

(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:	RRRRRRRR		
Target:	Others		
Pathway:	Others		
Storage:	Powder	-80°C	2 years
		-20°C	1 year
	In solvent	-80°C	6 months
		-20°C	1 month

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.
IC₅₀ & Target	IC ₅₀ : 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] .
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 proteoglycan-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] .

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 stroke model. *BMC Neurosci.* 2016 May 3;17(1):19.

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

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