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BACE2C Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6106a

Product Information

Application	WB, IHC-P, E
Primary Accession	Q9Y5Z0
Other Accession	Q9NZL2
Reactivity	Human
Predicted	Bovine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB2126
Calculated MW	56180
Antigen Region	310-339

Additional Information

Gene ID	25825
Other Names	Beta-secretase 2, Aspartic-like protease 56 kDa, Aspartyl protease 1, ASP1, Asp 1, Beta-site amyloid precursor protein cleaving enzyme 2, Beta-site APP cleaving enzyme 2, Down region aspartic protease, DRAP, Memapsin-1, Membrane-associated aspartic protease 1, Theta-secretase, BACE2, AEPLC, ALP56, ASP21
Target/Specificity	This BACE2C antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 310-339 amino acids from the C-terminal region of human BACE2C.
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	BACE2C Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

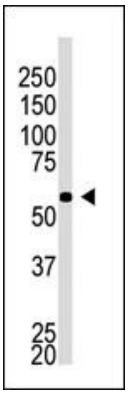
Name	BACE2

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.

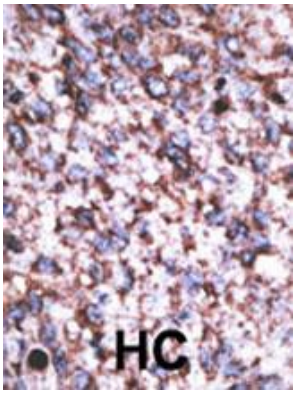
Background

Amyloid-beta peptide aggregation is a signature of Alzheimer disease and a frequent complication of adult Down syndrome patients. Amyloid-beta is generated by proteolytic processing of the amyloid precursor protein (APP) by beta- and gamma-secretase at the N and C termini, respectively. Presenilin-1 is involved in the gamma-secretase activity. BACE is a transmembrane aspartyl protease with beta-secretase activity. BACE2, also termed ALP56 has 2 pepsin-like active centers, a signal sequence, a propeptide, and a long C-terminal extension including a transmembrane domain, with expression in a wide array of tissues. Northern blot analysis revealed low expression of 2.0- and 2.6-kb BACE2 transcripts in most fetal and adult tissues, with higher expression in adult colon, kidney, pancreas, placenta, prostate, stomach, and trachea. Low levels were also detected in brain, with somewhat higher expression in medulla and spinal cord. In situ hybridization analysis of rat brain found low-level BACE2 expression in contrast to BACE expression. The BACE2 expression pattern does not appear to be consistent with that of a beta-secretase. BACE2 has been mapped to 21q22.3, within the Down syndrome critical region.

Images



The anti-BACE2C C-term Pab (Cat. #AP6106a) is used in Western blot to detect BACE2C in A549 cell lysate.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

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