

Product Specification Sheet

**Human Beta-Amyloid 1-40/42 Antibodies**

Cat. # BAM402-S	Rabbit Anti-Human Beta-Amyloid 1-40/42 antiserum	<b>SIZE:</b> 100 ul
Cat. # BAM402-P	Human Beta-Amyloid 1-40 control peptide	<b>SIZE:</b> 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  $\alpha$ -synuclein and  $\beta$ -synuclein. The 140 aa  $\alpha$ -synucleins is identical with non- Ab component (NACP) of AD. The 134 aa human  $\beta$ -synuclein is homologous to 14 kDa bovine phosphoneuroprotein 14. Mutations in  $\alpha$ -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**

<b>Antigen</b>	full length, synthetic $\beta$ -1-40 (designated <b>BAM402-P control peptides</b> ) conjugated to BSA (1)
<b>Ab Host/type</b>	Rabbit, Polyclonal antiserum, (Cat # BAM402-S) in PBS+0.05% azide
<b>2-Ab</b>	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
<b>-ve control</b>	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Full length beta amyloids 1-40 (Cat. # **BAM402-P**) and 1-42 (cat# **BAM422-P**) stock solutions (1 mg/ml) should be made in 0.1M acetic acid and then diluted further in appropriate buffer.

**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 and 1-10 ug/ml for affinity pure using Chemiluminescence technique) (see refs 2).

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

**Histochemistry & Immunofluorescence:** 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 (see refs 2)

**Specificity & Cross-reactivity**

The human BAM402-P peptide sequence (40 aa) has high degree of homology with human and murine  $\beta$ -Amyloid (1-40 aa) and  $\beta$ -Amyloid (1-42 aa). Weak crossreactivity is also observed with  $\beta$ -Amyloid (1-28 aa) and  $\beta$ -Amyloid (12-28 aa). However, no crossreaction is observed with CGRP. Full length  $\beta$ -Amyloid (1-40 aa, and 1-42 aa) peptides can be used as positive controls and to block antibody activity.

**General 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, Shigematus 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 of ADI's Antibodies** (see web site for updated list)

D'Andrea MR, 2002, Neurosci. Lett. 333, 163-166, , IHC, Hook VYH, 2002, J. Neurochem. 81, 237, ,

\*This product is for In vitro research use only.

**Related material available from ADI**

BAM402-S-P 71221A

**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](mailto:customerservice@lifetechindia.com) Website: [www.lifetechindia.com](http://www.lifetechindia.com)