

## β-Amyloid (1-42), (rat/mouse)

<b>Cat. No.:</b>	HY-P1388	
<b>CAS No.:</b>	166090-74-0	
<b>Molecular Formula:</b>	C <sub>199</sub> H <sub>307</sub> N <sub>53</sub> O <sub>59</sub> S	
<b>Molecular Weight:</b>	4418.02	DAEFGHDSGFVVRHQKLVFFAEDVGSNKGAIIGLMVGGVIA
<b>Sequence:</b>	Asp-Ala-Glu-Phe-Gly-His-Asp-Ser-Gly-Phe-Glu-Val-Arg-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-Ile-Ala	
<b>Sequence Shortening:</b>	DAEFGHDSGFVVRHQKLVFFAEDVGSNKGAIIGLMVGGVIA	
<b>Target:</b>	Amyloid-β	
<b>Pathway:</b>	Neuronal Signaling	
<b>Storage:</b>	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

<b>In Vitro</b>	DMSO : 25 mg/mL (5.66 mM; Need ultrasonic)				
		<b>Solvent</b>	<b>Mass</b>		
		<b>Concentration</b>	<b>1 mg</b>	<b>5 mg</b>	<b>10 mg</b>
	<b>Preparing Stock Solutions</b>	<b>1 mM</b>	0.2263 mL	1.1317 mL	2.2635 mL
		<b>5 mM</b>	0.0453 mL	0.2263 mL	0.4527 mL
	<b>10 mM</b>	---	---	---	
Please refer to the solubility information to select the appropriate solvent.					
<b>In Vivo</b>	1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: 2.5 mg/mL (0.57 mM); Suspended solution; Need ultrasonic				
	2. Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (0.57 mM); Clear solution				

### BIOLOGICAL ACTIVITY

<b>Description</b>	β-Amyloid (1-42), (rat/mouse) is a 42-aa peptide, shows cytotoxic effect on acute hippocampal slices, and used in the research of Alzheimer's disease.
<b>IC<sub>50</sub> &amp; Target</b>	Amyloid-β <sup>[1]</sup>
<b>In Vitro</b>	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 A $\beta$  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- $\beta$  (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.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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