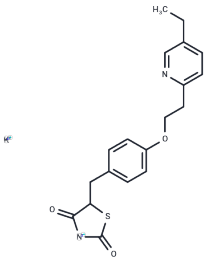
Data Sheet (Cat.No.T61836)

TargetMol

Pioglitazone potassium

Chemical Properties



CAS No. : 1266523-09-4

Formula: C19H19KN2O3S

Molecular Weight: 394.53

Storage: 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	Pioglitazone potassium (U 72107) is an orally active, selective agonist of peroxisome proliferator-activated receptor gamma (PPARγ), exhibiting high-affinity binding to the ligand-binding domain of PPARγ with EC50 values of 0.93 μM for human and 0.99 μM for mouse PPARγ. It has applications in diabetes research [2] [3] [4].
Targets(IC50)	Others,Ferroptosis,PPAR
In vitro	Pioglitazone potassium, at concentrations of 0.5 or 1 μM over 5 days, can effectively counteract the necrosis of β-cells and the elevation of caspase-3 activity induced by advanced glycation end-products (AGEs), thus preserving the viability of the pancreatic beta cell line HIT-T15 [2]. Additionally, a 1-hour exposure to 1 μM pioglitazone potassium enhances insulin secretion in response to low glucose levels and moderates the GSSG/GSH ratio in cells exposed to AGEs [2].
In vivo	Administered orally via gavage at doses of 10 or 30 mg/kg once daily for 14 days, Pioglitazone potassium has been shown to ameliorate insulin resistance and diabetes, potentially through mechanisms involving lipocalin in the liver, though not in skeletal muscle [3]. Furthermore, a dosage of 10 mg/kg administered daily for four weeks has notably reduced body weight, cardiac hypertrophy, high blood glucose levels, and improved dyslipidemia [4]. In ob/ob and adipo -/- ob/ob mice on a C57Bl/6 background, a dosage of 10 mg/kg did not alter serum free fatty acid and triglyceride levels nor adipocyte sizes, but a increased dosage to 30 mg/kg resulted in significant reductions. Likewise, no change was observed in the expression of TNFα and resistin in adipose tissues at 10 mg/kg, while a decrease was noted at 30 mg/kg. In male Wistar albino rats, a four-week treatment at 10 mg/kg led to decreased serum levels of creatinine and creatine kinase-MB (CK-MB), down-regulation of TGF-β1 gene expression, and adjustment in the expression of the MMP-2/TIMP-2 system.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5347 mL	12.6733 mL	25.3466 mL
5 mM	0.5069 mL	2.5347 mL	5.0693 mL
10 mM	0.2535 mL	1.2673 mL	2.5347 mL
50 mM	0.0507 mL	0.2535 mL	0.5069 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.