

Product Specification Sheet

Human Beta-Amyloid 1-40 Antibodies

Cat. # BAM400-P	Human Beta-Amyloid 1-40 (full length)	SIZE: 100 ug
Cat. # BAM401-P	Human Beta-Amyloid 1-40 control/blockin Peptide	SIZE: 100 ug
Cat. # BAM401-S	Rabbit Anti- Human Beta-Amyloid 1-40 antiserum	SIZE: 100 ul
Cat. # BAM401-A	Rabbit Anti- Human Beta-Amyloid 1-40 IgG (aff pure)	SIZE: 100 ug

Alzheimer's Disease (AD) is a neurodegenerative disorder characterized by progressive loss of memory and cognition in the elderly. One of the most important and initial step involves proteolytic cleavage of amyloid precursor protein (APP, chromosome 21) releasing short 40, 42 & 43 aa peptides (beta amyloid1-40, 1-42, and 1-43). Polymerization of b-amyloid (Ab) and subsequent neuronal deposit (amyloid) leads to the degeneration of neurons involved in memory and cognition. Ab deposits have also been found to contain 2 additional proteins termed α -synuclein and β -synuclein. The 140 aa α -synuclein is identical with non- Ab component (NACP) of AD. The 134 aa human β -synuclein is homologous to 14 kDa bovine phosphonoprotein 14. Mutations in α -synuclein gene causing a replacement of alanine with a threonine may cause the protein to misfold. Synucleins are primarily expressed in the brain. At least 3 forms: two large (140 aa SYN-1 & 149 aa SYN-2) and a small form (SYN-3, 42 aa) are produced by alternative splicing.

Source of Antigen and Antibodies

Antigen	A synthetic C-terminal 7 aa peptide from human beta 1-40 (designated BAM401-P control peptide). A cysteine was added at the n-terminus for coupling to KLH
Ab Host/type	Rabbit, Polyclonal antiserum # BAM401-S and IgG, purified over antigen-agarose (Cat # BAM401-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

Full-length β -1-40 (40 aa, **Cat # BAM400-P**) peptide (purity >95%, mol wt. 4329) is also available to confirm specificity of antibodies. It should be dissolved at 1 mg/ml in 0.1 M Acetic acid and then diluted further in PBS or other buffer.

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

100ul solution lyophilized powder
Supplied 0.05% azide, **Reconstitute** powder in 100 ul PBS

Affinity pure IgG

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

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in **Buffer:** PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -20OC 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 (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique). See refs in 2

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

Histochemistry & Immunofluorescence: not tested. We recommend the use of 1:100 using formalin or paraformaldehyde-fixed Alzheimer brains. Affinity pure IgG should be used at 10-50 ug/ml. See refs in 2

Specificity & Cross-reactivity

The BAM401-P peptide sequence has high degree of homology with human and murine β -amyloid (1-40 aa). However, no appreciable antibody crossreaction is observed with β -amyloid (1-42 aa) or CGRP. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (detailed protocol is available at the web site).

References: Neve R et al (1992) PNAS 89, 3448; Goldgaber D et al (1987) Science 235, 877; Yankner B et al (1989) Science 245, 417; Golde T et al (1992) Science 255, 728; Wang R et al (1991) J. Biol. Chem. 266, 16960, Shigematase K et al (1992) J Neurosci. 31, 443; kang J et al (1987) Nature 325, 733; Tanzi r et al (1987) Science 235, 880; Weidmann A et al (1989) Cell 57, 115;

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

D'Andrea MR, 2003, Neurosci. Lett. 342, 114-118, , IHC,
D'Andrea MR, 2002, Neurosci. Lett. 19, 323, 45-49, , IHC,
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Iijima K, 2004, Proc. Natl. Acad. Sci. 101: 6623 - 6628, WB, IHC,
Seclen D, 2004, Brain, 127: 439 - 451, , IHC,
Shimada A, 2007, Neuropathol. Applied Neurobiol. IHC

*This product is for In vitro research use only.

BAM401-S-A-P-400-P

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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