Zotepine

Cat. No.: HY-103093

CAS No.: 26615-21-4

Molecular Formula: $C_{18}H_{18}ClNOS$

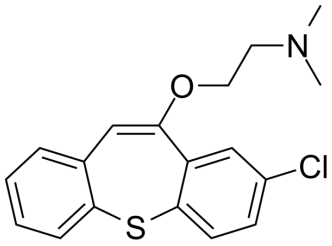
Molecular Weight: 331.86

Target: 5-HT Receptor; Histamine Receptor; Adrenergic Receptor; Dopamine Receptor

Pathway: GPCR/G Protein; Neuronal Signaling; Immunology/Inflammation

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

DMSO : 25 mg/mL (75.33 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.0133 mL	15.0666 mL	30.1332 mL
	5 mM	0.6027 mL	3.0133 mL	6.0266 mL
	10 mM	0.3013 mL	1.5067 mL	3.0133 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 (7.53 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Zotepine, an antipsychotic agent, is a potent antagonist of 5-HT_{2A}, 5-HT_{2C}, Histamine H_1, α_1-adrenergic and Dopamine D_2 receptors, with K_ds of 2.6 nM, 3.2 nM, 3.3 nM, 7.3 nM and 8 nM, respectively. Zotepine exhibits antidepressive and anxiolytic effects in vivo[1][2].

In Vitro

Zotepine shows multiple antagonistic profiles with strong affinities to α_1-adrenergic, α_2-adrenergic, Dopamine D_2, Histamine H_1, Muscarinic, 5-HT_{1A}, 5-HT_{1D}, 5-HT_{2A}, and 5-HT_{2C} receptors, with K_ds of 7.3, 180, 8, 3.3, 330, 280, 80, 2.6, 3.2 nM, respectively[1].

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

In Vivo

Zotepine (1-3 mg/kg; a single i.p.) dose-dependently increases noradrenaline, dopamine, GABA, and glutamate release without affecting 5-HT levels in the medial prefrontal cortex of rats[2].

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

Animal Model:	Male Sprague-Dawley rats (250-300 g)[1]
Dosage:	1, 3 mg/kg
Administration:	A single i.p.
Result:	Increased noradrenaline, dopamine, GABA, and glutamate release without affecting 5-HT levels in the medial prefrontal cortex. Increased neuronal firing frequencies in the VTA, DRN, LC and MTN in a dose-dependent manner.

REFERENCES

[1]. Richelson E, et, al. Binding of antipsychotic drugs to human brain receptors focus on newer generation compounds. Life Sci. 2000 Nov 24;68(1):29-39.

[2]. Yamamura S, et, al. Effects of zotepine on extracellular levels of monoamine, GABA and glutamate in rat prefrontal cortex. Br J Pharmacol. 2009 Jun;157(4):656-65.

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

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