

Product Specification Sheet

**Mouse Monoclonal Anti-Human Beta-Amyloid 1-40/42 Antibodies**

Cat. # BAM403-M      Mouse Monoclonal Anti-Human Beta-Amyloid 1-40/42 Ab      **SIZE:** 100 ul

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 phosphoprotein 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>	Human beta Amyloid 1-40 was conjugated to KLH and used for generating <b>mouse</b> monoclonal. A clone (designated BAM403, IgG1) produced an antibody with an epitope located within 1-13 aa of beta amyloid (1-40/42). Full-length $\beta$ -1-40 (40 aa) or $\beta$ -1-42 (42 aa) peptide can be used as positive controls to confirm specificity of antibodies.
<b>Ab Host/type</b>	Mouse monoclonal/ Antibody is supplied as <b>ascites</b>
<b>2-ab</b>	Cat # 40320, <b>goat anti-mouse IgG-HRP</b> (AP, biotin, FITC conjugates also available).
<b>-ve control</b>	# 20008-1, Mouse (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

**Form & Storage of Antibodies/Peptide Control**

**Ascites (unpurified, undiluted)**

100 ul/vial      solution      lyophilized      powder  
contains 0.05% azide **Reconstitute** 100 ul PBS

**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).

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

**Histochemistry & Immunofluorescence:** It specifically stains amyloid plaques within the cortex and amyloid deposits in blood vessels using formic acid-treated, formalin-fixed, paraffin-embedded and Methacarn-fixed sections of human Alzheimer's disease (AD) brain tissue. We recommend the use of 1:500-1000 using formalin or paraformaldehyde-fixed Alzheimer brains. See refs in 2

**Specificity & Cross-reactivity**

BAM403-M monoclonal antibody epitope has been localized to the N-terminus of beta amyloid (1-13 aa of 1-40/42/43). This sequence is very conserved mouse, rat, human and many other species. Full length  $\beta$ -Amyloid (1-40 aa, and 1-42 aa) peptides can be used as positive controls and to block antibody activity.

**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

**Recycle your blot in Just 5-10 min. (use the same strip for various Dopamine receptors)** New formulation will strip antibodies in just a few minutes at room temp. ( BAM403-M      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)