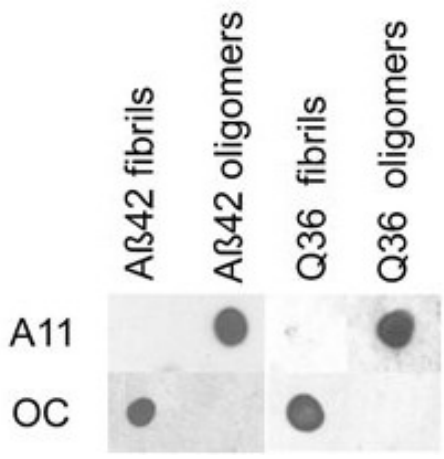
Immunofluorescence Microscopy
The exclusive perivascular accumulation of Aβ in 3xTg mice brains aged 6 mo. (A-H) A11 positive (Red) blood vessels labeled with Lectin (Green) in the cerebral cortex and hippocampus of WT (A-D) and 3xTg (E-H) mice aged 6 mo (A, B and E, F), 9 mo (C and G) and 12 mo (D and H). (I-J) Aβ plague stained with 6E10 (I) antibody (Red) and cerebrovascular aggregated Aβ (CAA) marked with 4G8 (J) antibody (Red) in 20 mo of AD mice brain. A11 antibody was used to stain the high molecular weight Aβ oligomers. Blue, Hoechst 33342 stained nuclear. Scale bar, 20 μm. (K) Capillary density of WT and AD (3xTg-AD) mice. (L) Quantitative analysis for the number of A11+ vessels in WT and AD brains. Error bars = SEM; *P < 0.05, ***P < 0.001, Student's t test. n = 5 animals/group. Fig 1. PMID: 31206909



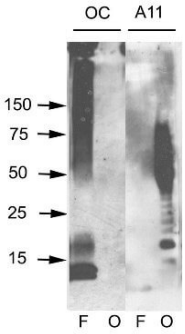
Immunofluorescence Microscopy
Various expression pattern of Aβ using different antibodies in AD mice brain. (A-C) The cerebral cortex and hippocampus sections from 3xTg-AD mice were stained by 6E10 (Green) at the ages of 6 mo (A), 9 mo (B), and 12 mo (C). The rectangle shows the magnified area of the hippocampus CA1 regions. (D-F) The hippocampus areas stained by anti-Aβ fibril antibodies (Red) at the ages of 6 mo (D), 9 mo (E), and 12 mo (F). (G-I) The high molecular weight Aβ oligomers in CA1 regions of hippocampus areas were stained with A11 antibody at the ages of 6 mo (G), 9 mo (H), and 12 mo (I). Green, Lectin labeled blood vessels; Blue, Hoechst 33342 stained nuclear. Scale bar, 50 μm in A-C and G-I, 10 μm in D-F. Fig 4. PMID: 31206909



Western Blot
W-X: Soluble APP (sAPP) and Aβ oligomer levels were evaluated by western blot analysis in the hippocampus (W). Quantification of the sAPP and Aβ oligomer (X) levels in the hippocampus from the image in panel W. (n = 3 per group; ***p < 0.001, 6 M Cpflox/flox vs. 18 M Cpflox/flox; ##p < 0.01, ###p < 0.001, 18 M CpGfapcKO vs. 18 M Cpflox/flox). Fig 7. PMID: 36443285



Dot Blot
Dot Blot of Rabbit Amyloid Oligomers (A11) antibody. Antigen: Aβ42 and polyQ36 prefibrillar oligomers and fibrils. Load: 2ug per dot. Primary antibody: Top row: Amyloid Oligomers (A11) or bottom row: Amyloid Fibrils (OC) at 1:400 for 45 min at 4°C. Secondary Antibody: Goat anti-rabbit IgG HRP at 1:10,000 for 45 min at RT. Block: 5% Blotto overnight at 4°C. Amyloid Oligomers (A11) reacts to Aβ42 oligomers and polyQ36 prefibrillar oligomers only.



Western Blot
Western Blot of rabbit Anti-Amyloid Oligomers Antibody. Lane 1 and 3: (F) Fibrils. Lane 2 and 4: (O) prefibrillar oligomers. Load: 10ug per lane. Primary antibody: Anti-Amyloid Fibrils or Anti-Oligomers at 1:1000 for overnight at 4°C . Secondary antibody: Goat anti-rabbit IgG HRP antibody at 1:40,000 for 45 min at RT. Block: 5% Blotto overnight at 4°C. Predicted/Observed size: 18kDa on right blot (A11) in lane four.

References

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