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BACE1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7774b

Product Information

Application	WB, IHC-P, E
Primary Accession	P56817
Other Accession	P56819, P56818, Q2HJ40
Reactivity	Human, Mouse
Predicted	Bovine, Rat, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	55764
Antigen Region	38-70

Additional Information

Gene ID	23621
Other Names	Beta-secretase 1, Aspartyl protease 2, ASP2, Asp 2, Beta-site amyloid precursor protein cleaving enzyme 1, Beta-site APP cleaving enzyme 1, Memapsin-2, Membrane-associated aspartic protease 2, BACE1, BACE, KIAA1149
Target/Specificity	This BACE1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 38-70 amino acids from the N-terminal region of human BACE1.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	BACE1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	BACE1 (HGNC:933)
Synonyms	BACE, KIAA1149

Function	Responsible for the proteolytic processing of the amyloid precursor protein (APP). Cleaves at the N-terminus of the A-beta peptide sequence, between residues 671 and 672 of APP, leads to the generation and extracellular release of beta-cleaved soluble APP, and a corresponding cell-associated C-terminal fragment which is later released by gamma-secretase (PubMed:10656250, PubMed:10677483, PubMed:20354142). Cleaves CHL1 (By similarity).
Cellular Location	Cell membrane; Single-pass type I membrane protein Golgi apparatus, trans-Golgi network. Endoplasmic reticulum. Endosome. Cell surface. Cytoplasmic vesicle membrane; Single-pass type I membrane protein. Membrane raft {ECO:0000250|UniProtKB:P56818}. Lysosome. Late endosome. Early endosome. Recycling endosome. Cell projection, axon {ECO:0000250|UniProtKB:P56818}. Cell projection, dendrite {ECO:0000250|UniProtKB:P56818}. Note=Predominantly localized to the later Golgi/trans-Golgi network (TGN) and minimally detectable in the early Golgi compartments. A small portion is also found in the endoplasmic reticulum, endosomes and on the cell surface (PubMed:11466313, PubMed:17425515). Colocalization with APP in early endosomes is due to addition of bisecting N-acetylglucosamine which blocks targeting to late endosomes and lysosomes (By similarity) Retrogradly transported from endosomal compartments to the trans-Golgi network in a phosphorylation- and GGA1- dependent manner (PubMed:15886016). {ECO:0000250|UniProtKB:P56818, ECO:0000269|PubMed:11466313, ECO:0000269|PubMed:15886016, ECO:0000269|PubMed:17425515}
Tissue Location	Expressed at high levels in the brain and pancreas. In the brain, expression is highest in the substantia nigra, locus coruleus and medulla oblongata.

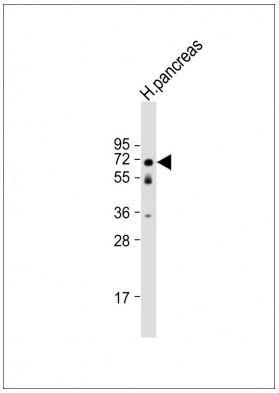
Background

Cerebral deposition of amyloid beta peptide is an early and critical feature of Alzheimer's disease. Amyloid beta peptide is generated by proteolytic cleavage of amyloid precursor protein (APP) by two proteases, one of which is BACE. This protein, a member of the peptidase A1 protein family, is a type I integral membrane glycoprotein and aspartic protease that is found mainly in the Golgi.

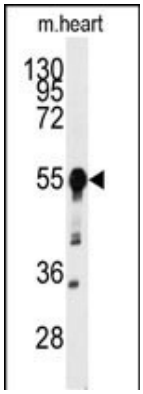
References

Xie, J., et al., J. Biol. Chem. 280(14):13824-13832 (2005).
He, X., et al., J. Biol. Chem. 280(12):11696-11703 (2005).
Huang, X.P., et al., J. Biol. Chem. 279(36):37886-37894 (2004).
Chiocco, M.J., et al., J. Biol. Chem. 279(50):52535-52542 (2004).
Yang, H.C., et al., J. Neurochem. 91(6):1249-1259 (2004).

Images



Anti-BACE1 Antibody (N-term) at 1:1000 dilution + human pancreas lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 56 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot analysis of anti-BACE1 Antibody (N-term) (Cat.#AP7774b) in mouse heart tissue lysates (35ug/lane). BACE1(arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human brain tissue reacted with BACE1 antibody (N-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

Citations

- A novel rhamnoside derivative PL402 up-regulates matrix metalloproteinase 3/9 to promote Aβ degradation and alleviates Alzheimer's-like pathology
- Nicotine decreases beta-amyloid through regulating BACE1 transcription in SH-EP1- □±4 □²2 nAChR-APP695 cells.
- Traditional Chinese Nootropic Medicine Radix Polygalae and Its Active Constituent Onjisaponin B Reduce β-Amyloid Production and Improve Cognitive Impairments.
- Dopamine D2 receptor and β-arrestin 2 mediate Amyloid-β elevation induced by anti-parkinson's disease drugs, levodopa and piribedil, in neuronal cells.
- An Anti-Parkinson's Disease Drug via Targeting Adenosine A2A Receptor Enhances Amyloid-β Generation and γ-Secretase Activity.

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