(Arg)9 TFA

Cat. No.:	HY-P0133A
CAS No.:	2283335-13-5
Molecular Formula:	$C_{54}H_{110}N_{36}O_{10}.xC_2HF_3O_2$
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)

RRRRRRRRR (TFA salt)

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].
IC_{50} & Target	IC50: 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 ratspermanent 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 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.

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

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