

(Arg)9 TFA

Cat. No.:	HY-P0133A
CAS No.:	2283335-13-5
Molecular Formula:	C ₅₆ H ₁₁₁ N ₃₆ F ₃ O ₁₂
Molecular Weight:	1537.71
Sequence:	Arg-Arg-Arg-Arg-Arg-Arg-Arg-Arg-Arg
Sequence Shortening:	RRRRRRRRR
Target:	Others
Pathway:	Others
Storage:	Sealed storage, away from moisture
	Powder -80°C 2 years
	-20°C 1 year

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

BIOLOGICAL ACTIVITY

Description	(Arg)9 (Nona-L-arginine) TFA is a cell-penetrating peptide (CPP) made up of 9 arginine residues. (Arg)9 TFA 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) TFA provides significant neuroprotection in a dose-response manner following glutamic acid exposure (IC ₅₀ =0.78 μM). Following kainic acid exposure, (Arg)9 TFA is neuroprotective, but less effective than in the glutamic acid model (IC ₅₀ =0.81 μM). (Arg)9 TFA 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 rats permanent middle cerebral artery stroke model) TFA 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 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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