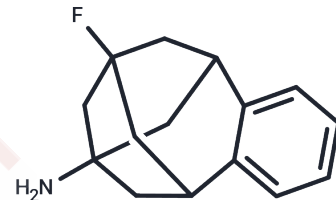


NMDA receptor antagonist 4

Chemical Properties

CAS No. :	1607589-56-9
Formula:	C ₁₅ H ₁₈ FN
Molecular Weight:	231.31
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	NMDA receptor antagonist 4 (Ilc) is an uncompetitive, voltage-dependent, orally active NMDAR blocker with an IC ₅₀ of 1.93 μM. It shows positive predicted blood-brain-barrier (BBB) permeability and can be used in Alzheimer's disease research[1].
Targets(IC50)	Others,iGluR
In vitro	NMDA receptor antagonist 4 (Ilc) competitively interacts with the endogenous blocker Mg ²⁺ and exhibits membrane potential dependence in the NMDAR channel [1]. It shows high metabolic stability in human and mouse liver microsomes and demonstrates hERG safety without observable cytotoxicity [1]. In a cell cytotoxicity assay using Neuro2A cells, at concentrations of 1, 10, and 100 μM over 24 hours, it did not show cytotoxicity at the highest concentration tested (100 μM) [1].
In vivo	NMDA receptor antagonist 4 (Ilc) exhibited significant neuroprotective effects in vitro and in vivo at 0-10 μM, reducing motor deficits and protecting against Aβ toxin-induced neuronal dysfunction. Orally administered at 5 mg/kg/day for four weeks, it enhanced cell survival and synaptic function in Alzheimer's disease models, attributed to activation of the Fyn-GluN2B-CREB signaling pathway and prevention of synaptic NMDARs internalization. In C. elegans models (N2 wild-type, CL2006, CL2122, CL2355), it ameliorated defective locomotion in CL2006 nematodes and improved chemotaxis in CL2355 nematodes affected by Aβ expression. In six-month-old female 5XFAD mice, the treatment regimen enhanced working memory function, restored GluN2A and postsynaptic density protein (PSD) 95 expression, increased Fyn and GluN2B phosphorylation, significantly raised p-CREB protein levels in the nucleus, and reverted calbindin D-28K protein levels.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.3232 mL	21.616 mL	43.232 mL
5 mM	0.8646 mL	4.3232 mL	8.6464 mL
10 mM	0.4323 mL	2.1616 mL	4.3232 mL
50 mM	0.0865 mL	0.4323 mL	0.8646 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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

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