Naspm

Cat. No.: HY-12506

CAS No.: 122306-11-0

Molecular Formula: $C_{22}H_{34}N_4O$

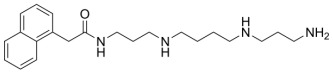
Molecular Weight: 370.53

Target: iGluR

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling

Storage:

Pure form	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 10 mg/mL (26.99 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.6988 mL	13.4942 mL	26.9884 mL
	5 mM	0.5398 mL	2.6988 mL	5.3977 mL
	10 mM	0.2699 mL	1.3494 mL	2.6988 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 1 mg/mL (2.70 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1 mg/mL (2.70 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1 mg/mL (2.70 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Naspm (1-Naphthyl acetyl spermine), a synthetic analogue of Joro spider toxin, is a calcium permeable AMPA (CP-AMPA) receptors antagonist.

In Vitro

NASPM selectively suppresses the inwardly rectifying and Ca^{2+}-permeable AMPA receptors expressed in type II neurons. It has no effect on AMPA receptors in type I neurons. At -60 mV, NASPM suppresses AMPA receptors in type II neurons with an IC_{50} value of 0.33 μM. The blocking effect of NASPM on the Ca^{2+}-permeable AMPA receptors is use and voltage-dependent[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cell Rep. 2023 Dec 3;42(12):113551.
- Cell Rep. 2020 Nov 10;33(6):108369.
- J Headache Pain. 2022 Aug 10;23(1):98.
- Neurobiol Dis. 2024 Mar 8:106471.
- iScience. 2023 Mar.

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REFERENCES

[1]. 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.

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