S1R agonist 2 hydrochloride

Cat. No.: HY-149804A

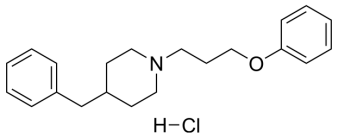
Molecular Formula: $C_{21}H_{28}ClNO$

Molecular Weight: 345.91

Target: Sigma Receptor

Pathway: Neuronal Signaling

Storage: -20°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 : 100 mg/mL (289.09 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.8909 mL	14.4546 mL	28.9093 mL
	5 mM	0.5782 mL	2.8909 mL	5.7819 mL
	10 mM	0.2891 mL	1.4455 mL	2.8909 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 (7.23 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.23 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.23 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

S1R agonist 2 (Compound 8b) hydrochloride is a selective S1R agonist with K_is of 1.1 nM and 88 nM for S1R and S2R, respectively. S1R agonist 2 hydrochloride exhibits neuroprotection against ROS and NMDA-induced neurotoxicity[1].

IC_{50} & Target

Ki: 1.1 nM and 88 nM for S1R and S2R[1]

In Vitro

S1R agonist 2 (Compound 8b; 0.1-5 μM) hydrochloride significantly increases the nerve growth factor (NGF) induced neurite outgrowth at all the tested concentrations in a dose-dependent manner[1].
S1R agonist 2 (24 h) hydrochloride significantly prevents cell damage induced by Rotenone (HY-B1756) when tested at the concentration of 1 μM in SHSY5Y cells[1].

	S1R agonist 2 (0.1-5 μM; 24 h) hydrochloride demonstrates a neuroprotective effect against NMDA stimuli in SHSY5Y cells[1]. S1R agonist 2 (0-10 μM; 24-72 h) hydrochloride shows no cytotoxicity against A549, LoVo and Panc-1 cells[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	S1R agonist 2 (Compound 8b; 0.1-50 μM; 120 h) hydrochloride does not induce embryo death (100% of embryos alive) at 10 μM, but induces the death of all zebrafish embryo at the highest dose tested (50 μM)[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Linciano P, et al. Novel S1R agonists counteracting NMDA excitotoxicity and oxidative stress: A step forward in the discovery of neuroprotective agents. Eur J Med Chem. 2023 Mar 5;249:115163.

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