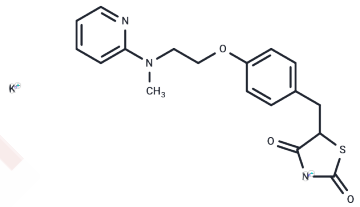
Data Sheet (Cat.No.T61848)

TargetMol

Rosiglitazone potassium

Chemical Properties



CAS No. : 316371-84-3

Formula: C18H18KN3O3S

Molecular Weight: 395.52

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	Rosiglitazone (BRL 49653) potassium, a potent and selective PPARγ agonist (EC 50: 60 nM, Kd: 40 nM) administered orally, also acts as an activator of TRPC5 (EC 50: 30 μM) and an inhibitor of TRPM3. Widely used in research, it has shown promise in investigating obesity, diabetes, senescence, and ovarian cancer [1] [2] [4] [7].
Targets(IC50)	Apoptosis,Others,Ferroptosis,Autophagy,PPAR,TRP/TRPV Channel
In vitro	Rosiglitazone potassium, across various concentrations and incubation periods, exhibits diverse biological activities. At concentrations ranging from 0.1-10 μM over 72 hours, it promotes the differentiation of pluripotent C3H10T1/2 stem cells into adipocytes. When used at 1 μM for 24 hours, it activates PPARγ, leading to the binding of this receptor to the NF-α1 promoter and the subsequent activation of gene transcription in neurons. Additionally, this concentration and incubation time frame protect Neuro2A cells and hippocampal neurons from oxidative stress by up-regulating BCL-2 expression in an NF-α1-dependent manner. At a range of 0.01-100 μM for 15 minutes, it inhibits TRPM3 channels, demonstrating IC 50 values of 9.5 μM and 4.6 μM against nifedipine- and PregS-evoked activities, respectively. Furthermore, concentrations between 0.5-50 μM over seven days have been shown to inhibit ovarian cancer cell proliferation, while a specific dosage of 5 μM for the same duration counters Olaparib-induced cellular senescence alterations and encourages apoptosis in A2780 and SKOV3 cells. This effect on cell proliferation and apoptosis is supported by Cell Proliferation Assay results, which show a time and concentration-dependent inhibition of cell proliferation in A2780 and SKOV3 cells. Western Blot Analysis further corroborates these findings, indicating increased levels of NF-α1 and BCL-2 proteins in hippocampal neurons treated with 1 μM of rosiglitazone potassium for 24 hours.
In vivo	Rosiglitazone potassium, when administered orally at 5 mg/kg daily for 8 weeks, was observed to reduce serum glucose levels in diabetic rats. This same compound, when given through intraperitoneal injection at 3 mg/kg/day, effectively mitigated airway inflammation in male Wistar rats by inhibiting M1 macrophage polarization through the activation of PPARγ and RXRα, a process induced by cigarette smoke exposure. Additionally, a dosage of 10 mg/kg administered intraperitoneally every two days demonstrated a significant inhibition of subcutaneous ovarian cancer growth in A2780 and SKOV3 mouse subcutaneous xenograft models. Detailed evaluations indicated that, in streptozotocin (STZ)-induced diabetic rats, the oral administration led to decreased IL-6, TNF-α, and VCAM-1 levels, along with reduced lipid peroxidation and NOx levels,

In vivo	while also increasing aortic GSH and SOD levels. Similarly, in male Wistar rats, the compound, when injected intraperitoneally twice a day for six days a week over 12 consecutive weeks, not only ameliorated emphysema symptoms and improved pulmonary function but also reduced the total cells, neutrophils, and cytokines (TNF-α and IL-1β) elevated by cigarette smoke. This treatment effectively inhibited cigarette smoke-induced M1 macrophage polarization and decreased the M1/M2 ratio.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5283 mL	12.6416 mL	25.2832 mL
5 mM	0.5057 mL	2.5283 mL	5.0566 mL
10 mM	0.2528 mL	1.2642 mL	2.5283 mL
50 mM	0.0506 mL	0.2528 mL	0.5057 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.