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BACE2 Antibody

Catalog # ASC10098

Product Information

Application	WB, E, IHC-P
Primary Accession	Q9Y5Z0
Other Accession	AAF17078, 6561812
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	56180
Conjugate	Unconjugated
Application Notes	BACE2 antibody can be used for detection of BACE2 by Western blot at 1 g/mL. Antibody can also be used for immunohistochemistry starting at 2 g/mL.

Additional Information

Gene ID	25825
Other Names	BACE2 Antibody: ASP1, BAE2, DRAP, AEPLC, ALP56, ASP21, CDA13, CEAP1, UNQ418/PRO852, Beta-secretase 2, Aspartic-like protease 56 kDa, ASP1, beta-site APP-cleaving enzyme 2
Target/Specificity	BACE2;
Reconstitution & Storage	BACE2 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	BACE2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	BACE2
Synonyms	AEPLC, ALP56, ASP21
Function	Responsible for the proteolytic processing of the amyloid precursor protein (APP). Cleaves APP, between residues 690 and 691, leading 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. It has also been shown that it can cleave APP between residues 671 and 672 (PubMed:10591213, PubMed:11083922, PubMed:11423558, PubMed:15857888, PubMed:16816112). Involved in the

	proteolytic shedding of PMEL at early stages of melanosome biogenesis. Cleaves PMEL within the M-beta fragment to release the amyloidogenic PMEL luminal fragment containing M-alpha and a small portion of M-beta N-terminus. This is a prerequisite step for subsequent processing and assembly of PMEL fibrils into amyloid sheets (PubMed:23754390). Responsible also for the proteolytic processing of CLTRN in pancreatic beta cells (PubMed:21907142).
Cellular Location	Cell membrane; Single-pass type I membrane protein. Golgi apparatus. Endoplasmic reticulum. Endosome Melanosome. Note=Colocalizes with PMEL in stage I and II melanosomes.
Tissue Location	Brain. Present in neurons within the hippocampus, frontal cortex and temporal cortex (at protein level). Expressed at low levels in most peripheral tissues and at higher levels in colon, kidney, pancreas, placenta, prostate, stomach and trachea. Expressed at low levels in the brain. Found in spinal cord, medulla oblongata, substantia nigra and locus coruleus. Expressed in the ductal epithelium of both normal and malignant prostate.

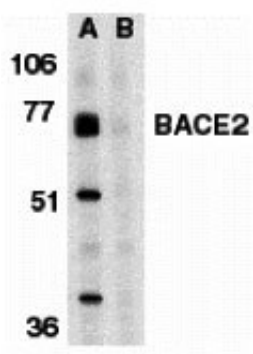
Background

BACE2 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 proteases. 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 co-localizes with APP. A BACE homolog was recently cloned and designated BACE2, Asp1, DRAP (for Down region aspartic protease), and memapsin 1. BACE2 also cleaves APP at b-site and at a different site within Abeta. BACE2 locates on chromosome 21q22.3, the so-called ‘Down critical region', suggesting that BACE2 and Abeta may also contribute to the pathogenesis of Down syndrome.

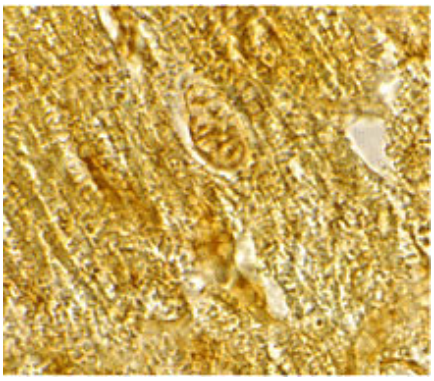
References

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

Images



Western blot analysis of BACE2 in human heart tissue lysate in the absence (A) or presence (B) of blocking peptide with BACE2 antibody at 1 µg/mL.



Immunohistochemistry of BACE2 in rat heart tissue with BACE2 antibody at 2 µg/mL.

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