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BACE2 Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6121a

Product Information

Application	WB, FC, E
Primary Accession	Q9Y5Z0
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB2187
Calculated MW	56180
Antigen Region	336-365

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 BACE2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 336-365 amino acids from the Central region of human BACE2.
Dilution	WB~~1:1000 FC~~1:10~50 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	BACE2 Antibody (Center) 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.

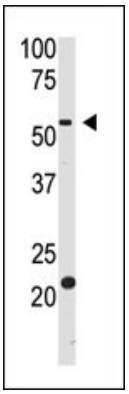
Background

Cerebral deposition of amyloid beta peptide is an early and critical feature of Alzheimer's disease and a frequent complication of Down syndrome. Amyloid beta peptide is generated by proteolytic cleavage of amyloid precursor protein by 2 proteases, one of which is the protein encoded by BACE2. This gene localizes to the 'Down critical region' of chromosome 21. The encoded protein, a member of the peptidase A1 protein family, is a type I integral membrane glycoprotein and aspartic protease.

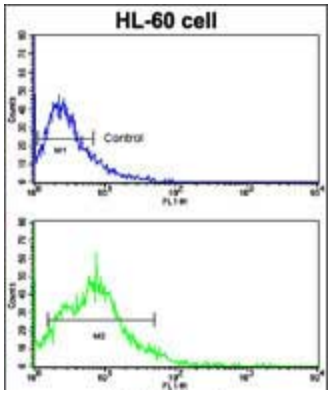
References

Clark, H.F., et al., Genome Res. 13(10):2265-2270 (2003).
Basi, G., et al., J. Biol. Chem. 278(34):31512-31520 (2003).
Barbiero, L., et al., Exp. Neurol. 182(2):335-345 (2003).
Shi, X.P., et al., J. Biol. Chem. 278(23):21286-21294 (2003).
Kondoh, K., et al., Breast Cancer Res. Treat. 78(1):37-44 (2003).

Images



The anti-BACE2 Ctr Pab (Cat. #AP6121a) is used in Western blot to detect BACE2 in HL60 cell lysate.



Flow cytometric analysis of HL-60 cells using BACE2 Antibody (Center)(bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.