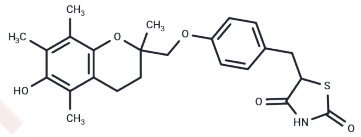
Data Sheet (Cat.No.T3170)

TargetMol

Troglitazone

Chemical Properties



CAS No. : 97322-87-7

Formula: C24H27NO5S

Molecular Weight: 441.54

Storage: Store at low temperature
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	Troglitazone (Romglizone) is a PPARγ agonist with anti-inflammatory and anti-tumor activity.
Targets(IC50)	Apoptosis,Ferroptosis,Autophagy,PPAR
In vitro	Troglitazone inhibits the growth of 786-O and A498 cells with EC50 values of 5.71 μM and 8.38 μM. Troglitazone(5 μM) significantly inhibits the CYP2C8-dependent paclitaxel 6a-hydroxylation and CYP2C9-dependent S-warfarin 7-hydroxylation. Troglitazone extensively suppresses CYP2C19-dependent S-mephenytoin 4′-hydroxylation and CYP3A4-dependent testosterone 6b-hydroxylation and moderately influences the CYP1A2- and CYP2B6-dependent 7-ethoxycoumarin O-deethylation, CYP2A6-dependent coumarin 7-hydroxylation and CYP2D6-dependent bufuralol 1′-hydroxylation. CYP2E1-dependent 7-ethoxycoumarin O-deethylation is not inhibited.
In vivo	Local hypoxia is observed in liver but not in adipose tissue in troglitazone-treated mice. A significant increase in Ki-67/CD31 LI in liver, BAT, and WAT is observed in the 400 mg/kg troglitazone group. Troglitazone reduces the incidence of diabetes by 16 weeks compared to controls, when administered by gavage from weaning at a dose of 400 mg/kg body weight.
Kinase Assay	Standard incubation mixtures (final volume of 0.20 mL) containe recombinant P450 (0.010 μM) in 50 mM potassium phosphate bu?er (pH 7.4) containing an NADPH-generating system (0.5 mm NADP+, 5 mM glucose 6-phosphate, 0.5 unit glucose 6-phosphate dehydrogenase/mL) and substrates (1±100 lM). For determination of CYP1A2, CYP2B6, CYP2E1 and CYP3A4 activities, 100 mM potassium phosphate buffer (pH 7.4) is used. When human liver microsomes are used as the enzyme source, 500, 25, 100 and 25 pmol totalP450 per mL are used for paclitaxel 6a-hydroxylation, S-warfarin 7-hydroxylation,S-mephenytoin 4′-hydroxylation and testosterone 6b-hydroxylation respectively.
Cell Research	Troglitazone is made at 100 mM concentration in DMSO and added to the culture medium at the final concentration of less than 0.1%. The effect of PPARγ ligands on cell proliferation of RCC cells is determined using MTT assay. Briefly, cells of 0.5×l04 cells/well are inoculated into a 96-well plate, treated with pioglitazone or troglitazone at various concentrations. After an incubation for 24 h, 20 μL/well 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl tetrazolium bromide (MTT, 5 g/L) is added to each

Cell Research	well, the medium is then removed, and 200 μL of 0.04mol/LHCl in isopropanol is added to dissolve the reduced formazan product. The plate is read in a microplate reader at 590 nm.

Solubility Information

Solubility	Ethanol: 4.4 mg/mL (9.97 mM),Heating is recommended. DMSO: 18.33 mg/mL (41.51 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (4.53 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2648 mL	11.324 mL	22.648 mL
5 mM	0.453 mL	2.2648 mL	4.5296 mL
10 mM	0.2265 mL	1.1324 mL	2.2648 mL
50 mM	0.0453 mL	0.2265 mL	0.453 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.

Reference

Fujita M, et al. In vitro and in vivo cytotoxicity of troglitazone in pancreatic cancer. J Exp Clin Cancer Res. 2017 Jul 3; 36(1):91.
Kazberuk A, Chalecka M, Palka J, et al. Nonsteroidal Anti-Inflammatory Drugs as PPARγ Agonists Can Induce PRODH/POX-Dependent Apoptosis in Breast Cancer Cells: New Alternative Pathway in NSAID-Induced Apoptosis. International Journal of Molecular Sciences. 2022, 23(3): 1510.
Han L, Song B, Zhang P, et al.PC3T: a signature-driven predictor of chemical compounds for cellular transition. Communications Biology.2023, 6(1): 989.
Nazim UM, et al. PPARγ activation by troglitazone enhances human lung cancer cells to TRAIL-induced apoptosis via autophagy flux. Oncotarget. 2017 Apr 18;8(16):26819-26831.
Baek SJ, et al. J Biol Chem. 2003, 278(8):5845-53.
Huang Q, Ru Y, Luo Y, et al.Identification of a targeted ACSL4 inhibitor to treat ferroptosis-related diseases.Science Advances.2024, 10(13): eadk1200.
van Westerloo DJ, et al. Am J Pathol. 2005, 166(3):721-8.
Jaeschke H. Toxicol Sci. 2007, 97(1):1-3.
Fujita M, et al. In vitro and in vivo cytotoxicity of troglitazone in pancreatic cancer. J Exp Clin Cancer Res. 2017 Jul 3; 36(1):91.
Nazim UM, et al. PPARγ activation by troglitazone enhances human lung cancer cells to TRAIL-induced apoptosis via autophagy flux. Oncotarget. 2017 Apr 18;8(16):26819-26831.

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