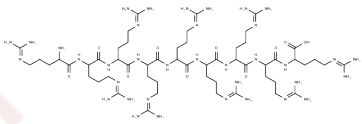
Data Sheet (Cat.No.T13976)

TargetMol

(Arg)9

Chemical Properties



CAS No. : 143413-47-2

Formula: C54H110N36O10

Molecular Weight: 1423.69

Storage: Keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	(Arg)9 (Nona-L-arginine;Peptide R9) is a cell-penetrating peptide,and exhibits neuroprotective activity(IC50 of 0.78 μM, in the glutamic acid model).
Targets(IC50)	Others,Serine Protease
In vitro	Poly-arginine (e.g. (Arg)9) with cell-penetrating properties are neuroprotective. (Arg)9 provides significant neuroprotection in a dose-response manner following glutamic acid exposure with IC50 of 0.78 μM. Following kainic acid exposure, (Arg)9 is neuroprotective, but less effective than in the glutamic acid model with IC50 of 0.81 μM. (Arg)9 also shows neuroprotection following in vitro ischemia with IC50 of 6 μM[1].
In vivo	In rat stroke models, (Arg)9) (D-isoform) is neuroprotective. (Arg)9) is highly neuroprotective, with efficacy increasing with increasing arginine content, has the capacity to reduce glutamic acid-induced neuronal calcium influx and requires heparan sulfate preotoglycan-mediated endocytosis to induce a neuroprotective effect[2]. (Arg)9) (D-isoform) was administered intravenously at a dose of 1000 nmol/kg 30 minutes after permanent middle cerebral artery occlusion (MCAO) [3].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.7024 mL	3.512 mL	7.024 mL
5 mM	0.1405 mL	0.7024 mL	1.4048 mL
10 mM	0.0702 mL	0.3512 mL	0.7024 mL
50 mM	0.014 mL	0.0702 mL	0.1405 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Meloni BP, et al. The neuroprotective efficacy of cell-penetrating peptides TAT, penetratin, Arg-9, and Pep-1 in glutamic acid, kainic acid, and in vitro ischemia injury models using primary cortical neuronal cultures. Cell Mol Neurobiol. 2014 Mar;34(2):173-81.

Meloni BP, et al. Poly-arginine and arginine-rich peptides are neuroprotective in stroke models. J Cereb Blood Flow Metab. 2015 Jun;35(6):993-1004.

Milani D, et al. Poly-arginine peptides reduce infarct volume in a permanent middle cerebral artery rat strokemodel. BMC Neurosci. 2016 May 3;17(1):19.

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