(Arg)9 acetate

Cat. No.: HY-P0133B

Molecular Formula: $C_{56}H_{114}N_{36}O_{12}$

Molecular Weight: 1483.74

Sequence Shortening: RRRRRRRRR

RRRRRRRRR (Acetate salt)

Target: Others

Pathway: Others

Storage: Sealed storage, away from moisture and light, under nitrogen

Powder -80°C 2 years

-20°C 1 year

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light, under nitrogen)

SOLVENT & SOLUBILITY

In Vitro

H_2O : 100 mg/mL (67.40 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	0.6740 mL	3.3699 mL	6.7397 mL
	5 mM	0.1348 mL	0.6740 mL	1.3479 mL
	10 mM	0.0674 mL	0.3370 mL	0.6740 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (67.40 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

(Arg)9 (Nona-L-arginine) acetate is a cell-penetrating peptide (CPP) made up of 9 arginine residues. (Arg)9 acetate has neuroprotective property, exhibits neuroprotective activity with an IC_{50} of 0.78 μM in the glutamic acid model[1][2].

IC_{50} & Target

IC50: 0.78 μM (neuroprotection)[1]

In Vitro

(Arg)9 (Nona-L-arginine; 5-10 μM) acetate provides significant neuroprotection in a dose–response manner following glutamic acid exposure (IC_{50}=0.78 μM). Following kainic acid exposure, (Arg)9 acetate is neuroprotective, but less effective than in the glutamic acid model (IC_{50}=0.81 μM). (Arg)9 acetate also shows neuroprotection following in vitro ischemia (IC_{50} =6 μM)[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

(Arg)9 (Nona-L-arginine; 1 μM/kg (600 μL); i.v.; once, for 30min; male Sprague–Dawley ratspermanent middle cerebral artery stroke model) acetate shows neuroprotective effects and reduces infarct volume[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Sprague–Dawley rats (270 to 320 g) permanent middle cerebral artery stroke model [2]
Dosage:	1 μM/kg (600 μL)
Administration:	Intravenous injection; once, over 5 minutes
Result:	Reduced significantiy 20% in infarct volume.

CUSTOMER VALIDATION

- In Vitro Cell Dev Biol-Pl. 06 January 2022.

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REFERENCES

[1]. 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.

[2]. 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.

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