(S)-MCPG

Cat. No.: HY-100406

CAS No.: 150145-89-4

Molecular Formula: $C_{10}H_{11}NO_4$

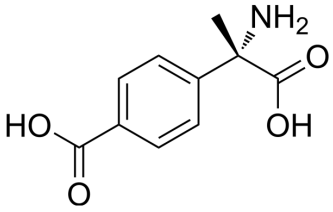
Molecular Weight: 209.2

Target: mGluR

Pathway: GPCR/G Protein; Neuronal Signaling

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

H_2O : 100 mg/mL (478.01 mM; ultrasonic and adjust pH to 13 with 1M NaOH)
1M NaOH : 22 mg/mL (105.16 mM; ultrasonic and adjust pH to 11 with NaOH)
DMSO : 4 mg/mL (19.12 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	4.7801 mL	23.9006 mL	47.8011 mL
5 mM	0.9560 mL	4.7801 mL	9.5602 mL
10 mM	0.4780 mL	2.3901 mL	4.7801 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: ≥ 0.4 mg/mL (1.91 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 0.4 mg/mL (1.91 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.4 mg/mL (1.91 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

(S)-MCPG ((+)-MCPG) is a potent group I/II metabotropic glutamate receptor (mGluRs) antagonist and the active isomer of (RS)-MCPG (HY-100371)[1]. (S)-MCPG can be used for the study of the function of mGluRs in spatial learning[2].

IC_{50} & Target

mGluR

In Vitro	(S)-MCPG (100 μM) has no detectable effects on basal spine formation or elimination mechanisms in WT slice cultures. (S)-MCPG prevents the increase in spine turnover triggered by TBS and interferes with the mechanisms of activity-dependent spine stabilization in Hippocampal slice cultures[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Research Square Preprint. 2023 Nov 13.

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REFERENCES

[1]. Bernadett Boda, et al. Reversal of activity-mediated spine dynamics and learning impairment in a mouse model of Fragile X syndrome. Eur J Neurosci. 2014 Apr;39(7):1130-7.

[2]. F Bordi, et al. Effects of the metabotropic glutamate receptor antagonist MCPG on spatial and context-specific learning. Neuropharmacology. 1996;35(11):1557-65.

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