(S)-Amisulpride

Cat. No.: HY-126068

CAS No.: 71675-92-8

Molecular Formula: $C_{17}H_{27}N_3O_4S$

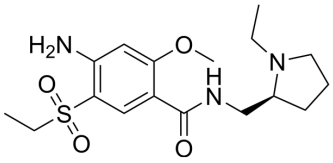
Molecular Weight: 369.48

Target: Dopamine Receptor; 5-HT Receptor

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 : 100 mg/mL (270.65 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.7065 mL	13.5325 mL	27.0651 mL
5 mM	0.5413 mL	2.7065 mL	5.4130 mL
10 mM	0.2707 mL	1.3533 mL	2.7065 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: ≥ 2.5 mg/mL (6.77 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.77 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.77 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

(S)-Amisulpride (Esamisulpride) is a potent dopamine D_2/D_3 receptor antagonist. (S)-Amisulpride is an antagonist at the 5-HT_7 receptor with a K_I of 900 nM. (S)-Amisulpride has antipsychotic and antidepressant effects[1][2].

IC_{50} & Target

D_2 Receptor	D_3 Receptor	5-HT_7 Receptor
		900 nM (Ki)

In Vitro

(S)-Amisulpride (Esamisulpride) displays high affinity binding at both D_2 and D_3 receptors and is approximately twice as

	potent as racamisulpride and 20–50 times more potent than (R)-amisulpride at these receptors[2] MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	The (S)-amisulpride (10mg/kg, s.c.) stimulus is rapidly acquired and was shown to be dose-related, time dependent (effective between 30 and 120min) and stereoselective male C57BL/6 mice[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Timothy J Donahue, et al. (S)-amisulpride as a discriminative stimulus in C57BL/6 mice and its comparison to the stimulus effects of typical and atypical antipsychotics. Eur J Pharmacol. 2014 Jul 5;734:15-22.

[2]. Vincent Grattan, et al. Antipsychotic Benzamides Amisulpride and LB-102 Display Polypharmacy as Racemates, S Enantiomers Engage Receptors D_2 and D_3, while R Enantiomers Engage 5-HT_7. ACS Omega. 2019 Aug 15;4(9):14151-14154.

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

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