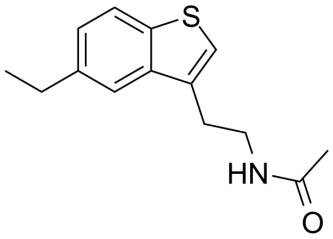
S-22153

Cat. No.:	HY-114962
CAS No.:	180304-07-8
Molecular Formula:	$C_{14}H_{17}NOS$
Molecular Weight:	247.36
Target:	Melatonin Receptor
Pathway:	GPCR/G Protein; 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 (404.27 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	4.0427 mL	20.2135 mL	40.4269 mL
	5 mM	0.8085 mL	4.0427 mL	8.0854 mL
	10 mM	0.4043 mL	2.0213 mL	4.0427 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: 5 mg/mL (20.21 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 5 mg/mL (20.21 mM); Clear solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: 5 mg/mL (20.21 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

S-22153 is a potent melatonin receptor antagonist with EC_{50} values of 19 nM, 4.6 nM for hMT_1 and hMT_2 melatonin receptor, respectively. S-22153 has K_i values of 8.6 nM (CHO cells) and 16.3 nM (HEK cells) for hMT_1, and 6.0 nM (CHO cells) and 8.2 nM (HEK cells) for hMT_2. S-22153 is a specific ligand of MT_1 and MT_2 melatonin receptors subtypes[1][2].

IC_{50} & Target	MT1	MT2
	19 nM (EC50)	4.6 nM (EC50)

In Vivo

S-22153 sets the temperature and activity periods to approximately 24 hr and increase the circadian amplitude of both rhythms in mice, which exposed to continuous light[1] .

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

Animal Model:	7 weeks old Male B6D2F1 mice, which exposed to continuous light for 10-18 days[1]
Dosage:	20 mg/kg
Administration:	Daily intraperitoneal (i.p.) for 19 days
Result:	Set the temperature and activity periods to approximately 24 hr and increased the circadian amplitude of both rhythms in mice, which exposed to continuous light.

REFERENCES

[1]. Li XM, et al. Circadian rhythm entrainment with melatonin, melatonin receptor antagonist S22153 or their combination in mice exposed to constant light. J Pineal Res. 2004;37(3):176-184.

[2]. Audinot V, et al. New selective ligands of human cloned melatonin MT1 and MT2 receptors. Naunyn Schmiedebergs Arch Pharmacol. 2003;367(6):553-561.

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