NMDAR/TRPM4-IN-2

Cat. No.: HY-139192

CAS No.: 2243506-33-2

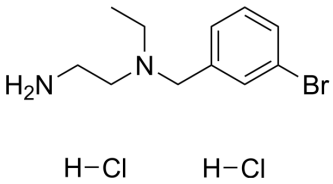
Molecular Formula: $C_{11}H_{19}BrCl_2N_2$

Molecular Weight: 330.09

Target: iGluR; TRP Channel; ERK

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling; MAPK/ERK Pathway; Stem Cell/Wnt

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (757.37 mM; Need ultrasonic)
H_2O : 100 mg/mL (302.95 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.0295 mL	15.1474 mL	30.2948 mL
	5 mM	0.6059 mL	3.0295 mL	6.0590 mL
	10 mM	0.3029 mL	1.5147 mL	3.0295 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: ≥ 2.08 mg/mL (6.30 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (6.30 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (6.30 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

NMDAR/TRPM4-IN-2 (compound 8) is a potent NMDAR/TRPM4 interaction interface inhibitor. NMDAR/TRPM4-IN-2 shows neuroprotective activity. NMDAR/TRPM4-IN-2 prevents NMDA-induced cell death and mitochondrial dysfunction in hippocampal neurons, with an IC_{50} of 2.1 μM. NMDAR/TRPM4-IN-2 protects mice from MCAO-induced brain damage and NMDA-induced retinal ganglion cell loss[1].

In Vitro

NMDAR/TRPM4-IN-2 (compound 8) (0-10 μM) reduces the interactions of GluN2A and GluN2B with TRPM4 in a dose-

	dependent manner[1]. NMDAR/TRPM4-IN-2 eliminates the CREB shutoff pathway and restores ERK1/2 activation and IEG induction while sparing the synaptic activity-driven, transcription-promoting activities of NMDARs[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Yan J, et al. Coupling of NMDA receptors and TRPM4 guides discovery of unconventional neuroprotectants. Science. 2020 Oct 9;370(6513):eaay3302.

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