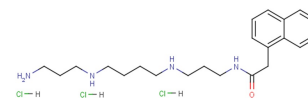


Naspm trihydrochloride

Chemical Properties

CAS No.:	1049731-36-3
Formula:	C ₂₂ H ₃₇ Cl ₃ N ₄ O
Molecular Weight:	479.91
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).



Biological Description

Description	Naspm trihydrochloride is a synthetic analogue of Joro spider toxin and is an antagonist of calcium permeable AMPA (CP-AMPA) receptors.
Targets(IC ₅₀)	Others: None
In vitro	NASPM selectively suppressed the inwardly rectifying and Ca(2+)-permeable AMPA receptors expressed in type II neurons. It had no effect on AMPA receptors in type I neurons. The blocking effect of NASPM on the Ca(2+)-permeable AMPA receptors was use and voltage-dependent. When the effect of NASPM reached a steady state, current responses induced by ionophoretic applications of kainate, a non-desensitizing agonist of AMPA receptors, in type II neurons were suppressed by NASPM in a dose-dependent manner at -60 mV (IC ₅₀ 0.33 microM, and Hill coefficient 0.94). The response to kainate recovered partially after washing out NASPM. NASPM did not affect the Ca(2+)-permeable AMPA receptors when the neuronal membrane was held at potentials more positive than +40 mV. Furthermore, the blockade by NASPM which was attained at negative potentials was transiently removed by shifting membrane potential to +60 mV for 5 s together with a single ionophoretic application of kainate.

Solubility Information

Solubility	H ₂ O: 50 mg/mL (104.19 mM) DMSO: 6.4 mg/mL (13.34 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.084 mL	10.419 mL	20.837 mL
5 mM	0.417 mL	2.084 mL	4.167 mL
10 mM	0.208 mL	1.042 mL	2.084 mL
50 mM	0.042 mL	0.208 mL	0.417 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. Koike M, et al. Blocking effect of 1-naphthyl acetyl spermine on Ca^{2+} -permeable AMPA receptors in cultured rat hippocampal neurons. *Neurosci Res.* 1997 Sep;29(1):27-36.

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