Atipamezole hydrochloride

Cat. No.: HY-12380

CAS No.: 104075-48-1

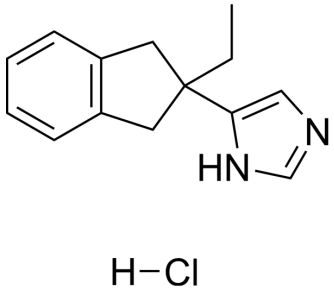
Molecular Formula: $C_{14}H_{17}ClN_2$

Molecular Weight: 248.75

Target: Adrenergic Receptor

Pathway: GPCR/G Protein; Neuronal Signaling

Storage: 4°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

H_2O : 75 mg/mL (301.51 mM; Need ultrasonic and warming)
DMSO : ≥ 47 mg/mL (188.94 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	4.0201 mL	20.1005 mL	40.2010 mL
5 mM	0.8040 mL	4.0201 mL	8.0402 mL
10 mM	0.4020 mL	2.0101 mL	4.0201 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 (10.05 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (10.05 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (10.05 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Atipamezole (MPV-1248) hydrochloride is a potent α_2-adrenoceptor antagonist with a K_i of 1.6 nM[1].

IC_{50} & Target

α adrenergic receptor

In Vitro

The affinity of atipamezole for α_2-adrenoceptors and its α_2/α_1 selectivity ratio are considerably higher than yohimbine. Atipamezole is not selective for subtypes of α_2-adrenoceptors. It has negligible affinity for 5-HT_1, 5-HT2 and I2 bindings sites [1].

	MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Atipamezole is well tolerated in rodents. In anesthetized, normotensive rats, the cardiovascular effects of atipamezole (0.01–1 mg/kg, i.v.) are rather modest. Atipamezole is commonly used by veterinarians to awaken animals from sedation or anesthesia. Atipamezole increases sexual activity in rats and monkeys. In animals with sustained nociception, atipamezole increases pain-related responses by blocking the noradrenergic feedback inhibition of pain. Atipamezole at low doses has beneficial effects on alertness, selective attention, planning, learning, and recall in experimental animals, but not necessarily on short-term working memory[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Protein Cell. 2019 Mar;10(3):178-195.
- Sci Transl Med. 2022 Nov 3;eabq4064.
- Front Cell Dev Biol. 2021 Mar 11;9:636327.
- Exp Mol Pathol. 2021 Feb;118:104587.
- Eur J Neurosci. 2021 Apr 27.

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REFERENCES

[1]. Pertovaara A, et al.Pharmacological properties, central nervous system effects, and potential therapeutic applicationsof atipamezole, a selective alpha2-adrenoceptor antagonist. CNS Drug Rev. 2005 Autumn;11(3):273-88.

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