YM-298198 hydrochloride

Cat. No.: HY-103568

CAS No.: 1216398-09-2

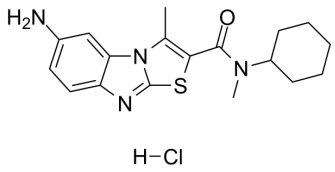
Molecular Formula: $C_{18}H_{23}ClN_4OS$

Molecular Weight: 378.92

Target: mGluR

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 : 125 mg/mL (329.88 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.6391 mL	13.1954 mL	26.3908 mL
	5 mM	0.5278 mL	2.6391 mL	5.2782 mL
	10 mM	0.2639 mL	1.3195 mL	2.6391 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: ≥ 2.08 mg/mL (5.49 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (5.49 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

YM-298198 hydrochloride is a high-affinity, selective, orally active, and non-competitive antagonist of metabotropic glutamate receptor type 1 (mGluR1). YM-298198 hydrochloride can be used for the research of neurological disorders[1].

IC_{50} & Target

mGluR 1

In Vitro

YM-298198 hydrochloride shows a high affinity for mGluR1 with a K_i of 19 nM for rat mGluR1-NIH membranes[1].
YM-298198 hydrochloride inhibits glutamate-induced inositol phosphate production in mGluR1-NIH3T3 cells, with an IC_{50} of 16 nM[1].
YM-298198 hydrochloride shows neither agonistic nor antagonistic activity on mGluR2, 3, 4a, 6, or 7b up to 10 μM[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo	YM-298198 hydrochloride (30 mg/kg; p.o.) shows a significant analgesic effect in streptozotocin-induced hyperalgesic mice[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male ICR mice[1]
Dosage:	30 mg/kg
Administration:	Oral administration
Result:	Prolonged nociceptive response latency in streptozotocin (200 mg/kg)-induced hyperalgesic mice.

REFERENCES

[1]. Kohara, A, et al. Radioligand Binding Properties and Pharmacological Characterization of 6-Amino-N-cyclohexyl-N,3-dimethylthiazolo[3,2-a]benzimidazole-2-carboxamide (YM-298198), a High-Affinity, Selective, and Noncompetitive Antagonist of Metabotropic Glu

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