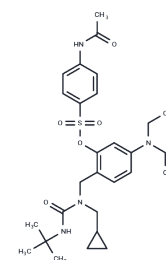


F44-A13

Chemical Properties

CAS No. : 1338190-14-9
 Formula: C₂₈H₄₀N₄O₅
 Molecular Weight: 544.71
 Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
 Actual storage temperature shall be subject to the COA.



Biological Description

Description	F44-A13 is an orally active, highly selective farnesoid X receptor (FXR) antagonist with an IC ₅₀ value of 1.1 μM. It optimizes cholesterol metabolism and reduces activity by inducing CYP7A1 expression, lowering cholesterol, triglycerides, and low-density lipoprotein cholesterol (LDL-C) levels in mouse models. F44-A13 is applicable for studying metabolic diseases associated with lipid disorders [1].
Targets(IC50)	FXR,Retinoid Receptor,Cytochromes P450,PPAR,ROR
In vitro	F44-A13 demonstrates high specificity for a range of nuclear receptors, including retinoic acid receptors α/β/γ (RARα/β/γ), retinoid X receptors α/β/γ (RXRα/β/γ), pregnane X receptor (PXR), peroxisome proliferator-activated receptors α/β (PPARα/β), thyroid hormone receptor β (THRβ), and retinoic acid receptor-related orphan receptor γ (RORγ) [1]. At a concentration of 50 μM, and over 24 hours, F44-A13 inhibits the transcriptional activity of FXR in the presence of 50 μM CDCA in a dose-dependent manner, with an IC ₅₀ of 3.0 μM, indicating that F44-A13 is a low-toxicity, highly selective FXR antagonist [1]. Furthermore, F44-A13, at concentrations of 3, 10, 30 μM and with CDCA at 100 μM for 24 hours, enhances cholesterol metabolism by inducing CYP7A1 expression, thereby reducing cholesterol activity. It reduces the expression levels of Shp and Bsep while increasing CYP7A1 expression [1]. In cell viability assays using HepG2 and HEK293A cells, F44-A13 at 100 μM for 24 hours was not cytotoxic [1]. In RT-PCR assays with HepG2 cells, F44-A13 at 3, 10, 30 μM concentrations and CDCA at 100 μM for 24 hours reversed the regulation of FXR downstream target genes Shp, Bsep, and Cyp7a1 by CDCA, decreasing Shp and Bsep expression while increasing Cyp7a1 expression in a dose-dependent manner [1].
In vivo	In a research study using the C57BL/6 mouse model, the chemical compound F44-A13 (20, 40 mg/kg; oral and intraperitoneal administration; 4 days) demonstrated significant reductions in total cholesterol (TC), triglycerides (TG), and low-density lipoprotein cholesterol (LDL-C). Results indicated that intraperitoneal injection of F44-A13 reduced TC levels by over 28%, while oral administration led to a dose-dependent decrease in TC levels. At oral doses of 20 and 40 mg/kg, TG levels decreased by more than 30%, although intraperitoneal injection had no significant impact on TG levels. Furthermore, oral doses were equally effective in reducing LDL-C levels, with reductions of 12% and 23% at doses of 20 and 40 mg/kg respectively, compared to a 38% reduction through intraperitoneal injection.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.8358 mL	9.1792 mL	18.3584 mL
5 mM	0.3672 mL	1.8358 mL	3.6717 mL
10 mM	0.1836 mL	0.9179 mL	1.8358 mL
50 mM	0.0367 mL	0.1836 mL	0.3672 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481