(Arg)9 TFA

Cat. No.:	HY-P0133A
CAS No.:	2283335-13-5
Molecular Formula:	$C_{56}H_{111}N_{36}F_3O_{12}$
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 TFA (Nona-L-arginine TFA), a cell-penetrating peptide, exhibits neuroprotective activity with an IC_{50} of 0.78 μM in the glutamic acid model.
IC_{50} & Target	IC50: 0.78 μM (neuroprotection)[1].
In Vitro	Poly-arginine (e.g. (Arg)9) and arginine-rich peptides (e.g. TAT, penetratin), which belong to a class of peptides with cell-penetrating properties are neuroprotective. (Arg)9 provides significant neuroprotection in a dose–response manner following glutamic acid exposure (IC_{50}=0.78 μM). Following kainic acid exposure, (Arg)9 is neuroprotective, but less effective than in the glutamic acid model (IC_{50}=0.81 μM). (Arg)9 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) (D-isoform) is neuroprotective in rat stroke models. (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) administered intravenously at a dose of 1000 nmol/kg 30 min after permanent middle cerebral artery occlusion (MCAO) reduces infarct volume[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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.

[3]. 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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