

β-Amyloid (1-40) (rat)

Cat. No.:	HY-P1387
CAS No.:	144409-98-3
Molecular Formula:	C ₁₉₀ H ₂₉₁ N ₅₁ O ₅₇ S
Molecular Weight:	4233.76
Sequence:	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
Sequence Shortening:	DAEFGHDSGFVVRHQKLVFFAEDVGSNKGAIIGLMVGGVW
Target:	Amyloid-β; Apoptosis
Pathway:	Neuronal Signaling; Apoptosis
Storage:	Sealed storage, away from moisture and light Powder -80°C 2 years -20°C 1 year

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

BIOLOGICAL ACTIVITY

Description	β-Amyloid (1-40) (rat) is a rat form of the amyloid β-peptide, which accumulates as an insoluble extracellular deposit around neurons, giving rise to the senile plaques associated with Alzheimer's disease (AD). β-Amyloid (1-40) (rat) increases ⁴⁵ Ca ²⁺ influx, induces neurodegeneration in the rat hippocampal neurons of the CA1 subfield. β-Amyloid (1-40) (rat) induces apoptosis. β-Amyloid (1-40) (rat) can be used for the research of Alzheimer's disease ^{[1][2]} .								
In Vitro	β-Amyloid (1-40) (rat) (1 μM; 1 h) increases ⁴⁵ Ca ²⁺ influx and elevates Ca ²⁺ in cortical synaptosomes ^[1] . β-Amyloid (1-40) (rat) (3 nM) induces neurodegeneration in the rat hippocampal neurons of the CA1 subfield and induces apoptosis ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.								
In Vivo	β-Amyloid (1-40) (rat) (1.7 mg; ICV, for 7 d; swiss and C57BL/6 mice) induces the learning and memory deficits in mice ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.								
	<table> <tr> <td>Animal Model:</td> <td>Swiss and C57BL/6 mice^[3]</td> </tr> <tr> <td>Dosage:</td> <td>1.7 mg</td> </tr> <tr> <td>Administration:</td> <td>Intracerebroventricular injection; for 7 days</td> </tr> <tr> <td>Result:</td> <td>Presented spatial learning and memory impairments.</td> </tr> </table>	Animal Model:	Swiss and C57BL/6 mice ^[3]	Dosage:	1.7 mg	Administration:	Intracerebroventricular injection; for 7 days	Result:	Presented spatial learning and memory impairments.
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REFERENCES

[1]. MacManus A, et, al. Enhancement of (45)Ca(2+) influx and voltage-dependent Ca(2+) channel activity by beta-amyloid-(1-40) in rat cortical synaptosomes and cultured cortical neurons. Modulation by the proinflammatory cytokine interleukin-1beta. J Biol Chem

[2]. Miguel-Hidalgo JJ, et, al. Beta-amyloid(1-40)-induced neurodegeneration in the rat hippocampal neurons of the CA1 subfield. Acta Neuropathol. 1998 May;95(5):455-65.

[3]. Prediger RD, et, al. Differential susceptibility following beta-amyloid peptide-(1-40) administration in C57BL/6 and Swiss albino mice: Evidence for a dissociation between cognitive deficits and the glutathione system response. Behav Brain Res. 2007 Feb 2

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA