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## Product Data Sheet

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Product Name: (Arg)9 TFA

Cat. No.: GC34977

### Chemical Properties

Cas. No. 2283335-13-5

Formula  $C_{56}H_{111}N_{36}F_3O_{12}$

M.Wt

1537.71

Solubility Soluble in DMSO

Storage

Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure

### Background

(Arg)9 TFA (Nona-L-arginine TFA), a cell-penetrating peptide, exhibits neuroprotective activity with an IC<sub>50</sub> of 0.78 μM in the glutamic acid model. IC<sub>50</sub>: 0.78 μM (neuroprotection)[1].

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<sub>50</sub>=0.78 μM). Following kainic acid exposure, (Arg)9 is neuroprotective, but less effective than in the glutamic acid model (IC<sub>50</sub>=0.81 μM). (Arg)9 also shows neuroprotection following in vitro ischemia (IC<sub>50</sub>=6 μM)[1].

(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].

[1]. Meloni BP, et al. The neuroprotective efficacy of cell-penetrating peptides TAT,

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

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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.

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