



## Product Data Sheet

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Product Name:	$\beta$ -Amyloid (12-28)	
Catalog Number:	AS-24229 (0.5 mg) AS-24230 (1 mg)	Lot Number: See label on vial
Sequence:	H-Val-His-His-Gln-Lys-Leu-Val-Phe-Phe-Ala-Glu-Asp-Val-Gly-Ser-Asn-Lys-OH (3-letter code) VHHQKLVFFAEDVGSNK (1-letter code)	
Molecular Weight:	1955.2	
Peptide Purity:	>95%	
Appearance:	Lyophilized white powder	

**Peptide Reconstitution:**  $\beta$ -Amyloid (12-28) peptide is freely soluble in water.

**Storage:**  $\beta$ -Amyloid (12-28) peptide is shipped at ambient temperature. Upon receipt, store lyophilized peptide at  $-20^{\circ}\text{C}$  or lower. Reconstituted peptide can be aliquoted and stored at  $-20^{\circ}\text{C}$  or lower.

**Description:**  $\text{A}\beta$  (12–28) residues are the binding site for apolipoprotein E (apoE) on  $\text{A}\beta$ . This sequence encompasses a hydrophobic domain (residues 14–21) and a  $\beta$ -turn (residues 22–28) which place two hydrophobic domains of  $\text{A}\beta$  14 to 21 and 29 to 40/42 opposite each other, allowing for the assembly of  $\text{A}\beta$  peptides into fibrils. The secondary structure of  $\text{A}\beta$  (12- 28), a neutral peptide, is dominated by  $\alpha$ -helix and random coil. The interaction of apoE with residues 12 to 28 of  $\text{A}\beta$  is not just a non-specific hydrophobic interaction but plays a pivotal role in the mechanism of  $\text{A}\beta$  pathology in Alzheimer's disease (AD).  $\text{A}\beta$  (11-28) and five other fragments enhanced aggregation of full length  $\text{A}\beta$  (1-40). All of the peptides that enhance aggregation contained either residues 17 to 20 or 30 to 35, indicating the importance of these regions for promoting aggregation of full-length  $\text{A}\beta$ . Ref: Sadowski, M. et al. *Am. J. Pathol.* **165**, 937 (2004); Liu, R. et al. *J. Neurosci. Res.* **75**, 162 (2004).

**Additional Information:** Listed below are relevant information that may provide a guideline on how to use this product. End users will have to adapt to their own specific applications.

$\text{A}\beta_{1-11}$ ,  $\text{A}\beta_{10-20}$ ,  $\text{A}\beta_{15-20}$ ,  $\text{A}\beta_{12-28}$ ,  $\text{A}\beta_{25-35}$ ,  $\text{A}\beta_{37-43}$ ,  $\text{A}\beta_{29-40}$ , biotinated  $\text{A}\beta_{1-42}$ , and FITC-conjugated  $\text{A}\beta_{1-42}$  were obtained from AnaSpec. To determine whether exposure to exogenous  $\text{A}\beta_{42}$  increases  $\text{A}\beta_{42}$ - $\alpha 7\text{nAChR}$  association and causes  $\text{A}\beta_{42}$ -induced  $\alpha 7\text{nAChR}$  and NMDAR dysfunction,  $\sim 20$  mg of FCX slices from either control subjects or AD individuals were incubated with  $0.1 \mu\text{M}$   $\text{A}\beta_{42}$  at  $37^{\circ}\text{C}$  for 1 h. To test their effects, the following drugs were added immediately after  $\text{A}\beta_{42}$ : S 24795 ( $1-100 \mu\text{M}$ ),  $\text{A}\beta_{12-28}$  ( $10 \mu\text{M}$ ), memantine ( $30 \mu\text{M}$ ), galantamine ( $30 \mu\text{M}$ ), PNU 282987 ( $30 \mu\text{M}$ ), MLA ( $10 \mu\text{M}$ ), or MLA ( $10 \mu\text{M}$ ) plus S 24795 ( $10 \mu\text{M}$ ). Incubation continued for 1 h in the dark to minimize light destruction of the test agents such as S 24795. The incubation mixture in a total incubation volume of 0.5 ml was aerated with 95%  $\text{O}_2/5\%$   $\text{CO}_2$  every 15 min for

1 min during the incubation. Reaction was terminated by the addition of 1.5 ml of ice-cold  $\text{Ca}^{2+}$ -free K-R. Tissue slices were harvested by brief centrifugation and used as the tissue sources for various assays-[Wang, H.Y. et al. \*J Neuro\* \*\*10\*\*, 10961 \(2009\).](#)

Published Citations:

- Mouedden, M. et al. *J. Neuro.* **145**, 97 (2005).  
Osada, Y. et al. *JBC* **280**, 8596 (2005).  
Solorzano-Vargas, RS. et al. *Mole. Immunol.* **45**, 881 (2008).  
Wang, H.Y. et al. *J Neuro* **10**, 10961 (2009).

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