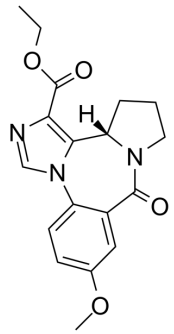
L-655708

Cat. No.:	HY-14426
CAS No.:	130477-52-0
Molecular Formula:	$C_{18}H_{19}N_3O_4$
Molecular Weight:	341.36
Target:	GABA Receptor
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 (29.29 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.9295 mL	14.6473 mL	29.2946 mL
	5 mM	0.5859 mL	2.9295 mL	5.8589 mL
	10 mM	0.2929 mL	1.4647 mL	2.9295 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 (2.93 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1 mg/mL (2.93 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1 mg/mL (2.93 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

L-655708 is a potent α5 subunit-selective GABAA receptor inverse agonist (K_i=0.45 nM).

In Vitro

L655708 is a potent, selective inverse agonist for the benzodiazepine site of GABAA receptors containing the α5 subunit (Ki = 0.45 nM). Displays 50-100-fold selectivity over GABAA receptors containing α1, α2, α3 orα6 subunits in combination with β3 and γ2. Enhances LTP in a mouse hippocampal slice model and increases spatial learning, without displaying proconvulsant activity.

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

In Vivo	L-655708 at 0.7 mg/kg, administered intraperitoneally, would result in 60-70% occupancy of α5 GABAA receptors with limited binding to α1, α2, and α3 subunit-containing GABAA receptors and no significant off-target behavioral effects, such as sedation and motor impairment. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- CNS Neurosci Ther. 2020 Sep;26(9):913-924.

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REFERENCES

[1]. Saab BJ, et al. Short-term memory impairment after isoflurane in mice is prevented by the α5 γ-aminobutyric acid type A receptorinverse agonist L-655708. Anesthesiology. 2010 Nov;113(5):1061-1071.

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