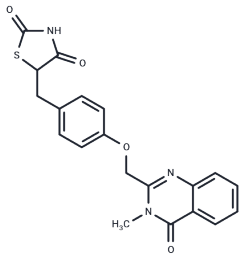
Data Sheet (Cat.No.TQ0272)

TargetMol

Balaglitazone

Chemical Properties



CAS No. : 199113-98-9

Formula: C20H17N3O4S

Molecular Weight: 395.43

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	Balaglitazone is a selective peroxisome proliferator-activated receptor (PPARγ) partial agonist with an EC50 value of 1.351 μM for human PPARγ.Balaglitazone can be used as a supplement to insulin therapy, regulates blood glucose, and can be used in studies of heart failure and myocardial infarction.
Targets(IC50)	PPAR
In vitro	Balaglitazone exhibits equal cytotoxicity in K562 and K562/DOX cells, with IC50 values of 0.117 μM and 0.53 μM, respectively, and reduces the cytotoxicity of doxorubicin in these cells[2].
In vivo	In male diet-induced obese rats, oral administration of Balaglitazone at 10 mg/kg suppresses overall blood glucose, reduces insulin levels, and increases body weight, with effects equivalent to 30 mg/kg pioglitazone[3].
Cell Research	MTT assay is used for cell viability analyses. Briefly, K562 and K562/DOX cells are seeded in a 96-well plate in RPMI-1640 medium supplemented with 10% FBS at the density of 2 × 104 cells/well. After 24 h incubation, various concentrations of doxorubicin (DOX) with or without balaglitazone are diluted in RPMI-1640 medium (without FBS) and added into each well. Experiments for each group are performed in triplicates and with a blank control. After 48 h of treatment, the medium is removed and 200 μL of RPMI-1640 medium supplemented with 10% FBS and 10% MTT (5 mg/mL) is added. After incubation for another 4 h, the reduced intracellular formazan product is dissolved by replacing 100 μL of RPMI-1640 medium with the same volume of dimethyl sulfoxide (DMSO). Absorbance values are measured at 570 nm with a microplate reader. The half-maximal inhibitory concentration (IC50) of each experiment is calculated. The resistance fold (RF) is calculated by dividing the IC50 value of treatment in resistant cells by the IC50 value of treatment in corresponding parental cells [2].
Animal Research	Antihyperglycaemic effects of balaglitazone and rosiglitazone are assessed in adult male diabetic db/db mice. At 14 weeks of age, animals are randomized according to fasting blood glucose into 11 groups (n = 6). Mice are dosed orally once daily for 9 days with vehicle (0.2% carboxymethyl cellulose (CMC) + 0.4% Tween-80 in saline) or increasing doses of either balaglitazone (0.1; 0.3; 1.0; 3.0; 10.0 mg/kg/day) or rosiglitazone (0.2; 0.6; 2.0; 6.0 mg/kg/day). After 7 days of treatment, plasma samples obtained in the morning (between 8:00 and 10:00 AM) are analyzed for glucose and insulin. After 9 days of treatment, animals are exposed to an oral glucose tolerance test

Animal Research	(OGTT; 3.0 g/kg). The resulting area under the curve is calculated for each of the doses [1].

Solubility Information

Solubility	DMSO: 80 mg/mL (202.31 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: 3.3 mg/mL (8.35 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	2.5289 mL	12.6445 mL	25.2889 mL
5 mM	0.5058 mL	2.5289 mL	5.0578 mL
10 mM	0.2529 mL	1.2644 mL	2.5289 mL
50 mM	0.0506 mL	0.2529 mL	0.5058 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

Larsen PJ, et al. Dissociation of antihyperglycaemic and adverse effects of partial perioxisome proliferator-activated receptor (PPAR-gamma) agonist balaglitazone. Eur J Pharmacol. 2008 Oct 31;596(1-3):173-9.
Yousefi B, et al. Balaglitazone reverses P-glycoprotein-mediated multidrug resistance via upregulation of PTEN in a PPARγ-dependent manner in leukemia cells. Tumour Biol. 2017 Oct;39(10):1010428317716501.
Henriksen K, et al. A comparison of glycemic control, water retention, and musculoskeletal effects of balaglitazone and pioglitazone in diet-induced obese rats. Eur J Pharmacol. 2009 Aug 15;616(1-3):340-5.