

Product Specification Sheet

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

Cat. # BAM421-P	Human Beta-Amyloid Control Peptide (6 aa)	<b>SIZE:</b> 100 ug
Cat. # BAM422-P	Human Beta-Amyloid 1-42 (full length, 42 aa)	<b>SIZE:</b> 100 ug
Cat. # BAM421-S	Rabbit Anti- Human Beta-Amyloid 1-42 antiserum	<b>SIZE:</b> 100 ul
Cat. # BAM421-A	Rabbit Anti- Human Beta-Amyloid 1-42 (affinity pure)	<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  $\alpha$ -synuclein 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>	Rabbit anti-human beta Amyloid 1-42 antibodies was raised using synthetic C-terminal 6 aa peptide from human beta 1-42 ( <b>designated BAM421-P control peptides</b> ). Epitope location A cysteine was added at the N-terminus for coupling purpose.
<b>Ab Host/type</b>	Rabbit, polyclonal <b>cat # BAM421-S</b> Aff pure IgG1 ( <b>cat # BAM421-A</b> ) purified over the antigen column
<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

**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 -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** (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique).

**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.

**Specificity & Cross-reactivity**

The BAM421-P peptide sequence has high degree of homology with human and murine  $\beta$ -Amyloid (1-42 aa). No appreciable antibody crossreactivity was seen with  $\beta$ -amyloid (1-40 aa). Control immunogenic peptide (BAM421-P; 6 aa) or full length  $\beta$ -Amyloid (1-42 aa; cat #BAM422-P). should be used in antibody blocking to confirm specificity of antibodies.

**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, Shigematsu 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,  
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,  
Shimada A, 2007, Neuropathol. Applied Neurobiol. IHC

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

**Related material available from ADI**

Ant-Beta amyloid 1-40, 1-42, APP, Parkin, Synucleins ( $\alpha$ ,  $\beta$ ,  $\gamma$ ),  
Presenilins 1, 2  
BAM421-S-A-P-422-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](mailto:customerservice@lifetechindia.com) Website: [www.lifetechindia.com](http://www.lifetechindia.com)