

**BACE1 Antibody**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO1924a****Specification****BACE1 Antibody - Product Information**

Application	E, WB, IF, FC
Primary Accession	<a href="#">P56817</a>
Reactivity	Human, Mouse, Rat
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	55.7kDa KDa

**Description**

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 the protein encoded by this gene. The encoded 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. Multiple transcript variants encoding different isoforms have been described for this gene.

**Immunogen**

Purified recombinant fragment of human BACE1 (AA: 112-324) expressed in E. Coli.

**Formulation**

Purified antibody in PBS with 0.05% sodium azide.

**BACE1 Antibody - Additional Information**

**Gene ID** 23621

**Other Names**

Beta-secretase 1, 3.4.23.46, 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

**Dilution**

E~~1/10000  
WB~~1/500 - 1/2000  
IF~~1/200 - 1/1000  
FC~~1/200 - 1/400

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

BACE1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## BACE1 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) Retrogradely 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.

## BACE1 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](#)

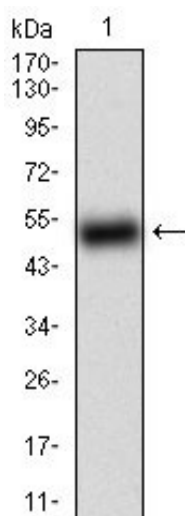
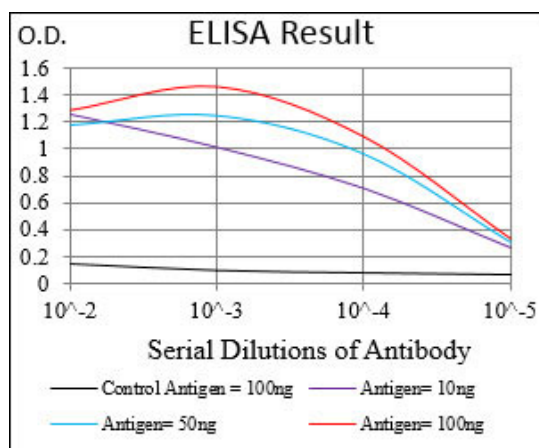


Figure 1: Western blot analysis using BACE1 mAb against human BACE1 (AA: 112-324) recombinant protein. (Expected MW is 49.9 kDa)

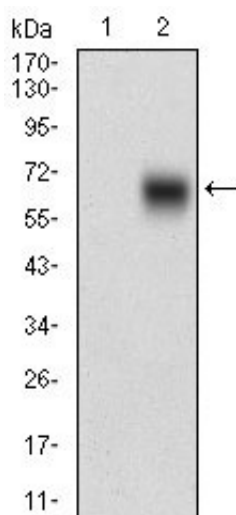


Figure 2: Western blot analysis using BACE1 mAb against HEK293 (1) and BACE1 (AA: 112-324)-hlgGFc transfected HEK293 (2) cell lysate.

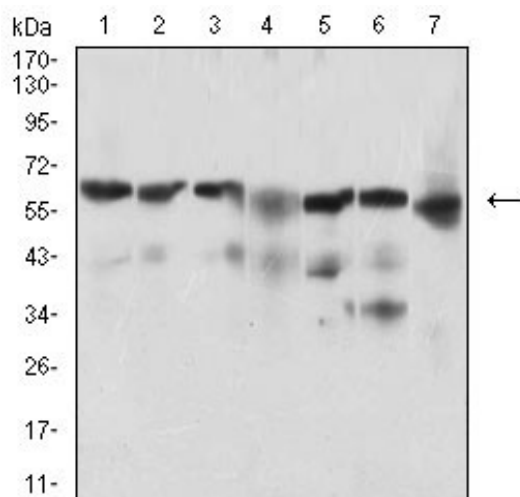


Figure 3: Western blot analysis using BACE1 mouse mAb against Hela (1), SK-N-SH (2), HepG2 (3), C6 (4), PC-12 (5), PANC-1 (6), NIH/3T3 (7) cell lysate.



Figure 4: Immunofluorescence analysis of MCF-7 cells using BACE1 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin. Secondary antibody from Fisher (Cat#: 35503)

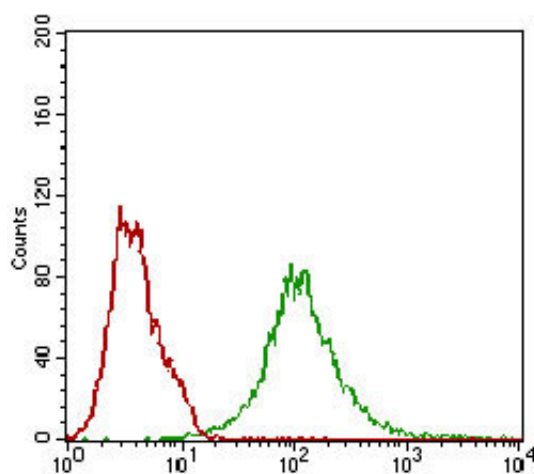


Figure 5: Flow cytometric analysis of Hela cells using BACE1 mouse mAb (green) and negative control (red).

### **BACE1 Antibody - Background**

This gene encodes a member of the NeuroD family of basic helix-loop-helix (bHLH) transcription factors. The protein forms heterodimers with other bHLH proteins and activates transcription of genes that contain a specific DNA sequence known as the E-box. It regulates expression of the insulin gene, and mutations in this gene result in type II diabetes mellitus. ; ;

### **BACE1 Antibody - References**

1. J Neurochem. 2012 Jan;120 Suppl 1:62-70.
2. Eur J Neurosci. 2010 Oct;32(7):1223-38.