TC-2153

Cat. No.: HY-124591

CAS No.: 1381769-23-8

Molecular Formula: $C_7H_5ClF_3NS_5$

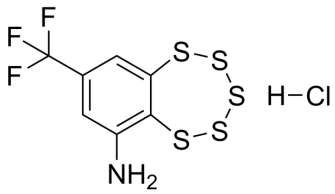
Molecular Weight: 355.89

Target: 5-HT Receptor; Monoamine Oxidase

Pathway: GPCR/G Protein; Neuronal Signaling

Storage: -20°C, sealed storage, away from moisture

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



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (280.99 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.8099 mL	14.0493 mL	28.0986 mL
	5 mM	0.5620 mL	2.8099 mL	5.6197 mL
	10 mM	0.2810 mL	1.4049 mL	2.8099 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.02 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

TC-2153 is a selective inhibitor of striatal-enriched protein tyrosine phosphatase (STEP), with psychotropic activity and low acute toxicity. TC-2153 increases the expression of brain-derived neurotropic factor (BDNF) in the brain. And it decreases MAOA and 5-HT1A receptors mRNA level in midbrain. TC-2153 also inhibits 5-HT2A receptor-mediated signaling[1].

IC_{50} & Target			
	5-HT_{1A} Receptor	5-HT_{2A} Receptor	MAO-A

In Vitro

TC-2153 (10 μM; 3 h) decreases the percentage of DOI (HY-103124)-induced c-fos positive neurons in cortical and hippocampal neurons cultured in vitro[1].

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

In Vivo

Chronic TC-2153 treatment: TC-2153 (20 mg/kg; i.p.; once daily for 7 d) shows antidepressant-like effect without altering locomotor, exploratory activity and anxiety[1].

Acute TC-2153 treatment: TC-2153 (10 mg/kg and 20 mg/kg; p.o.; single dose) inhibits the functional activity of 5-HT2A receptors in vivo in mice[1].

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

Animal Model:	SPF-state adult mouse males[1]
Dosage:	10 mg/kg and 20 mg/kg; with or without 1 mg/kg DOI i.p. at 3 h after final treatment
Administration:	Oral gavage or intraperitoneal injection; single dose or once daily for 7 d
Result:	Showed antidepressant-like effect in the forced swim test without any adverse side effects on locomotor activity, anxiety, exploration, motor skill and obsessive-compulsive-like behavior. Both acute and chronic methods inhibited the functional activity of 5-HT2A receptors.

REFERENCES

[1]. Walters JM, et al. Pharmacological inhibition of STriatal-Enriched protein tyrosine Phosphatase by TC-2153 reduces hippocampal excitability and seizure propensity. Epilepsia. 2022 May;63(5):1211-1224.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA