

(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 ₂ O : 100 mg/mL (67.40 mM; Need ultrasonic)				
		Solvent Concentration	Mass		
	Preparing Stock Solutions		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]} .
IC₅₀ & Target	IC ₅₀ : 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 μ M/kg (600 μ L); i.v.; once, for 30min; male Sprague–Dawley rats permanent middle cerebral artery stroke model) acetate shows neuroprotective effects and reduces infarct volume^[2].

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Animal Model:	Male Sprague–Dawley rats (270 to 320 g) permanent middle cerebral artery stroke model [2]
Dosage:	1 μ M/kg (600 μ L)
Administration:	Intravenous injection; once, over 5 minutes
Result:	Reduced significantly 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.

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

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