NAB-14

Cat. No.: HY-124569

CAS No.: 1237541-73-9

Molecular Formula: $C_{20}H_{21}N_3O_3$

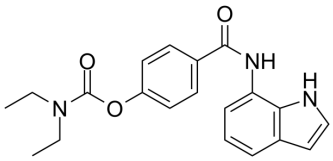
Molecular Weight: 351.4

Target: iGluR

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 200 mg/mL (569.15 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.8458 mL	14.2288 mL	28.4576 mL
	5 mM	0.5692 mL	2.8458 mL	5.6915 mL
	10 mM	0.2846 mL	1.4229 mL	2.8458 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: 5 mg/mL (14.23 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: 5 mg/mL (14.23 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

NAB-14 is a potent, selective, orally active and non-competitive GluN2C/2D antagonists with an IC_{50} of 580 nM for GluN1/GluN2D. NAB-14 shows >800-fold selective for recombinant GluN2C and GluN2D over GluN2A and GluN2B. NAB-14 can cross the blood-brain-barrier[1].

IC_{50} & Target

GluN2C/GluN2Dr[1]

In Vitro

NAB-14 (compound 14) shows inhibition with IC_{50}s of 15 μM and 5.1 μM for GluN1/2AC1/2CC2 and GluN1/2AC1/2CC2 receptors, respectively[1].
NAB-14 (20 μM; 24 h) inhibits native GluN2D-containing receptors in brain slices with no effect on native GluN2A- or GluN2B-containing NMDARs in cultures cortical neurons[1].

	NAB-14 (10 μM) reduces the peak amplitude of evoked EPSCs to 55 ± 3.0%, and significantly reduced the τW of EPSC deactivation[1]. NAB-14 (10 μM) decreases the peak amplitude and charge transfer of interneuron EPSCs to 59 ± 9.9% and 63 ± 9.7%, respectively. And NAB-14 decreases τW for interneuron EPSCs from 150 ± 12 ms to 101 ± 14 ms[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	NAB-14 (20 mg/kg; p.o.) shows high systemic exposure with peak brain free of 3.2 and 3.8 nM for mouse and rat, respectively [1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Mice and rats[1]
Dosage:	20 mg/kg
Administration:	P.o.
Result:	Showed high systemic exposure with peak brain free of 3.2 and 3.8 nM for mouse and rat, respectively.

REFERENCES

[1]. Swanger SA, et al. A Novel Negative Allosteric Modulator Selective for GluN2C/2D-Containing NMDA Receptors Inhibits Synaptic Transmission in Hippocampal Interneurons. ACS Chem Neurosci. 2018 Feb 21;9(2):306-319.

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