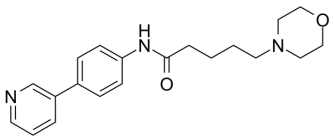
SEN12333

Cat. No.:	HY-107678
CAS No.:	874450-44-9
Molecular Formula:	$C_{20}H_{25}N_3O_2$
Molecular Weight:	339.43
Target:	nAChR
Pathway:	Membrane Transporter/Ion Channel; 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 (294.61 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.9461 mL	14.7306 mL	29.4612 mL
	5 mM	0.5892 mL	2.9461 mL	5.8922 mL
	10 mM	0.2946 mL	1.4731 mL	2.9461 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 (7.37 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

SEN 12333 (WAY-317538) is a potent, selective and orally active α7 nAChR agonist. SEN12333 displays high affinity for the rat α7 nAChRs expressed in GH4C1 cells ($K_{>i}$=260 nM) and acts as full agonist in functional Ca^{2+} flux studies (EC_{50}=1.6 μM). SEN 12333 is used for AD and schizophrenia research[1].

In Vitro

In whole-cell patch-clamp recordings, SEN12333 activates peak currents and maximal total charges similar to acetylcholine (EC_{50}= 12 μM). SEN12333 displays functional antagonism at histamine H3 receptors (IC_{50}=103 nM) and weak agonist activity at human ganglionic α3 nAChRs (IC_{50}=8.5 μM)[1].

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

In Vivo

SEN12333 (intraperitoneal injection; 3 mg/kg) improves episodic memory in a novel object recognition task in rats in conditions of spontaneous forgetting as well as cognitive disruptions induced via glutamatergic or cholinergic mechanisms. SEN12333 also prevents a scopolamine-induced deficit in a passive avoidance task[1].

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

REFERENCES

[1]. Corinne Beinat, et al. The Recent Development of α7 Nicotinic Acetylcholine Receptor (nAChR) Ligands as Therapeutic Candidates for the Treatment of Central Nervous System (CNS) Diseases.Curr Pharm Des. 2016;22(14):2134-51.

[2]. Renza Roncarati, et al. Procognitive and neuroprotective activity of a novel alpha7 nicotinic acetylcholine receptor agonist for treatment of neurodegenerative and cognitive disorders. J Pharmacol Exp Ther. 2009 May;329(2):459-68.

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