

Anti-Beta Amyloid APP Antibody

Catalog Number: A00081-2

About APP

Beta amyloid, often abbreviated as A-beta, is a protein that builds up in the brains of persons with Alzheimer's disease, collecting in clumps called plaques or senile plaques. While some researchers question whether beta amyloid is the cause of the dementia, most agree that it is involved in the disruption of thinking that is a hallmark of the disease. In some cases of familial Alzheimer's disease, mutations in genes for the proteins called the presenilins lead to increased production of amyloid. Researchers have been looking at how presenilin-1 in particular contributes to the excess buildup of beta amyloid. Presenilin-1 apparently acts to increase the activity of gamma-secretase, an enzyme that changes a normal protein (amyloid precursor protein or APP) into beta amyloid itself. Furthermore, presenilin-1 might be gamma-secretase. Anti-Beta Amyloid Antibody is useful for researchers interested in TLR signaling and Alzheimer's research.

Overview

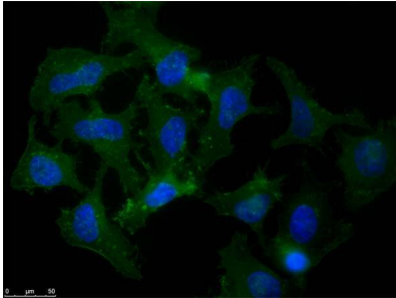
Product Name	Anti-Beta Amyloid APP Antibody
Reactive Species	Human, Mouse
Description	Boster Bio Anti-Beta Amyloid APP Antibody (Catalog # A00081-2). Tested in ELISA, IF, IHC, WB applications. This antibody reacts with Human, Mouse.
Application	ELISA, IF, IHC, WB
Clonality	Polyclonal
Formulation	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2, 0.01% (w/v) Sodium Azide
Storage Instructions	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 date is one (1) year from date of opening. (Ship on dry ice.)
Host	Rabbit
Uniprot ID	P05067

Technical Details

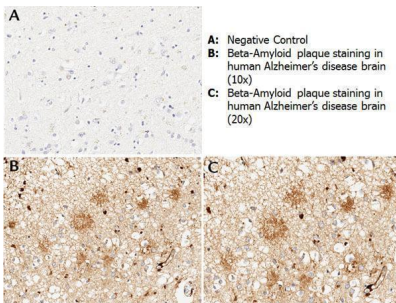
Immunogen	This antibody was affinity purified from whole rabbit serum prepared by repeated immunizations with a synthetic peptide corresponding to an extracellular region of human beta amyloid conjugated to KLH using maleimide.
Predicted Reactive Species	Canine, Monkey
Cross Reactivity	No cross reactivity with other proteins.
Isotype	IgG

Form	Liquid (sterile filtered)
Concentration	1.1 mg/ml by UV absorbance at 280 nm
Purification	This affinity purified antibody is directed against extracellular region of beta amyloid and is useful in determining its presence in various assays. Polyclonal anti-beta amyloid detects human and mouse beta amyloid. Blast analysis of the sequence of the immunogen shows 100% identity with Human, Guinea Pig, Pig, Cyno Monkey, Dog, Polar Bear, Rabbit, Chimp, Squirrel monkey, and Sheep. Cross-reactivity with beta amyloid from other species is likely but has not been determined.
Suggested Dilutions	<p>ELISA: 1:10,000 - 1:30,000 IHC: 1:50-1:200 IF Microscopy: 1:50-1:200 WB: 1:1,000-1:5000</p> <p>Affinity purified anti-beta amyloid has been tested by ELISA, IHC, WB, and IF. A 45.8kDa band is detected in western blot using whole tissue extracts and lysates from mouse and human. In general, we recommend the use of 4% PFA or 10% formalin for fixation of tissues with IHC-paraffin or IHC-frozen application of this antibody.</p>

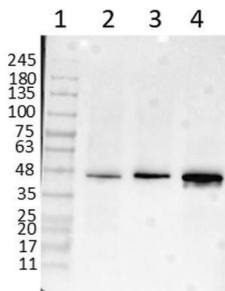
Anti-Beta Amyloid APP Antibody (A00081-2) Images



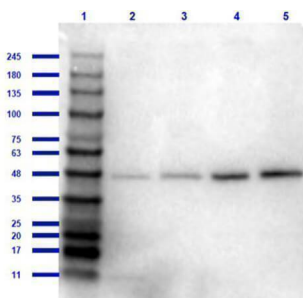
Immunofluorescence microscopy of Rabbit Anti-Beta Amyloid antibody using HeLa cells fixed with MeOH. Anti-Beta Amyloid Antibody was used at 1 $\mu\text{g}/\text{mL}$, O/N at 4°C. Secondary antibody: Anti-RABBIT IgG DyLight™ 488 Conjugated Preadsorbed at 2 $\mu\text{g}/\text{ml}$ for 1 h at RT. Localization: APP is a cell surface protein that rapidly becomes internalized to endosomes and lysosomes. Some APP accumulates in secretory transport vesicles. Colocalizes with other proteins in a vesicular pattern in cytoplasm and perinuclear regions. Staining: Amyloid beta as green fluorescent signal with DAPI (blue) nuclear counterstain.



Immunohistochemistry with anti-beta amyloid antibody showing amyloid beta plaque staining in human Alzheimer's disease brain at 10x and 20x (B & C). Staining was performed on Leica Bond system using the standard protocol. Formalin fixed/paraffin embedded tissue sections were subjected to antigen retrieval with E1 (Leica Microsystems) retrieval solution for 20 min and then incubated with rabbit anti-beta amyloid antibody 600-401-253 at 1:100 dilution for 60 minutes. Biotinylated Anti-rabbit secondary antibody was used at 1:200 dilution to detect primary antibody. The reaction was developed using streptavidin-HRP conjugated compact polymer system and visualized with chromogen substrate, 3'3-diamino-benzidine substrate (DAB). The sections were then counterstained with hematoxylin to detect cell nuclei.

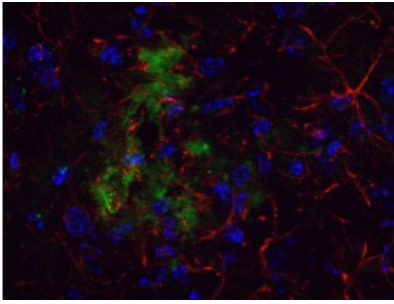


Western Blot of Rabbit Anti-Beta Amyloid Antibody. Lane 1: Opal Prestained Molecular Weight Marker . Lane 2: HEK293T Whole Cell Lysate . Lane 3: Mouse Brain Whole Cell Lysate . Lane 4: A-172 Whole Cell Lysate . Load: 10 $\mu\text{g}/\text{lane}$. Primary Antibody: Anti-Beta Amyloid at 1 $\mu\text{g}/\text{mL}$ overnight at 2-8°C. Secondary Antibody: Goat Anti-Rabbit IgG HRP Conjugated at 1:70,000 for 30min at RT. Block: BlockOut Buffer . Predicted MW: ~40-50kDa. Observed MW: ~48kDa.

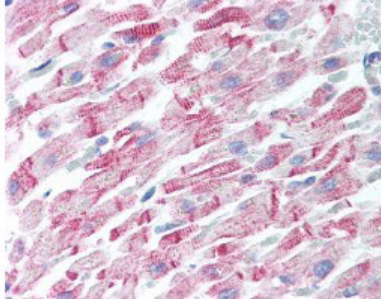


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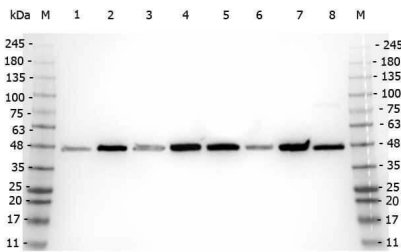
Immunohistochemical detection of beta Amyloid using Anti-Beta Amyloid Antibody on TG APP23 mouse brain cortex



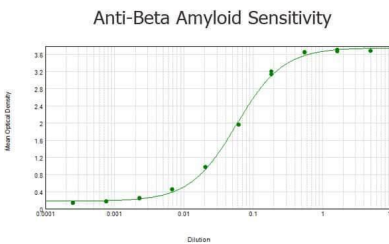
frozen sections. Anti-Beta Amyloid Antibody used at 1:200 and incubated for 2 hours in TBS/BSA with Tween and azide. Fluorescent labelled anti rabbit IgG was then added. Carl Hobbs, King`s College London, United Kingdom.



Human Heart (formalin-fixed, paraffin-embedded) stained with Anti-Beta Amyloid Antibody at 5 ug/ml followed by biotinylated goat anti-rabbit IgG secondary antibody, alkaline phosphatase-streptavidin and chromogen.



Western Blot of Rabbit anti-Beta Amyloid antibody. Marker: Opal Pre-stained ladder . Lane 1: HEK293 lysate . Lane 2: HeLa Lysate . Lane 3: MCF-7 Lysate . Lane 4: Jurkat Lysate . Lane 5: A431 Lysate . Lane 6: LNCaP Lysate . Lane 7: A-172 Lysate . Lane 8: NIH/3T3 Lysate . Load: 35 µg per lane. Primary antibody: Beta Amyloid antibody at 1:5,000 for overnight at 4°C. Secondary antibody: Peroxidase rabbit secondary antibody at 1:30,000 for 60 min at RT. Blocking Buffer: 1% Casein-TTBS for 30 min at RT. Predicted MW: ~40-50 kDa. Observed size: ~48 kDa for Beta Amyloid.



ELISA results of purified Rabbit anti-Beta Amyloid Antibody tested against BSA-conjugated peptide of immunizing peptide. Each well was coated in duplicate with 0.1µg of conjugate. The starting dilution of antibody was 5ug/ml and the X-axis represents the Log10 of a 3-fold dilution. This titration is a 4-parameter curve fit where the IC50 is defined as the titer of the antibody. Assay performed using 3% fish gel, Goat anti-Rabbit IgG Antibody Peroxidase Conjugated (Min X Bv Ch Gt GP Ham Hs Hu Ms Rt & Sh Serum Proteins) and TMB ELISA Peroxidase Substrate .

3 Publications Citing This Product

1. PubMed ID: -, Ou Qiao,Xinyu Zhang,Yi Zhang et al.Cerebralcare Granule® enhances memantine hydrochloride efficacy in APP/PS1 mice by ameliorating amyloid pathology and cognitive functions,08 April 2021,PREPRINT (Version 1) available at Research Square [https://doi.org/10.21203/rs.3.rs-366097/v1]
2. PubMed ID: 26459718, Anti-autophagic and anti-apoptotic effects of memantine in a SH-SY5Y cell model of Alzheimer's disease via mammalian target of rapamycin-dependent and -independent pathways
3. PubMed ID: 29163135, Kuang X, Zhou HJ, Thorne AH, Chen XN, Li LJ, Du JR. Front Aging Neurosci. 2017 Nov 2;9:353. doi: 10.3389/fnagi.2017.00353. eCollection 2017. Neuroprotective Effect of Ligustilide through Induction of alpha-Secretase Processing of Both APP

and Klotho i...

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