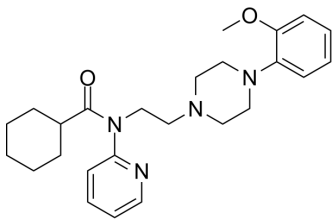
WAY-100635

Cat. No.:	HY-10349
CAS No.:	162760-96-5
Molecular Formula:	$C_{25}H_{34}N_4O_2$
Molecular Weight:	422.56
Target:	5-HT Receptor; Dopamine Receptor
Pathway:	GPCR/G Protein; Neuronal Signaling
Storage:	Pure form -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 66.67 mg/mL (157.78 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.3665 mL	11.8326 mL	23.6653 mL
	5 mM	0.4733 mL	2.3665 mL	4.7331 mL
	10 mM	0.2367 mL	1.1833 mL	2.3665 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 (5.92 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.92 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.92 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

WAY-100635 is a potent and selective 5-HT_{1A} Receptor antagonist with a pIC_{50} of 8.87, an apparent pA_2 of 9.71.WAY-100635 is a potent and selective 5-hydroxytryptamine 1A (5-HT1A) receptor antagonist with an IC_{50} value of 0.91 nM and K_i value of 0.39 nM. WAY-100635 has pIC_{50} values for 5-HT1A and α1-adrenergic receptors of 8.9 and 6.6, respectively. WAY-100635 is also a potent dopamine D_4 receptor agonist[1][2][3].

IC_{50} & Target	D_4 Receptor	5-HT_{1A} Receptor 8.87 (pIC_{50})	5-HT_{1A} Receptor 9.71 (pA2)

In Vitro	The functional properties and binding affinities of WAY-100635 are evaluated in HEK 293 cells stably expressing dopamine D_{2L} or $D_{4.4}$ receptors[1]. WAY-100635 displays 940, 370, and 16 nM binding affinities at D_{2L}, D_3, and $D_{4.2}$ receptors, respectively. Saturation analyses demonstrat that the K_d of [^{3}H] WAY-100635 at $D_{4.2}$ receptors is 2.4 nM. WAY-100635 is potent agonist in HEK-$D_{4.4}$ cells with EC_{50} of 9.7 nM. WAY-100635 possesses high affinity for $D_{4.4}$ receptor (3.3 nM) [1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	WAY-100635 (1 mg/kg; subcutaneous injection; male Sprague-Dawley rats) treatment abolishes the reduction of the severity of abstinence signs induced by Rhodiola rosea administration in nicotine-dependent rat[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Sprague-Dawley rats (220-240 g)[2]
Dosage:	1 mg/kg
Administration:	Subcutaneous injection (Pharmacokinetic study)
Result:	Reduced total abstinence score, increased immobility time and the burying behavior was increased.

CUSTOMER VALIDATION

- Nat Neurosci. 2021 Dec 9.
- Psychopharmacology. 2022 Sep 15.
- Chin J Integr Med. 2019 Nov 29.

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REFERENCES

[1]. Chemel BR, et al. WAY-100635 is a potent dopamine D4 receptor agonist. Psychopharmacology (Berl). 2006 Oct;188(2):244-51.

[2]. Mannucci C, et al. Serotonin involvement in Rhodiola rosea attenuation of nicotine withdrawal signs in rats. Phytomedicine. 2012 Sep 15;19(12):1117-24.

[3]. Al Hussainy R, et al. Design, synthesis, radiolabeling, and in vitro and in vivo evaluation of bridgehead iodinatedanalogues of N-{2-[4-(2-methoxyphenyl)piperazin-1-yl]ethyl}-N-(pyridin-2-yl)cyclohexanecarboxamide (WAY-100635) as potential SPECT ligands for the 5-HT1A receptor. J Med Chem. 2011 May 26;54(10):3480-91.

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