Ciglitazone

Cat. No.: HY-W011220

CAS No.: 74772-77-3

Molecular Formula: $C_{18}H_{23}NO_3S$

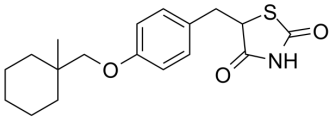
Molecular Weight: 333.45

Target: PPAR

Pathway: Cell Cycle/DNA Damage; Metabolic Enzyme/Protease; Vitamin D Related/Nuclear Receptor

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (299.90 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.9990 mL	14.9948 mL	29.9895 mL
	5 mM	0.5998 mL	2.9990 mL	5.9979 mL
	10 mM	0.2999 mL	1.4995 mL	2.9990 mL

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

BIOLOGICAL ACTIVITY

Description

Ciglitazone is a potent and selective PPARγ agonist (EC_{50}=3 μM). Ciglitazone inhibits proliferation and differentiation of th17 cells. Ciglitazone is a hypoglycemic agent orally active in the obese-hyperglycemic animal models. Ciglitazone induces apoptosis accompanied by activation of p38 MAPK and nuclear translocation of apoptosis inducing factor (AIF) in opossum kidney (OK) renal epithelial cells[1][2][3][4].

In Vitro

Ciglitazone (0-20 μM; 24 hours) induces apoptosis through PPAR-independent mechanism. Ciglitazone causes generation of ROS and an increase in intracellular Ca^{2+}[4].

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

In Vivo

In C57BL/6J-ob/ob mice, Ciglitazone (100 mg/kg/day; 2 days) elicits a drastic fall in blood glucose. Regranulation of islet beta-cells and increased pancreatic insulin content are observed in ob/ob mice treated for 41-44 days with 100 mg/kg/day Ciglitazone[3].

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

REFERENCES

[1]. Willson TM, et al. The structure-activity relationship between peroxisome proliferator-activated receptor gamma agonism and the antihyperglycemic activity of thiazolidinediones. J Med Chem. 1996;39(3):665-668.

[2]. Kim DH, et al. Ciglitazone, a peroxisome proliferator-activated receptor gamma ligand, inhibits proliferation and differentiation of th17 cells. Biomol Ther (Seoul). 2015;23(1):71-76.

[3]. Chang AY, et al. Ciglitazone, a new hypoglycemic agent. I. Studies in ob/ob and db/db mice, diabetic Chinese hamsters, and normal and streptozotocin-diabetic rats. Diabetes. 1983;32(9):830-838.

[4]. Kwon CH, et al. Ciglitazone induces apoptosis via activation of p38 MAPK and AIF nuclear translocation mediated by reactive oxygen species and Ca(2+) in opossum kidney cells. Toxicology. 2009;257(1-2):1-9.

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