

AP05097PU-N**Polyclonal Antibody to BACE2 (44-59) - Purified**

Alternate names:	AEPLC, ALP56, ASP1, ASP21, Aspartic-like protease 56 kDa, Aspartyl protease 1, Beta-secretase 2, Beta-site APP-cleaving enzyme 2, Beta-site APP-cleaving enzyme 2, Down region aspartic protease, Memapsin-1, Membrane-associated aspartic protease 1
Quantity:	0.1 mg
Concentration:	Lot specific
Background:	Accumulation of the amyloid-b (Ab) plaque in the cerebral cortex is a critical event in the pathogenesis of Alzheimer's disease. Ab peptide is generated by proteolytic cleavage of the b-amyloid protein precursor (APP) at b- and g -sites by proteases. The long-sought b-secretase was recently identified by several groups independently and designated beta-site APP cleaving enzyme (BACE) and aspartyl protease 2 (Asp2)1-4. A BACE homolog was recently cloned and designated BACE2, Asp1, DRAP (for Down region aspartic protease), and memapsin 14 - 9. BACE2 also cleaves APP at b-site and at a different site within Ab8. BACE2 locates on chromosome 21q22.3, the so-called Down critical region, suggesting that BACE2 and Ab may also contribute to the pathogenesis of Down syndrome.
Uniprot ID:	Q9Y5Z0
NCBI:	NP_036237.2
GeneID:	25825
Host / Isotype:	Rabbit / IgG
Immunogen:	Synthetic peptide corresponding to amino acids 44 to 59 of human BACE2
Format:	State: Liquid purified Ig Buffer System: Phosphate buffered saline solution containing 0.02% sodium azide as a preservative
Applications:	Western Blot: 0.5 to 1 µg/ml. Detects an approximately 70 kDa band in human heart tissue lysate. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
Specificity:	This antibody reacts to BACE 2. Species: Human, Mouse, Rat. Other species not tested.
Storage:	The antibody can be shipped at ambient temperature. Store (in aliquots) at -20°C only. Avoid repeated freezing and thawing. Shelf life: one year from despatch
General Readings:	1. Vassar R, Bennett BD, Babu-Khan S, Kahn S, Mendiaz EA, Denis P, et al. Beta-secretase cleavage of Alzheimer's amyloid precursor protein by the transmembrane aspartic protease BACE. Science. 1999 Oct 22;286(5440):735-41. PubMed PMID: 10531052. 2. Hussain, I., et al. Identification of a novel aspartic protease (Asp 2) as beta-

- secretase. *Mol. Cell Neurosci.* 1999, 14, 419 - 427
3. Yan R, Bienkowski MJ, Shuck ME, Miao H, Tory MC, Pauley AM, et al. Membrane-anchored aspartyl protease with Alzheimer's disease beta-secretase activity. *Nature.* 1999 Dec 2;402(6761):533-7. PubMed PMID: 10591213.
 4. Sinha S, Anderson JP, Barbour R, Basi GS, Caccavello R, Davis D, et al. Purification and cloning of amyloid precursor protein beta-secretase from human brain. *Nature.* 1999 Dec 2;402(6761):537-40. PubMed PMID: 10591214.
 5. 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.* 2000 Feb 15;97(4):1456-60. PubMed PMID: 10677483.
 6. Acquati F, Accarino M, Nucci C, Fumagalli P, Jovine L, Ottolenghi S, et al. The gene encoding DRAP (BACE2), a glycosylated transmembrane protein of the aspartic protease family, maps to the down critical region. *FEBS Lett.* 2000 Feb 18;468(1):59-64. PubMed PMID: 10683441.
 7. Solans A, Estivill X, de La Luna S. A new aspartyl protease on 21q22.3, BACE2, is highly similar to Alzheimer's amyloid precursor protein beta-secretase. *Cytogenet Cell Genet.* 2000;89(3-4):177-84. PubMed PMID: 10965118.
 8. Farzan M, Schnitzler CE, Vasilieva N, Leung D, Choe H. BACE2, a beta -secretase homolog, cleaves at the beta site and within the amyloid-beta region of the amyloid-beta precursor protein. *Proc Natl Acad Sci U S A.* 2000 Aug 15;97(17):9712-7. PubMed PMID: 10931940.

Pictures:

Western blot analysis using BACE2 (NT) antibody on human (1) and mouse (2) heart tissue lysate

