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BACE Antibody
Catalog # ASC10099

Specification

BACE Antibody - Product Information

Application	**WB**
Primary Accession	P56817
Other Accession	AF190725, 23621
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Calculated MW	**70 kDa KDa**
Application Notes	**BACE can be used for detection of BACE by Western blot at 1 µg/mL. Antibody can also be used for immunocytochemistry starting at 10 µg/mL and immunohistochemistry starting at 2.5 µg/mL. For immunofluorescence start at 20 µg/mL.**

BACE Antibody - Additional Information

Gene ID **23621**

Other Names
BACE Antibody: ASP2, BACE, HSPC104, KIAA1149, Beta-secretase 1, Aspartyl protease 2, ASP2, beta-site APP-cleaving enzyme 1

Target/Specificity
BACE antibody was raised against a peptide corresponding to 17 amino acids at the carboxy terminus of human BACE.

The immunogen is located within the last 50 amino acids of BACE.

Reconstitution & Storage
BACE antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions
BACE Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

BACE Antibody - 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 wich 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.

BACE Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

BACE Antibody - Images

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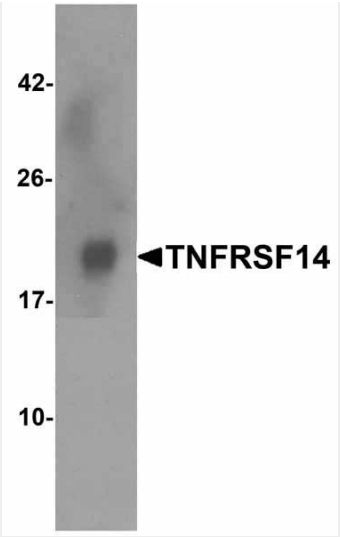

Western blot analysis of 125 ng of TNFRSF14 with TNFRSF14 antibody at 1 µg/mL.

BACE Antibody - Background

BACE Antibody: Accumulation of the amyloid-beta (Abeta) plaque in the cerebral cortex is a critical event in the pathogenesis of Alzheimer's disease. Abeta peptide is generated by proteolytic cleavage of the beta-amyloid protein precursor (APP) at beta- and gamma-sites by two proteases. APP is first cleaved by beta-secretase, producing a soluble derivative of the protein and a membrane anchored 99-amino acid carboxy-terminal fragment (C99). The C99 fragment serves as substrate for gamma-secretase to generate the 4 kDa amyloid-beta peptide, which is deposited in the brains of all suffers of Alzheimer's disease. The long-sought beta-secretase was recently identified by several groups independently and designated beta-site APP cleaving enzyme (BACE) and aspartyl protease 2 (Asp2). BACE/Asp2 is a novel transmembrane aspartic protease and colocalizes with APP.

BACE Antibody - References

Vassar R, Bennett BD, Babu-Khan S, et al. β-secretase cleavage of Alzheimer's amyloid precursor protein by the transmembrane aspartic protease BACE. Science 1999;286:735-41
Hussain I, Powell D, Howlett DR , et al. Identification of a novel aspartic protease (Asp 2) as β-secretase. Mol Cell Neurosci 1999;14:419-27
Yan R, Bienkowski MJ, Shuck ME, et al. Membrane-anchored aspartyl protease with Alzheimer's disease β-secretase activity. Nature 1999;402:533-7
Sinha S, Anderson JP, Barbour R, et al. Purification and cloning of amyloid precursor protein β-secretase from human brain. Nature 1999;402:537-40 (WD0500)