β-Amyloid (1-42), (rat/mouse) (TFA)

Cat. No.: HY-P1388A

Molecular Formula: $C_{199}H_{307}N_{53}O_{59}S.xC_2HF_3O_2$

Sequence: Asp-Ala-Glu-Phe-Gly-His-Asp-Ser-Gly-Phe-Glu-Val-Arg-His-Gln-Lys-Leu-Val-Phe-Phe-Al
a-Glu-Asp-Val-Gly-Ser-Asn-Lys-Gly-Ala-Ile-Ile-Gly-Leu-Met-Val-Gly-Gly-Val-Val-Ile-Ala

DAEFGHDSGFEVRHQKLVFFAEDVGSNKGAIIGLMVGGVVIA (TFA salt)

Sequence Shortening: DAEFGHDSGFEVRHQKLVFFAEDVGSNKGAIIGLMVGGVVIA

Target: Amyloid-β

Pathway: Neuronal Signaling

Storage: Sealed storage, away from moisture

Powder	-80°C	2 years
	-20°C	1 year

* The compound is unstable in solutions, freshly prepared is recommended.

SOLVENT & SOLUBILITY

In Vitro	DMSO : 55 mg/mL (Need ultrasonic)
In Vivo	1. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (Infinity mM); Clear solution

BIOLOGICAL ACTIVITY

Description	β-Amyloid (1-42), (rat/mouse) TFA is a 42-aa peptide, shows cytotoxic effect on acute hippocampal slices, and used in the research of Alzheimer's disease.
IC_{50} & Target	Amyloid-β[1]
In Vitro	β-Amyloid Aggregation Guidelines (Following is our recommended protocol. This protocol only provides a guideline, and should be modified according to your specific needs). 1. Solid Aβ peptide was dissolved in cold hexafluoro-2-propanol (HFIP). The peptide was incubated at room temperature for at least 1h to establish monomerization and randomization of structure. 2. The HFIP was removed by evaporation, and the resulting peptide was stored as a film at -20 or -80 °C. 3. The resulting film was dissolved in anhydrous DMSO at 5 mM and then diluted into the appropriate concentration and buffer (serum- and phenol red-free culture medium) with vortexing. 4. Next, the solution was aged 48h at 4-8 °C. The sample was then centrifuged at 14000g for 10 min at 4-8 °C; the soluble oligomers were in the supernatant. The supernatant was diluted 10-200-fold for experiments. Methods vary depends on the downstream applications. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Sci Rep. 2023 Aug 21;13(1):13586.

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REFERENCES

[1]. Chennakesavan Karthick, et al. Time-dependent effect of oligomeric amyloid-β (1-42)-induced hippocampal neurodegeneration in rat model of Alzheimer's disease. Neurol Res. 2019 Feb;41(2):139-150.

[2]. Mozes E, et al. A novel method for the rapid determination of beta-amyloid toxicity on acute hippocampal slices using MTT and LDH assays. Brain Res Bull. 2012 Apr 10;87(6):521-5.

[3]. Lagunes T, et al. Abeta(1-42) induces abnormal alternative splicing of tau exons 2/3 in NGF-induced PC12 cells. An Acad Bras Cienc. 2014 Dec;86(4):1927-34.

[4]. Stefania Sabella, et al. Capillary electrophoresis studies on the aggregation process of beta-amyloid 1-42 and 1-40 peptides. Electrophoresis. 2004 Oct;25(18-19):3186-94.

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