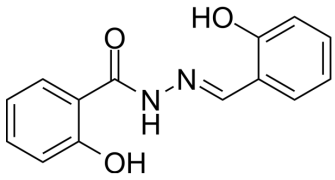
SCS

Cat. No.:	HY-103528
CAS No.:	3232-36-8
Molecular Formula:	$C_{14}H_{12}N_2O_3$
Molecular Weight:	256.26
Target:	GABA Receptor
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 : 50 mg/mL (195.11 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.9023 mL	19.5114 mL	39.0229 mL
	5 mM	0.7805 mL	3.9023 mL	7.8046 mL
	10 mM	0.3902 mL	1.9511 mL	3.9023 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

SCS (Salicylidene salicylhydrazide) is a potent, allosteric and selective inhibitor of β1-containing $GABA_A$ receptors with an IC_{50} of 32 nM against α2β1γ1θ by VIPR measurement. SCS is also a chelator of metal ions[1].

IC_{50} & Target

IC50: 32 nM (α2β1γ1θ; by VIPR measurement)
IC50: 4.5 nM (α2β1γ1θ), 5.3 nM (α2β1γ1), 7.9 nM (α1β1γ2s) (Measured by using whole-cell patch clamp)[1]

In Vitro

SCS (0.1 nM-3 μM) produces a concentration-dependent inhibition of GABA EC_{20} currents recorded from Ltk^- cells expressing α2β1γ1θ, α2β1γ1 and α1β1γ2s receptors compared with α2β3γ2s and α1β2γ2s receptors upon which SCS has no effect[1].
Inhibition by SCS is not voltage or use dependent[1].
Structural determinants necessary for the inhibition of $GABA_A$ receptors by SCS are located within the region arginine 238 and glycine 335 of the β1 subunit. T255 and I308 of the β1 subunit are required for inhibition by SCS[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

SCS (Salicylidene salicylhydrazide; 500-1000 mg/kg, i.p. or 800-1000 mg/kg, oral) produces abdominal constrictions in mice [2].

SCS (10-75 mg/kg; i.p.; once) shows antinociceptive activity against tonic, phasic and Capsaicin (HY-10448) nociception in mice[2].

SCS (10-75 mg/kg; i.p.; once) shows anti-inflammatory activity in mice[2].SCS (50 and 75 mg/kg; i.p.; once) shows antinociceptive activity against neuropathic nociception[2].

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

Animal Model:	BALB/c mice; tonic, phasic and Capsaicin (HY-10448) nociception model[2]
Dosage:	10, 25, 50, and 75 mg/kg
Administration:	IP, single dose
Result:	Produced a significant protection on tonic, phasic and capsaicin nociception in a dose-dependent manner.

Animal Model:	BALB/c mice, Oxaliplatin (HY-17371)-induced neuropathic nociception model[2]
Dosage:	50 and 75 mg/kg
Administration:	IP, single dose
Result:	Significantly attenuated the paw withdrawal threshold changes associated with Oxaliplatin. Significantly increased the percent antinociception during 30-120 min.

REFERENCES

[1]. Thompson SA, et al. Salicylidene salicylhydrazide, a selective inhibitor of beta 1-containing GABAA receptors. Br J Pharmacol. 2004 May;142(1):97-106.

[2]. Rukh L, et al. Efficacy assessment of salicylidene salicylhydrazide in chemotherapy associated peripheral neuropathy. Eur J Pharmacol. 2020 Dec 5;888:173481.

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