Saroglitazar Magnesium

Cat. No.: HY-19937A

CAS No.: 1639792-20-3

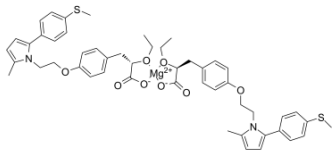
Molecular Formula: $C_{50}H_{56}MgN_2O_8S_2$

Molecular Weight: 901.42

Target: PPAR

Pathway: Cell Cycle/DNA Damage

Storage: 4°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 : 50 mg/mL (55.47 mM; Need ultrasonic)
H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.1094 mL	5.5468 mL	11.0936 mL
5 mM	0.2219 mL	1.1094 mL	2.2187 mL
10 mM	0.1109 mL	0.5547 mL	1.1094 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: ≥ 2.75 mg/mL (3.05 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 2.75 mg/mL (3.05 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.75 mg/mL (3.05 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Saroglitazar magnesium is a novel peroxisome proliferator-activated receptor (PPAR) agonist with predominant PPARα and moderate PPARγ activity with EC_{50} values of 0.65 pM and 3 nM in HepG2 cells, respectively.

IC_{50} & Target

PPARα	PPARγ
0.65 pM (EC50, HepG2 cell)	3 nM (EC50, HepG2 cell)

In Vivo

In db/db mice, 12-day treatment with Saroglitazar (0.01-3 mg/kg per day, orally) causes dose-dependent reductions in serum triglycerides (TG), free fatty acids (FFA), and glucose. The ED_{50} for these effects is found to be 0.05, 0.19, and 0.19

mg/kg, respectively with AUC-glucose following oral glucose administration (59%) at 1 mg/kg dose. A 90-day repeated dose comparative study in Wistar rats and marmosets confirms efficacy (TG lowering) potential of Saroglitazar and has indicated low risk of PPAR-associated side effects in humans. Based on efficacy and safety profile, Saroglitazar appears to have good potential as novel therapeutic agent for treatment of dyslipidemia and diabetes[1].

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

PROTOCOL

Animal Administration [1]

Rats: Rats randomize based on body weights and are divided into three equal groups and receives the daily administration of vehicle (50% w/v honey for marmoset and 0.1% carboxymethylcellulose for Wistar rats) or Saroglitazar (1.5 and 15 mg/kg per day) for 90 days by oral gavage[1].

Mice: Male C57BL/6J-db/db mice are bled on day 0 to determine pretreatment serum glucose and TG. During next 12 days, each animal is dosed (by oral gavage) with vehicle (0.5% sodium carboxymethyl cellulose) or Saroglitazar (0.01, 0.03, 0.1, 0.3,1, and 3 mg/kg per day) or U 72107 (60 mg/kg per day) and on day 12 of the treatment, blood samples are collected (1 h after dosing) from orbital sinus under light ether anesthesia. The serum is isolated and analyzed for glucose, TG, and free fatty acid (FFA)[1].

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

CUSTOMER VALIDATION

- Cell Biol Toxicol. 2020 Jul 1.
- Patent. US20190388398A1.

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REFERENCES

[1]. Jain MR, et al. Saroglitazar, a novel PPARα/γ agonist with predominant PPARα activity, shows lipid-lowering effects in preclinical models. Pharmacol Res Perspect. 2015 Jun;3(3):e00136.

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