abcam

Product datasheet

Anti-Presenilin 2/AD5 antibody [EP1515Y] ab51249

Recombinant RabMAb

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Overview

Product name	Anti-Presenilin 2/AD5 antibody [EP1515Y]
Description	Rabbit monoclonal [EP1515Y] to Presenilin 2/AD5
Host species	Rabbit
Specificity	The mouse and rat recommendation is based on the WB results. We do not guarantee IHC-P for mouse and rat.
Tested applications	**Suitable for:** Flow Cyt (Intra), WB, IHC-P, IP, ICC/IF
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Synthetic peptide within Human Presenilin 2/AD5 aa 300-400 (C terminal). The exact sequence is proprietary.
Positive control	WB: HeLa, HepG2, C2C12, C6, and Neuro-2a lysates; IHC-P: Human cerebrum tissue; ICC/IF: PC-12 cells; Flow Cyt (intra): HeLa cells; IP: HeLa and PC-12 cell lysates.
General notes	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal

Clone number	EP1515Y
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab51249 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Flow Cyt (Intra)		1/50.
WB	★★★★★ (4)	1/20000. Detects a band of approximately 23 kDa (predicted molecular weight: 50 kDa).
IHC-P	★★★★★ (1)	1/500. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol. See **IHC antigen retrieval protocols**. The mouse and rat recommendation is based on the WB results. We do not guarantee IHC-P for mouse and rat.
IP	★★★★★ (1)	1/20.
ICC/IF		1/50 - 1/250.

Target

Function Probable catalytic subunit of the gamma-secretase complex, an endoprotease complex that catalyzes the intramembrane cleavage of integral membrane proteins such as Notch receptors and APP (beta-amyloid precursor protein). Requires the other members of the gamma-secretase complex to have a protease activity. May play a role in intracellular signaling and gene expression or in linking chromatin to the nuclear membrane. May function in the cytoplasmic partitioning of proteins.

Tissue specificity Isoform 1 is seen in the placenta, skeletal muscle and heart while isoform 2 is seen in the heart, brain, placenta, liver, skeletal muscle and kidney.

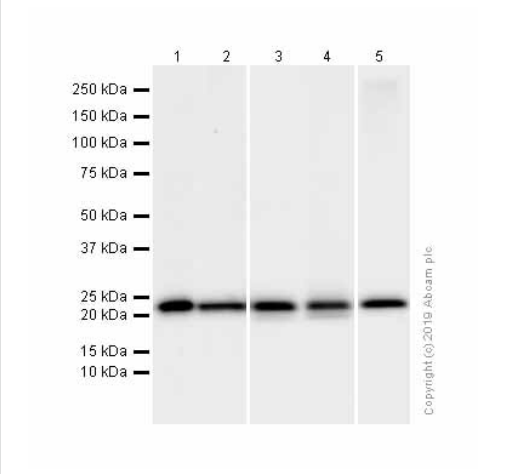
Involvement in disease Defects in PSEN2 are the cause of Alzheimer disease type 4 (AD4) [MIM:606889]. AD is an autosomal dominant Alzheimer disease. Alzheimer disease is a neurodegenerative disorder characterized by progressive dementia, loss of cognitive abilities, and deposition of fibrillar amyloid proteins as intraneuronal neurofibrillary tangles, extracellular amyloid plaques and vascular amyloid deposits. The major constituent of these plaques is the neurotoxic amyloid-beta-APP 40-42 peptide (s), derived proteolytically from the transmembrane precursor protein APP by sequential secretase processing. The cytotoxic C-terminal fragments (CTFs) and the caspase-cleaved products such as C31 derived from APP, are also implicated in neuronal death.
Defects in PSEN2 are the cause of cardiomyopathy dilated type 1V (CMD1V) [MIM:613697]. It is a disorder characterized by ventricular dilation and impaired systolic function, resulting in congestive heart failure and arrhythmia. Patients are at risk of premature death.

Sequence similarities Belongs to the peptidase A22A family.

Domain The PAL motif is required for normal active site conformation.

Post-translational modifications	Heterogeneous proteolytic processing generates N-terminal and C-terminal fragments. Phosphorylated on serine residues.
Cellular localization	Endoplasmic reticulum membrane. Golgi apparatus membrane.

Images



Western blot - Anti-Presenilin 2/AD5 antibody [EP1515Y] (ab51249)

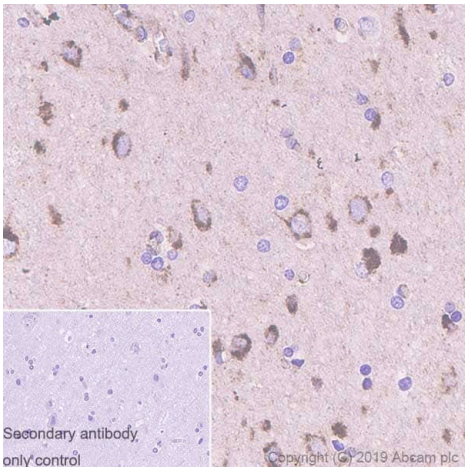
All lanes : Anti-Presenilin 2/AD5 antibody [EP1515Y] (ab51249) at 1/20000 dilution (Purified)

Lane 1 : HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysates
Lane 2 : HepG2 (Human hepatocellular carcinoma epithelial cell) whole cell lysates
Lane 3 : C2C12 (Mouse myoblasts myoblast) whole cell lysates
Lane 4 : C6 (Rat glial tumor glial cell) whole cell lysates
Lane 5 : Neuro-2a (Mouse neuroblastoma neuroblast) whole cell lysates

Lysates/proteins at 20 µg per lane.

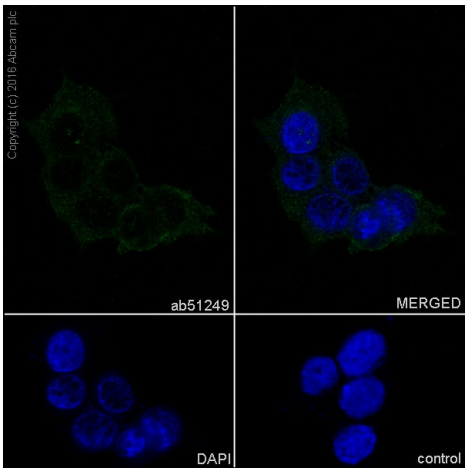
Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution

Predicted band size: 50 kDa
Observed band size: 23 kDa



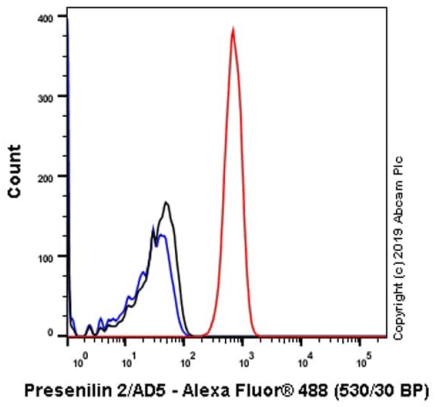
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Presenilin 2/AD5 antibody [EP1515Y] (ab51249)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human cerebrum tissue sections labeling Presenilin 2/AD5 with purified ab51249 at 1/500 dilution (0.51 µg/ml). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (**ab209101**) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



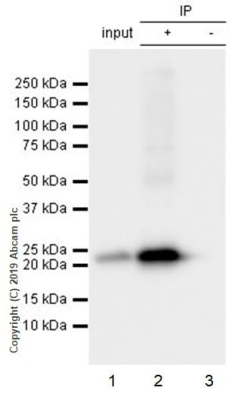
Immunocytochemistry/ Immunofluorescence - Anti-Presenilin 2/AD5 antibody [EP1515Y] (ab51249)

Immunocytochemistry/ Immunofluorescence analysis of PC-12 (Rat adrenal gland pheochromocytoma) cells labeling Presenilin 2/AD5 with purified ab51249 at 1/50 dilution (5 µg/ml). Cells were fixed in 100% Methanol and permeabilized with None. Cells were counterstained with Ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, **ab150077**) was used as the secondary antibody at 1/1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



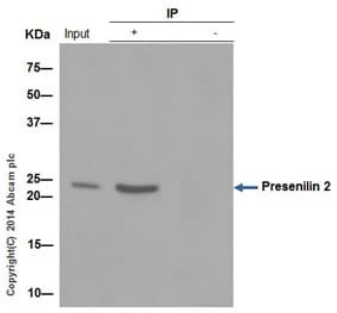
Flow Cytometry (Intracellular) - Anti-Presenilin 2/AD5 antibody [EP1515Y] (ab51249)

Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling Presenilin 2/AD5 with purified ab51249 at 1/50 dilution (5 µg/ml) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluor® 488, **ab150077**) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunoprecipitation - Anti-Presenilin 2/AD5 antibody [EP1515Y] (ab51249)

ab51249 (purified) at 1/20 dilution (1ug) immunoprecipitating Presenilin 2/AD5 in HeLa whole cell lysate.
Lane 1 (input): HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate 10ug
Lane 2 (+): ab51249 & HeLa whole cell lysate
Lane 3 (-): Rabbit monoclonal IgG (**ab172730**) instead of ab51249 in HeLa whole cell lysate
For western blotting, VeriBlot for IP Detection Reagent (HRP) (**ab131366**) was used at 1/1000 dilution.
Blocking and diluting buffer: 5% NFDM/TBST.



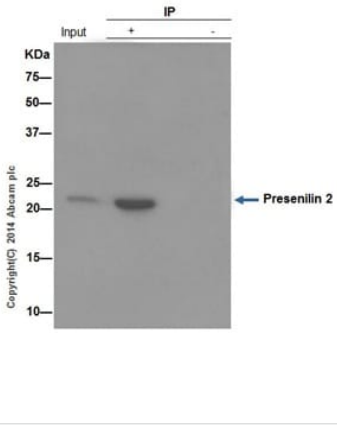
Immunoprecipitation - Anti-Presenilin 2/AD5 antibody [EP1515Y] (ab51249)

Presenilin was immunoprecipitated from 1 mg of HeLa whole cell extract with unpurified ab51249 at 1/50 dilution. Western blot was performed from the immunoprecipitate using ab51249 at 1/5000 dilution. Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG, was used as secondary antibody at 1/1500 dilution.

Input: HeLa whole cell extract 10 µg.

IP (+): ab51249 IP in HeLa whole cell extract.

IP (-): Rabbit monoclonal IgG (**ab172730**) instead of ab51249 in HeLa whole cell extract.
Blocking and dilution buffer and concentration: 5% NFDM/TBST.



Immunoprecipitation - Anti-Presenilin 2/AD5 antibody [EP1515Y] (ab51249)

Presenilin was immunoprecipitated from 1 mg of PC-12 (rat adrenal gland pheochromocytoma) whole cell extract with unpurified ab51249 at 1/50 dilution. Western blot was performed from the immunoprecipitate using ab51249 at 1/5000 dilution. Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG, was used as secondary antibody at 1/1500 dilution.

Input: PC-12 whole cell extract 10 µg.

IP (+): ab51249 IP in PC-12 whole cell extract.

IP (-): Rabbit monoclonal IgG (**ab172730**) instead of ab51249 in PC-12 whole cell extract.
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

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