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Datasheet for 200-401-E87

Amyloid Fibrils (OC) Antibody

Overview

Description:	Anti-Amyloid Fibrils (OC) (RABBIT) Antibody - 200-401-E87
Item No.:	200-401-E87
Size:	100 µL
Applications:	IF, IHC, IP, WB, Other
Reactivity:	Human
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.
Synonyms:	Amyloid OC, Fibrils, Amyloid Oligomer αβ, A11, Amyloid beta A4 protein, ABPP, APPI, Alzheimer disease amyloid protein, Cerebral vascular amyloid peptide, PreA4, Protease nexin-II, APP, A4, AD1
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	APP
Reactivity:	Human
Immunogen Type:	Conjugated Peptide
Immunogen:	Amyloid Fibrils (OC) Antibody was produced from whole rabbit serum prepared by repeated immunizations with fibrils prepared from human Aβ42 synthetic peptide.

Purity/Specificity:	Anti-Amyloid Fibrils (OC) Antibody was purified by Protein A chromatography. A BLAST analysis was used to suggest cross-reactivity with Amyloid Fibrils (OC) from Human based on 100% homology with the immunizing sequence. Expected to detect in mouse and rat based on species homology. Recognizes generic epitopes common to many amyloid fibrils and fibrillar oligomers, but not prefibrilllar oligomers or natively folded proteins. Cross-reactivity with Amyloid Fibrils (OC) from other sources has not been determined. Neuroscience research.
Relevant Links:	• UniProtKB - P05067

Application Details

Tested Applications:	IF, IHC, IP, WB
Suggested Applications:	Other (Based on references)
Application Note:	Anti-Amyloid Fibrils (OC) 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:	1:200
IHC:	User Optimized
IP:	User Optimized
WB:	1:1000

Formulation

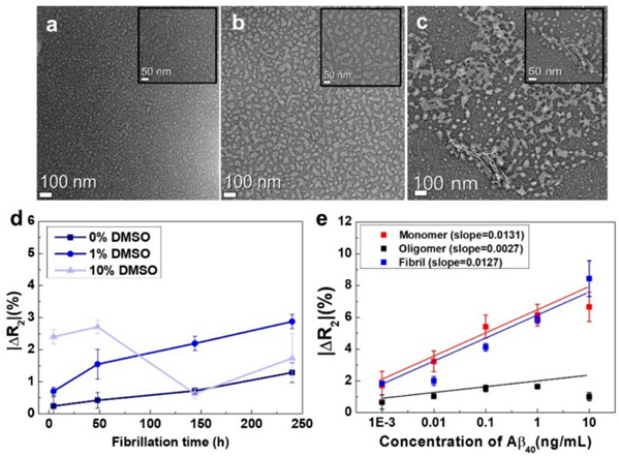
Physical State:	Liquid (sterile filtered)
Concentration:	neat by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.09% (w/v) Sodium Azide
Stabilizer:	50% (v/v) Glycerol

Shipping & Handling

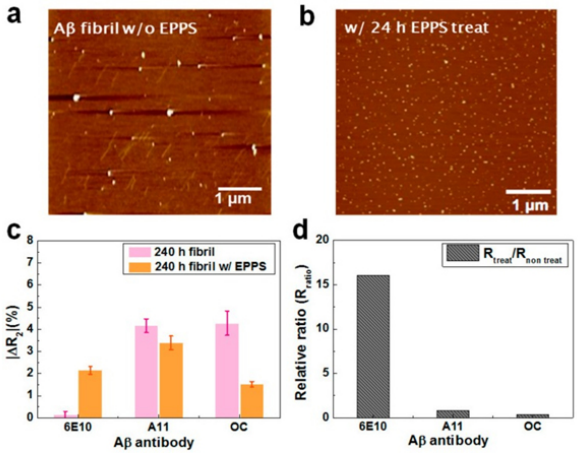
Shipping Condition:	Wet Ice

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.

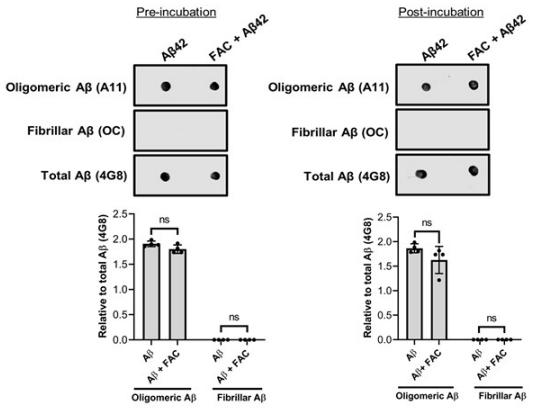
Images



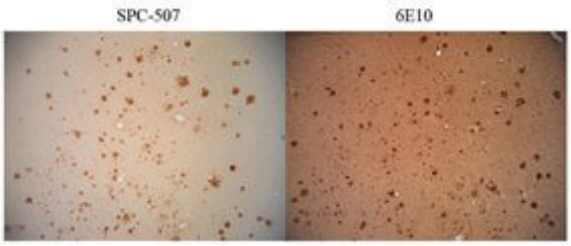
Immunofluorescence Microscopy
(a) Structural characterization of Aβ40 monomers; (b) oligomers; and (c) fibrils by conventional TEM. TEM images were taken from Aβ40 samples with (a) no incubation; (b) incubation at 37 °C for 6 days; and (c) incubation at 37 °C for 10 days; (d) The aggregation characteristics 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



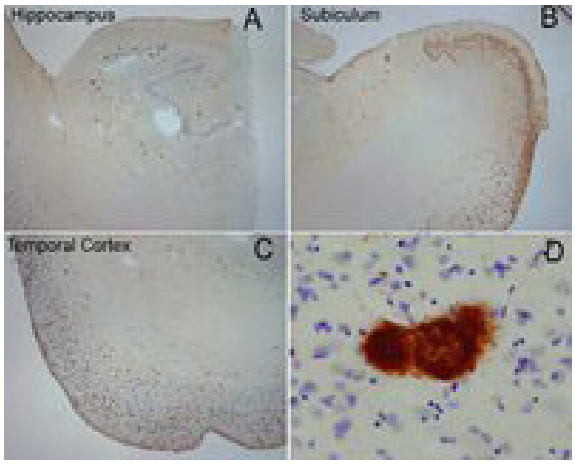
Immunofluorescence Microscopy
(a) Atomic force microscopy (AFM) images of Aβ40 samples incubated for 10 days without or (b) with 4-(2-hydroxyethyl)-1-piperazinepropanesulphonic acid (EPPS) treatment. The Aβ40 solution incubated for 10 days was treated with EPPS for 24 h and then analyzed by AFM. (c) 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. 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 5. PMID: 29843431



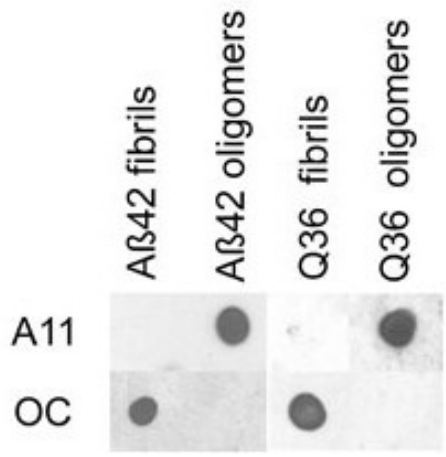
Dot Blot
Effect of 16hr-incubation at 37° C on the conformation of Aβ. 1μM Aβ42 was incubated in cell culture media, with or without 50μM FAC, for 16 hrs. Before and after the incubation, fractions of each solution were used to assess changes in Aβ conformation by dot blot analyses. Primary antibodies 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). Polyclonal A11 antibodies (p/n 200-401-E88) for Aβ40 oligomers, and polyclonal OC antibodies (p/n 200-401-E87) for Aβ40 fibrils.
Figure S2. PMID: 31693761



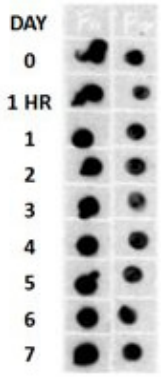
Immunohistochemistry
Immunohistochemistry of Rabbit anti-Amyloid Fibrils antibody. Tissue: Human AD Brain. Fixation: N/A. Primary Antibody: (Left) Amyloid Fibril antibody, (Right) Monoclonal 6E10 at 1ug/ml for 1h at RT. Secondary antibody: Peroxidase rabbit secondary at 1:10,000 for 45 min at RT. Localization: Membrane. Staining: (Left) Amyloid Fibrils as precipiated brown signal with no cross reactivity with Amyloid Precursor Protein (APP), (right) considerable cross reactivity.



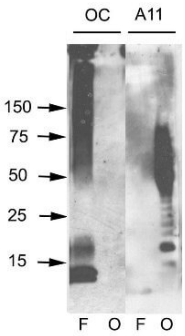
Immunohistochemistry
Immunohistochemistry of Rabbit anti-Amyloid Fibrils antibody. Tissue: (A) hippocampus, (B) subiculum, (C) temporal cortex, and (D) dense and fine fibrillar material. Fixation: N/A. Primary Antibody: Amyloid Fibrils antibody at 1ug/ml for 1h at RT. Secondary antibody: Peroxidase rabbit secondary at 1:10,000 for 45 min at RT. Localization: Membrane. Staining: Amyloid Fibrils as precipitated brown signal with hematoxylin purple nuclear counterstain.



Dot Blot
Dot Blot of Rabbit Amyloid Fibrils (OC) 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 Fibrils (OC) reacts to Aβ42 fibrils and polyQ36 fibrils only.



Dot Blot
Dot Blot of Rabbit anti-Amyloid Fibrils antibody. Antigen: Beta Amyloid HEPES-NaCl aggregation. Primary antibody: Amyloid Fibrils antibody at 1:500 (lane 1) and 1:5000 (lane 2) for 45 min at 4°C. Secondary antibody: Peroxidase rabbit Secondary antibody at 1:10,000 time lapse. Block: 5% BLOTTO overnight at 4°C.



Western Blot
Western Blot of rabbit Anti-Amyloid Fibrils Antibody. Lane 1 and 3: (F) Fibrils. Lane 2 and 4: (O) prefibrillar oligomers. Load: 10 ug 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 left blot (OC) in lane one.

References

- Lee D. et al. Plasmonic nanoparticle amyloid corona for screening Aβ oligomeric aggregate-degrading drugs. *Nat Commun.* (2021)
- Nnah IC et al. Iron potentiates microglial interleukin-1β secretion induced by amyloid-β. *J Neurochem.* (2020)
- Jeong D et al. Multifunctionalized Reduced Graphene Oxide Biosensors for Simultaneous Monitoring of Structural Changes in Amyloid-β 40. *Sensors (Basel).* (2018)

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