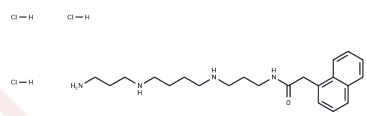
Data Sheet (Cat.No.T12187L)

TargetMol

Naspm trihydrochloride

Chemical Properties



CAS No. :	1049731-36-3
Formula:	C22H37Cl3N4O
Molecular Weight:	479.91
Storage:	Powder: -20°C for 3 years | In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.

Biological Description

Description	Naspm trihydrochloride (1-Naphthylacetyl spermine trihydrochloride) is a synthetic analogue of Joro spider toxin and acts as an antagonist of calcium-permeable AMPA (CP-AMPA) receptors.
Targets(IC50)	iGluR
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 (IC50 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	H2O: 50 mg/mL (104.19 mM),Sonication is recommended. DMSO: 6.4 mg/mL (13.34 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0837 mL	10.4186 mL	20.8372 mL
5 mM	0.4167 mL	2.0837 mL	4.1674 mL
10 mM	0.2084 mL	1.0419 mL	2.0837 mL
50 mM	0.0417 mL	0.2084 mL	0.4167 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Koike M, et al. Blocking effect of 1-naphthyl acetyl spermine on Ca2+-permeable AMPA receptors in cultured rat hippocampal neurons. Neurosci Res. 1997 Sep;29(1):27-36.