

Beta-Site APP Cleaving Enzyme (BACE/Asp2/Memapsin2) Antibodies

Cat. # BACE13-M Mouse monoclonal Anti-Human BACE/Asp2 IgG # 3 (aff pure) **SIZE:** 100 ug

β -amyloid (**A β**) deposition in the brain is the hallmark of Alzheimer's Disease (**AD**). To initiate A β formation, **β -secretase** cleaves APP at the N-terminus of A β to release APPs β (~100 kDa soluble NT-fragment), and C99, a 12-kDa CT membrane fragment. Alternatively, **α -secretase** cleaves within the A β to prevent the formation of A β . Cleavage by α -secretase produces a soluble N-terminal fragment, APPs α , and a 10-kDa membrane C-terminal fragment, C83. Both C99 and C83 can be further cleaved by **γ -secretase** releasing A β and a nonpathogenic p3 peptide, respectively. Recently, **BACE (Beta-site APP Cleaving Enzyme)** has been identified as **β -secretase**. BACE belongs to the family of **Aspartyl proteases (Asp)** also known as **Memapsins**. At least four related Asps, located on chromosome IV and X, have been cloned (**Asp1, Asp2, Asp3, and Asp4**). Human **BACE/Asp2/Memapsin2**, located on chromosome 11, is a transmembrane protein of 501 aa (signal peptide 1-21 aa, a proprotein domain 22-45 aa, 1 TM domain near the CT, and a short cytoplasmic CT- tail of 24 aa; mature protein 46-460 aa). The luminal portion of BACE has two active site motifs at 93 aa and 289 aa with signature sequence of aspartic proteases. Rat and mouse BACE (501 aa) are 96% identical with human BACE. BACE expression was most prominent in most areas of the rat brain and pancreas. It is localized in the compartments of the secretory pathways.

Source of Antigen and Antibodies

Antigen	Recombinant human Bace protein EC domain
Ab Host/type	mouse, monoclonal IgG1 Aff pure IgG (cat #BACE13-M)
2-ab	Goat Anti-mouse IgG-HRP conjugate Cat # 40320 (AP, biotin, FITC conjugates also available)
-ve control IgG	Cat # 20008-1, Mouse (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer:** PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Storage

Short-term: unopened, undiluted liquid vials at -200C and powder at 4oC or -20oC..

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1-5 ug/ml for affinity pure using Chemiluminescence technique). BACE is approx 70 kDa, greater than the theoretical size of ~51 kDa, due to glycosylation (1).

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry: Not tested. We recommend the use of 10-25 ug/ml of affinity pure antibody.

Flow cytometry: recommended concn of antibody is ~1 ug/10⁶ cells (e.g., Jurkat T cells)

Specificity & Cross-reactivity

The antibody is specific for human bace. Antibody crossreactivity in various species is not established.

General References: Vassar R et al (1999) Science 286, 735-741; Yan R et al (1999) Nature 402, 533-537; Sinha S et al (1999) Nature 537-540; Hussain I et al (1999) Mol. Cell Neurosci. 14, 419-427; Lin X et al (2000) PNAS 97, 1456-1460; Bennett BD et al (2000) J. Biol. Chem. in press.

2. Citations for ADI Antibodies (see updates at the web site)

Uryu, K, 2007, Experimental Neurology, 208, 185-192, , IF
Malicdan MCV, 2007, Hum. Mol. Genet.,16: 115 - 128, WB,

*This product is for In vitro research use only.

Related material available from ADI

Ant-Beta amyloid 1-40, 1-42, APP, Parkin, Synucleins (α , β , γ), Presenilins 1, 2

BACE13-M 71219A

India Contact:

Life Technologies (India) Pvt. Ltd.

306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi - 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com