Product Data Sheet

Product Name: Amyloid β-peptide (1-40) rat
Cat. No.: GC35335

Chemical Properties

Cas. No.	144409-98-3		
Formula	$C_{190}H_{291}N_{51}O_{57}S$	M.Wt	4233.76
Solubility	Soluble in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Amyloid β-peptide (1-40) rat		

Protocol

Animal experiment:

Eight-week-old male Sprague-Dawley rats (n=14) weighing 200 to 220 g are used in this study. The rats are housed in plastic cages with food and water supplied ad libitum, and are maintained on a 12-h light/dark cycle at room temperature (21 to 23°C). 14 rats are randomly divided into two groups: (1) Milli-Q water-injected rats serve as the control group and (2) fibrillar neurotoxic Amyloid β-peptide (1-40) (rat) injected rats serve as the Amyloid β-peptide (1-40) (rat) group. Fibrillar Amyloid β-peptide (1-40) (rat) or Milli-Q water (2 μL) is injected at a flow rate of 0.5 μL/min. Following injection, the needle is maintained in place for 5 min prior to its slow extraction. A second injection is also administered at the same coordinate in the opposite hemisphere. The behavioral performances of animals are assessed by the step-down passive avoidance test and Morris water maze test[1].

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References:

[1]. Shi X, et al. Rat hippocampal proteomic alterations following intrahippocampal injection of amyloid betapeptide (1-40). Neurosci Lett. 2011 Aug 15;500(2):87-91.

Background

Amyloid β-peptide (1-40) (rat) is the prone-to-aggregation product of amyloid precursor protein proteolytic cleavage, and is the major constituent of senile plaques observed in the brain of Alzheimer's disease. The Amyloid β-peptide (1-40) (rat)-treated rats require longer to find the platform hidden under the water. In the visible platform test, the latency for each group is similar (20.56±11.31 s in control and 14.68±9.97 s in Amyloid β-peptide (1-40) (rat) group, p=0.304). Among these tested proteins, 6 ones are significantly up-regulated and 7 ones significantly down-regulated in Amyloid β-peptide (1-40) (rat) group comparing with the control. Tubulin β chain is significantly down-regulated in Amyloid β-peptide (1-40) (rat) group (p=0.014) when compare with control. Similar changes are also observed for ATP synthase β subunit (p=0.010) and synapsin Ib between Amyloid β-peptide (1-40) (rat) and control groups, but not significantly for synapsin Ib (p=0.295)[1].

[1]. Shi X, et al. Rat hippocampal proteomic alterations following intrahippocampal injection of amyloid betapeptide (1-40). Neurosci Lett. 2011 Aug 15;500(2):87-91.

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