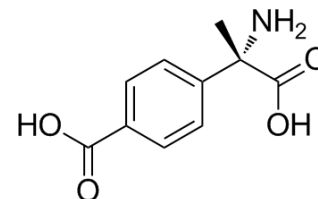


(S)-MCPG

| | | | |
|---------------------------|-------------------------------------------------|-------|----------|
| 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

DMSO : 1 mg/mL (4.78 mM; Need ultrasonic)

| Solvent | Mass | Concentration | | |
|---------------------------|-------|---------------|------------|------------|
| | | 1 mg | 5 mg | 10 mg |
| Preparing Stock Solutions | 1 mM | 4.7801 mL | 23.9006 mL | 47.8011 mL |
| | 5 mM | --- | --- | --- |
| | 10 mM | --- | --- | --- |

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

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].

IC₅₀ & 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.

In Vivo

MCPG (intraventricular injection; 20 μg) treated rat are slower to learn the task and takes longer to reach the platform than vehicle injected animals. On days 2 and 3, MCPG rats has a significant longer escape latency and the measure of search error is significantly longer on each of the first 3 days. On day 4, MCPG-treated animals reaches the same level of performance as control animals in Morris water maze^[2].

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

| | |
|-----------------|------------------------------------------------------------------------------------------------------------------|
| Animal Model: | Male Lister-Hooded rats in the learning of the Morris water maze ^[2] |
| Dosage: | 20 µg |
| Administration: | Intraventricular injection; 20 µg; 4 days |
| Result: | Impaired the performance of rats in the spatial version of the Morris water maze, but 1/10 of this dose did not. |

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.

Caution: Product has not been fully validated for medical applications. For research use only.

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