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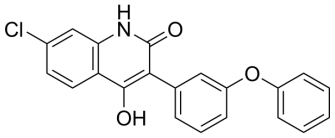
L-701324

Cat. No.:	HY-18698
CAS No.:	142326-59-8
Molecular Formula:	$C_{21}H_{14}ClNO_3$
Molecular Weight:	363.79
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 : ≥ 34 mg/mL (93.46 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.7488 mL	13.7442 mL	27.4884 mL
	5 mM	0.5498 mL	2.7488 mL	5.4977 mL
	10 mM	0.2749 mL	1.3744 mL	2.7488 mL

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

BIOLOGICAL ACTIVITY

Description

L-701324 is a potent, orally active NMDA receptor antagonist that antagonizes the activity of the NMDA receptor by blocking its glycine B binding site. L-701324 binds with high affinity to rat brain membranes (IC_{50}=2 nM). L-701324 has antidepressant activity[1][2][3].

IC_{50} & Target

NMDA Receptor

In Vivo

L-701324 (5-10 mg/kg; i.p.; once) exhibits antidepressant-like potential in the forced swim test (FST) and tail suspension test (TST) without affecting the locomotor activity of mice[1].

L-701324 (5-10 mg/kg; i.p.; daily, for 2 weeks) produces strong antidepressant-like effects in the chronic unpredictable mild stress (CUMS) model of depression and prevents the CUMS-induced decreases in eurogenesis and the BDNF signaling cascade in the hippocampus[1].

L-701324 (2.5-5 mg/kg; p.o.; once) inhibits NMDA receptor activity via a blockade of the NMDA/glycine-sensitive site at the NMDA receptor is accompanied by a reduction of anxiety-like behavior in both non-conditioned and conditioned conflict behavior situations[2].

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

Animal Model:	Male C57BL/6 J mice in the chronic unpredictable mild stress (CUMS) (7 weeks of age) [1]
Dosage:	5 and 10 mg/kg
Administration:	Intraperitoneal injection; daily, for 2 weeks
Result:	Reduced the immobility of C57BL/6 J mice. Increased the expression of BDNF, pTrkB and pCREB in the hippocampus.

Animal Model:	Male C57BL/6 J mice in the forced swim test (FST) and tail suspension test (TST) (7 weeks of age)[1]
Dosage:	5 and 10 mg/kg
Administration:	Intraperitoneal injection; once
Result:	Reduced the immobility of C57BL/6 J mice in the FST and TST.

Animal Model:	Male Sprague-Dawley rats (280-300 g)[2]
Dosage:	2.5 and 5 mg/kg
Administration:	Oral administration; once
Result:	Increased in the percentage of time spent in the open arm in a dose-dependent. Increased punished responding in the Vogel's conflict test in a dose-dependent fashion.

REFERENCES

[1]. Liu L, et, al. Antidepressant-like activity of L-701324 in mice: A behavioral and neurobiological characterization. Behav Brain Res. 2021 Feb 5;399:113038.

[2]. Kotlinska J, et, al. A characterization of anxiolytic-like actions induced by the novel NMDA/glycine site antagonist, L-701,324. Psychopharmacology (Berl). 1998 Jan;135(2):175-81.

[3]. Hutson PH, et, al. L-701,324, a glycine/NMDA receptor antagonist, blocks the increase of cortical dopamine metabolism by stress and DMCM. Eur J Pharmacol. 1997 May 20;326(2-3):127-32.

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