

**BACE Antibody**  
**Catalog # ASC10099****Specification**

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**BACE Antibody - Product Information**

Application	WB, IHC-P, IF, ICC, E
Primary Accession	<a href="#">P56817</a>
Other Accession	<a href="#">AF190725</a> , <a href="#">23621</a>
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°C for three months and -20°C, 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:<a href="http://www.uniprot.org/citations/10656250" target="\_blank">10656250</a>, PubMed:<a href="http://www.uniprot.org/citations/10677483" target="\_blank">10677483</a>, PubMed:<a href="http://www.uniprot.org/citations/20354142" target="\_blank">20354142</a>). 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

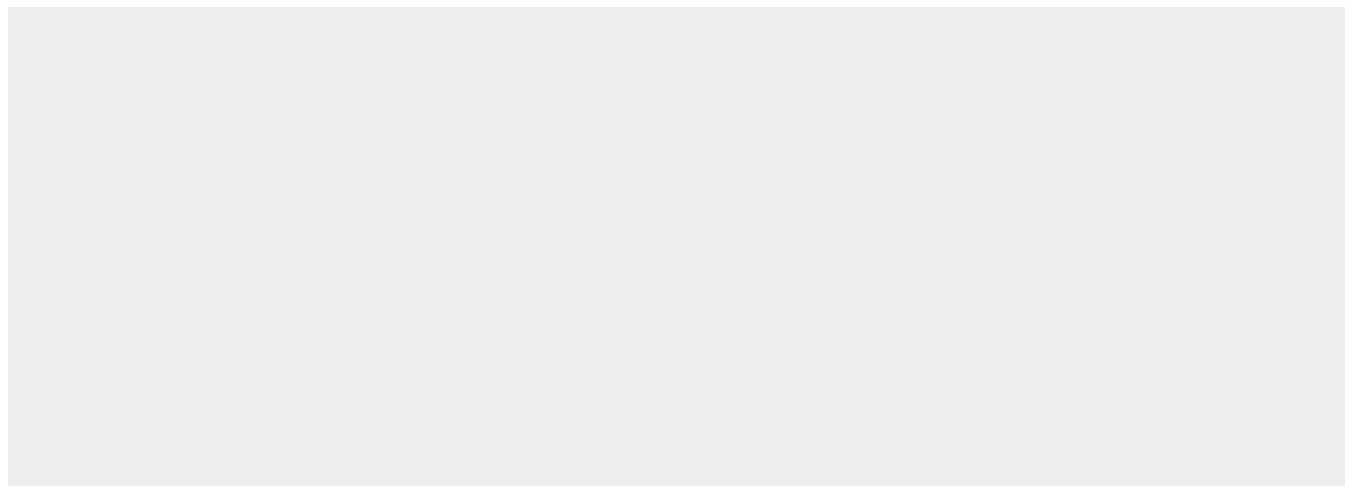
Expressed at high levels in the brain and pancreas. In the brain, expression is highest in the substantia nigra, locus coeruleus and medulla oblongata.

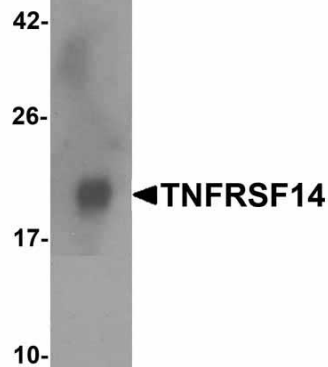
## BACE Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

## BACE Antibody - Images





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 (Aβ) plaque in the cerebral cortex is a critical event in the pathogenesis of Alzheimer's disease. Aβ 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)