BACE2C, Beta-site APP-cleaving Enzyme 2 isoform C polyclonal antibody

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Box 1 | Basic Info

Cat. No.	ABP-PAB-10420
Animal ID	RB2125/2126
Host	Rabbit
Reactivity	Human
Format	Purified
Accession number	NM_012105
Amount	100 µg

Alternative Name(s):

beta-site APP-cleaving enzyme 2, ASP1, BAE2, DRAP, AEPLC, ALP56, ASP21

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 (APP) by two proteases, beta-site APP-cleaving enzyme 1 and 2 (BACE and BACE2, respectively). BACE2, a member of the peptidase A1 protein family, is a type I integral membrane glycoprotein and aspartic protease that is found mainly in the distal Golgi membrane with a minor presence in the endoplasmic reticulum and endosomes. Intracellular localization of BACE2 affects cleavage site specificity and processing in the trans-Golgi network preferentially generates truncated amyloid species that accumulate in Alzheimer's disease brain.

Three transcript variants encoding different isoforms of BACE2 have been identified (isoform A, B and C). Transcript variant A is the longest transcript and encodes the full-length protein isoform A. Transcript variant B lacks a 169 nt coding exon as compared to transcript variant A. Thus, protein isoform B has a unique C-terminus and is shorter than isoform A. Transcript variant C lacks a 150 nt coding exon as compared to transcript variant A and thus lacks a 50 amino acids internal segment as compared to isoform A. This antibody is specific for isoform C of BACE2 and does not see any of the other BACE 2 isoforms.

Buffers

Purified rabbit polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column and eluted out with both high and low pH buffers and neutralized immediately after elution then followed by dialysis against PBS.

Immunogen

KLH conjugated synthetic peptide comprised of amino acids 325 - 340 [RASLLYIQPMMGAGLC] of the human beta-site APP-cleaving enzyme 2 isoform C (BACE2) protein.

Application

Tested by peptide-specific ELISA (1:1,000). WB (1:100 ~1:500), IHC (1:50 ~1:100)

Storage

Maintain refrigerated at 2-8ºC for up to 6 months. For long term storage store at -20ºC. Avoid repeated freeze-thaw cycles.

References:

1. Turner RT 3rd, Loy JA, Nguyen C, Devasamudram T, Ghosh AK, Koelsch G, Tang J: Specificity of memapsin 1 and its implications on the design of memapsin 2 (beta-secretase) inhibitor selectivity. Biochemistry 41(27): 8742-8746 (2002).

2. Gruninger-Leitch F, Schlatter D, Kung E, Nelbock P, Dobeli H: Substrate and inhibitor profile of BACE (beta-secretase) and comparison with other mammalian aspartic proteases. J. Biol. Chem. 277(7): 4687-4693 (2002).

3. Yan R, Bienkowski MJ, Shuck ME, Miao H, Tory MC, Pauley AM, Brashier JR, Stratman NC, Mathews WR, Buhl AE, Carter DB, Tomasselli AG, Parodi LA, Heinrikson RL, Gurney ME: Membrane-anchored aspartyl protease with Alzheimer's disease beta-secretase activity. Nature 402(6761): 533-537 (1999).

4. Lin X, Koelsch G, Wu S, Downs D, Dashti A, Tang J: Human aspartic protease memapsin 2 cleaves the beta-secretase site of beta-amyloid precursor protein. Proc. Natl. Acad. Sci. U S A. 97(4): 1456-1460 (1999).