Product Data Sheet

Amyloid Beta-Peptide (1-40) (human)

Cat. No.: A1124

CAS No.: 131438-79-4

Formula: C194H295N53O58S

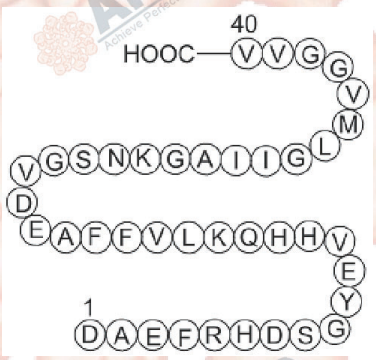
M.Wt: 4329.86

Synonyms: Asp-Ala-Glu-Phe-Arg-His-Asp-Ser-Gly-Tyr-Glu-Val-His-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

Target: Neuroscience

Pathway: Amyloid β

Storage: Desiccate at -20°C



Solvent & Solubility

In Vitro

insoluble in EtOH; ⩾23.8 mg/mL in H2O; ⩾43.28 mg/mL in DMSO

Preparing Stock Solutions

Mass / Solvent / Concentration	1mg	5mg	10mg
1 mM	0.2310 mL	1.1548 mL	2.3095 mL
5 mM	0.0462 mL	0.2310 mL	0.4619 mL
10 mM	0.0231 mL	0.1155 mL	0.2310 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary	Amyloid precursor protein
IC_{50} & Target	

In Vitro

Cell Viability Assay

Cell Line:	CA1 pyramidal cells
Preparation method:	The solubility of this peptide in sterile water is >10 mM. Stock solution should be splited and stored at -80°C for several months.

	Reacting conditions:	200 nM, 20 min
	Applications:	Aβ (1–40) reversibly increased IBa evoked at +20 mV. This increase was observed for 6 of 11 cells and reached 1.74±0.06. The activation curve showed that Aβ (1–40) caused an apparent voltage-dependent increase in IBa, with an enhancement of IBa at the test potentials between 0 and +30 mV.
In Vivo	**Animal experiment**	
	Animal models:	Male Charles River Wistar rats
	Dosage form:	Intraperitoneal injection, 400 mg/kg
	Applications:	A statistically significant decrease in basal ACh release (-30%) was detected one week after the injection of Aβ (1-40). 30 days after the Aβ (1-40) peptide injection, the decrease in Ach release was still statistically significant (-38%). K+-stimulated ACh release was similarly affected by the treatment. Aβ (1–40) treatment induced a significant decrease in the stimulated release on day 14 after lesioning (-43%).
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

1. Hald ES, Timm CD, et al. "Amyloid Beta Influences Vascular Smooth MuscleContractility and Mechanoadaptation." J Biomech Eng. 2016 Nov 1;138(11).PMID:27590124

See more customer validations on www.apexbt.com.

References

[1] Rovira C, Arbez N, Mariani J. Aβ (25–35) and Aβ (1–40) act on different calcium channels in CA1 hippocampal neurons. Biochemical and biophysical research communications, 2002, 296(5): 1317-1321.

[2] Giovannelli L, Casamenti F, Scali C, et al. Differential effects of amyloid peptides β-(1–40) and β-(25–35) injections into the rat nucleus basalis. Neuroscience, 1995, 66(4): 781-792.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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