Masoprocol

Cat. No.: HY-109500

CAS No.: 27686-84-6

Molecular Formula: $C_{18}H_{22}O_4$

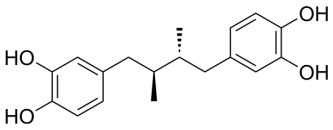
Molecular Weight: 302.36

Target: Lipoxygenase

Pathway: Metabolic Enzyme/Protease

Storage: -20°C, protect from light

* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (330.73 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Concentration / Solvent / Mass	1 mg	5 mg	10 mg
1 mM	3.3073 mL	16.5366 mL	33.0732 mL
5 mM	0.6615 mL	3.3073 mL	6.6146 mL
10 mM	0.3307 mL	1.6537 mL	3.3073 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: ≥ 2.5 mg/mL (8.27 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.27 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.27 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Masoprocol (meso-Nordihydroguaiaretic acid) is a potent and orally active lipoxygenase inhibitor. Masoprocol shows antihyperglycemic activity. Masoprocol decreases the glucose concentration and hepatic triglyceride in vivo. Masoprocol has the potential for the research of type II diabetes[1][2][3].

In Vitro

Masoprocol (30 μM; 90 min) shows high basal and insulin-stimulated glucose clearance in adipocytes[2].

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

In Vivo

Masoprocol (150 mg/kg; i.g.; twice a day for 12 days) shows antihyperglycemic activity with the decreases in glucose

concentration in plasma in male C57BL/ks-db/db mice[1]. Masoprocol ⊠0.83 mmol/kg; twice a day for 4 days⊠shows low glucose concentrations an average of 35% and low triglyceride concentrations of 80% compared with the vehicle at a rat model of type II diabetes[2].Masoprocol (40-80 mg/kg; p.o.; twice daily for 8 days) significantly reduces hepatic triglyceride (TG) secretion (P<.01) and liver TG content in a nondiabetic rat model with dietary-induced hypertriglyceridemia(HTG)[3].

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

REFERENCES

[1]. Luo J, et al. Masoprocol (nordihydroguaiaretic acid): a new antihyperglycemic agent isolated from the creosote bush (Larrea tridentata). Eur J Pharmacol. 1998 Apr 3;346(1):77-9.

[2]. Reed MJ, et al. Effect of masoprocol on carbohydrate and lipid metabolism in a rat model of Type II diabetes. Diabetologia. 1999 Jan;42(1):102-6.

[3]. Scribner KA, et al. Masoprocol decreases serum triglyceride concentrations in rats with fructose-induced hypertriglyceridemia. Metabolism. 2000 Sep;49(9):1106-10.

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