

Product Specification Sheet

Human Beta-Amyloid 1-40/42 Antibodies

Cat. # BAM404-S	Goat Anti- Human Beta-Amyloid 1-40/42 antiserum	SIZE: 100 ul
Cat. # BAM404-P	Human Beta-Amyloid 1-40/42 control peptide	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 -synucleins is identical with non- Ab component (NACP) of AD. The 134 aa human β -synuclein is homologous to 14 kDa bovine phosphoneuroprotein 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 10-24 aa peptide of human β -1-40/42 (cat # BAM404-P, control peptides) was synthesized, purified, and conjugated to KLH
Ab Host/type	Rabbit, Polyclonal antiserum # BAM404-S and IgG, purified over antigen-agarose (Cat # BAM404-A)
2-Ab	Rabbit Anti-goat IgG-HRP conjugate Cat # 30220 (AP, biotin, FITC conjugates also available)
-ve control IgG	# 20011-1, Goat (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

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

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) using Chemiluminescence technique).

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 antibodies should be used at 10-50 ug/ml.

Specificity & Cross-reactivity

The human BAM404-P peptide sequence is found in human Beta amyloids (1-40/42/43). It is 100% conserved in human, g. pig, sheep, pig, rabbit, and chicken. There is just 1 aa change in mouse and rat beta-amyloids. Antibody crossreactivity in various species is not established. Full length β -Amyloid (1-40 aa, and 1-42 aa) peptides or BAMP404-P can be used as positive controls and to block antibody activity. 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 (see detailed protocol 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,

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,
Klementiev B, 2007, Neuroscience, Volume 145, Issue 1, 2 March 2007, Pages 209-224, , IHC
Iijima K, 2004, Proc. Natl. Acad. Sci. 101: 6623 - 6628, WB, IHC,
Seclen D, 2004, Brain, 127: 439 - 451, , IHC,
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*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

BAM404-S-P 71222A

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