

Product Specification Sheet

Rat Beta-Amyloid 1-40

Cat. # BAM405-P1

Rat Beta-Amyloid 1-40 (full length)

SIZE: 1 mg

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 phosphoprotein 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

Full-length rat β -1-40 (40 aa, **Cat # BAM405-P1**) 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.

Sequence	Asp-Ala-Glu-Phe-Gly-His-Asp-Ser-Gly-Phe-Glu-Val-Arg-His-Gln-Lys-Leu-Val-Phe-Phe-Ala-Glu-Asp-Val-Gly-Ser-Asn-Lys-Gly-Ala-Ile-Ile-Gly-Leu-Met-Val-Gly-Gly-Val-Val
Unit	
Weight	0.5 mg
MW	4233.8
CAS	[131438-79-4]
Formula	C ₁₉₀ H ₂₉₁ N ₅₁ O ₅₇ S ₁
Disulfide Bridge	
References	A. Klegeris et al., Biochem. Biophys. Res. Commun., 199, 984 (1994); M.A.Kowalska et al., Biochem. Biophys. Res. Commun., 205, 1829 (1994); B.A. Yankner et al., Science, 250, 279 (1990)

Storage

Short-term: unopened, undiluted liquid vials at -20°C and powder at 4°C or -20°C.

Long-term: at -20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20°C or below.

Shipping: 4°C for solutions and room temp for powder

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 items

Beta Amyloid 1-40 and 1-42 ELISA kits

Antibodies to 1-40 and 1-42

Human mouse, and rat 1-40 and 1-42 peptides

BAM405-P1

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