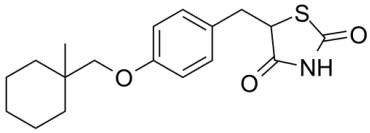
Data Sheet

Product Name:	Ciglitazone
Cat. No.:	CS-W011936
CAS No.:	74772-77-3
Molecular Formula:	$C_{18}H_{23}NO_3S$
Molecular Weight:	333.45
Target:	PPAR
Pathway:	Cell Cycle/DNA Damage
Solubility:	DMSO : 100 mg/mL (299.90 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

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]. **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].

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.

CAIndexNames:

2,4-Thiazolidinedione, 5-[[4-[(1-methylcyclohexyl)methoxy]phenyl]methyl]-

SMILES:

O=C(N1)SC(CC2=CC=C(OCC3(C)CCCCC3)C=C2)C1=O

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

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