



Product Data Sheet

Product Name:	β -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: β -Amyloid (12-28) peptide is freely soluble in water.

Storage: β -Amyloid (12-28) peptide is shipped at ambient temperature. Upon receipt, store lyophilized peptide at -20°C or lower. Reconstituted peptide can be aliquoted and stored at -20°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 β -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 α -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.

$\text{A}\beta_{1-11}$, $\text{A}\beta_{10-20}$, $\text{A}\beta_{15-20}$, $\text{A}\beta_{12-28}$, $\text{A}\beta_{25-35}$, $\text{A}\beta_{37-43}$, $\text{A}\beta_{29-40}$, biotinylated $\text{A}\beta_{1-42}$, and FITC-conjugated $\text{A}\beta_{1-42}$ were obtained from AnaSpec. To determine whether exposure to exogenous $\text{A}\beta_{42}$ increases $\text{A}\beta_{42}$ - $\alpha 7$ nAChR association and causes $\text{A}\beta_{42}$ -induced $\alpha 7$ nAChR and NMDAR dysfunction, ~ 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°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% $\text{O}_2/5\%$ CO_2 every 15 min for

1 min during the incubation. Reaction was terminated by the addition of 1.5 ml of ice-cold 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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