ALPHA DIAGNOSTIC INTERNATIONAL

Product Data Sheet

Cat# **SP-52487-1**
Description: Amyloid (1-42), Human
Sequence: H-Asp-Ala-Glu-Phe-Arg-His-Asp-Ser-Gly-Tyr-Glu-Val-His-His-Gln-Lyn-Leu-Val-Phe-Phe-Ala-Glu-Asp-Val-Gly-Ser-Asn-Lys-Gly-Ala-Ile-Ile-Gly-Leu-Met-Val-Gly-Gly-Val-Val-Ile-Ala-OH; MW: 514.14
Size: 0.5 mg
Purity: >95%
Store: Desiccated at -20oC.

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 □-synuclein and □-synuclein. The 140 aa □-synucleins is identical with non- Ab component (NACP) of AD. The 134 aa human □-synuclein is homologous to 14 kDa bovine phosphoneuroprotein 14. Mutations in □-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.

Amyloid beta (Aβ or Abeta) is a peptide of 36–43 amino acids that is processed from the Amyloid precursor protein. While it is most commonly known in association with Alzheimer's disease, it does not exist specifically to cause disease. Evidence has been found that Aβ has multiple non-disease activities. Several potential activities have been discovered for Aβ that are not associated with disease, including activation of kinase enzymes, protection against oxidative stress regulation of cholesterol transport functioning as a transcription factor, and anti-microbial activity (potentially associated with Aβ's pro-inflammatory activity). Aβ is formed after sequential cleavage of the amyloid precursor protein (APP), a transmembrane glycoprotein of undetermined function. APP can be processed by α-, β- and γ-secretases; Aβ protein is generated by successive action of the β and γ secretases. The γ secretase, which produces the C-terminal end of the Aβ peptide, cleaves within the transmembrane region of APP and can generate a number of isoforms of 36-43 amino acid residues in length. The most common isoforms are Aβ40 and Aβ42; the shorter form is typically produced by cleavage that occurs in the endoplasmic reticulum, while the longer form is produced by cleavage in the trans-Golgi network.[13] The Aβ40 form is the more common of the two, but Aβ42 is the more fibrillogenic and is thus associated with disease states. Mutations in APP associated with early-onset Alzheimer's have been noted to increase the relative production of Aβ42, and thus one suggested avenue of Alzheimer's therapy involves modulating the activity of β and γ secretases to produce mainly Aβ4

All peptides are for in vitro research use only.

Related items

SP-51106-1	Amyloid (25-35) peptide
SP-51516	Amyloid(1-40), UltraPure, TFA
SP-52487-1	Amyloid (1-42), Human
SP-53770-1	Amyloid (1-40), Rat
SP-53771-1	Amyloid Peptide(1-42),
SP-53819-1	Amyloid β-Protein (42-1)
SP-62497-1	Amyloid β-Protein (29-40)
SP-71897-1	Amyloid β-Protein (6-20)
SP-72257-1	Amyloid β/A4 Protein Precursor770 (740-770)
SP-80702-5	Amyloid β-Protein (33-42
SP-83872-05	"Amyloid Bri Protein (1-23)
SP-89284-5	Amyloid P Component (33-38) amide
SP-89285-05	Amyloid Bri Protein (1-34) (reduced)
SP-89286-05	Amyloid Bri Protein (1-34)
SP-89287-1	Amyloid Bri Protein Precursor277 (89-106)
SP-89288-1	Amyloid Dan Protein (1-34)
SP-89290-1	Amyloid Dan Protein (1-34) (reduced)
SP-89298-1	Amyloid β-Protein (1-43)
SP-89304-5	Amyloid β-Protein (20-29)
SP-89305-5	Amyloid β-Protein (25-35) amide
SP-89314-5	Amyloid β/A4 Protein Precursor770 (667-676)
BAM401-A	Anti-Human Beta-Amyloid 1-40 (C-terminal, 8 aa)
BAM401-P	Beta-Human Amyloid 1-40 (C-terminal, 8 aa)
BAM401-S	Anti-Human Beta-Amyloid 1-40 (C-terminal, 8 aa)
BAM402-P	Human Beta-Amyloid 1-40 Control/blocking
BAM402-S	Anti-Human Beta-Amyloid 1-40/42 antiserum
BAM403-M	Monoclonal Anti-Human Beta-Amyloid 1-40/42 Ab,
BAM404-P	Human beta amyloid 10-24 aa Control/blocking
BAM404-S	Anti-Human Beta-Amyloid 1-40/42 (10-24 aa)
BAM421-A	Anti-Human Beta-Amyloid 1-42 (C-terminal, 8 aa)
BAM421-P	Beta-Human Amyloid 1-42 (C-terminal, 8 aa)
BAM421-S	Anti-Human Beta-Amyloid 1-42 (C-terminal, 8 aa)

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, Shigematuse 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;

SP-52487-1 120321A

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, San Antonio, TX 78244, USA; **Email**: service@4adi.com
☎ (800) 786-5777; (210) 561-9515; Fax: (210) 561-9544; Web **Site**: www.4adi.com