# Naspm

**Cat. No.:** HY-12506

**CAS No.:** 122306-11-0

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

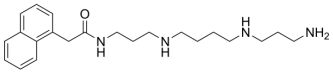
**Molecular Weight:** 370.53

**Target:** iGluR

**Pathway:** Membrane Transporter/Ion Channel; Neuronal Signaling

**Storage:**

| | | |
|---|---|---|
| Powder | -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**

| Solvent / Mass / 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.
- iScience. 2023 Mar.
- Neuroscience. 2021 Sep 9;S0306-4522(21)00454-1.

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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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