GSK2945

Cat. No.: HY-117147

CAS No.: 1438071-12-5

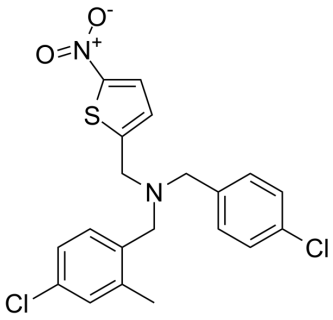
Molecular Formula: $C_{20}H_{18}Cl_2N_2O_2S$

Molecular Weight: 421.34

Target: Cytochrome P450

Pathway: Metabolic Enzyme/Protease

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



SOLVENT & SOLUBILITY

In Vitro

DMSO : 83.33 mg/mL (197.77 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.3734 mL	11.8669 mL	23.7338 mL
	5 mM	0.4747 mL	2.3734 mL	4.7468 mL
	10 mM	0.2373 mL	1.1867 mL	2.3734 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: ≥ 2.08 mg/mL (4.94 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.94 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

GSK2945 is a class of tertiary amine, and is a highly specific Rev-erbα/REV-ERBα (mouse/human reverse erythroblastosis virus α) antagonist with EC_{50}s of 21.5 μM and 20.8 μM, respectively. GSK2945 enhances cholesterol 7α-hydroxylase (CYP7A1) level and cholesterol metabolism[1].

In Vitro

GSK2945 dose-dependently enhances the transcriptional activity of Rev-erbα and a Bmal1 (a target gene of REV-ERBs) luciferase reporter (EC_{50} of 2.05 μM)[1].
GSK2945 (20 μM; 12 hours and 24 hours; mouse and human primary hepatocytes) treatment increases levels of Cyp7a1/CYP7A1 in mouse and human primary hepatocytes. GSK2945 (20 μM) treatment also increases Lrh-1/LRH-1 (a known hepatic activator of Cyp7a1/CYP7A1) mRNA and protein[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

RT-PCR[1]

Cell Line:	Mouse (male, CD1) and human (male, Caucasian) primary hepatocytes
Concentration:	20 μM
Incubation Time:	12 hours and 24 hours
Result:	Led to significant increases in mRNA and protein (at 24-h) expression of Cyp7a1. mRNA and protein (at 24-h) levels of CYP7A1 were increased in human primary hepatocyte. Lrh-1/LRH-1 was upregulated.

In Vivo

GSK2945 (0-10 mg/kg; intraperitoneal injection; twice every day; for 7 days; male C57BL/6 mice) treatment increases hepatic mouse cholesterol 7α-hydroxylase (Cyp7a1) level and lowers plasma cholesterol in wild-type mice[1].

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

Animal Model:	Male C57BL/6 mice (8-10 weeks of age)[1]
Dosage:	0 mg/kg or 10 mg/kg
Administration:	Intraperitoneal injection; twice every day; for 7 days
Result:	Increased hepatic mouse cholesterol 7α-hydroxylase (Cyp7a1) level and lowered plasma cholesterol in wild-type mice.

REFERENCES

[1]. Zhang T, et al. REV-ERBα Regulates CYP7A1 Through Repression of Liver Receptor Homolog-1. Drug Metab Dispos. 2018 Mar;46(3):248-258.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA