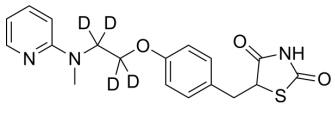
Rosiglitazone-d_4

Cat. No.:	HY-17386S1
CAS No.:	1132641-21-4
Molecular Formula:	$C_{18}H_{15}D_4N_3O_3S$
Molecular Weight:	361.45
Target:	TRP Channel; Autophagy; PPAR; Ferroptosis; Apoptosis; Isotope-Labeled Compounds
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling; Autophagy; Cell Cycle/DNA Damage; Metabolic Enzyme/Protease; Vitamin D Related/Nuclear Receptor; Apoptosis; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Rosiglitazone-d_4 is deuterated labeled Rosiglitazone (HY-17386). Rosiglitazone (BRL 49653) is an orally active selective PPARγ agonist (EC_{50}: 60 nM, K_d: 40 nM). Rosiglitazone is an TRPC5 activator (EC_{50}: 30 μM) and TRPM3 inhibitor. Rosiglitazone can be used in the research of obesity and diabetes, senescence, ovarian cancer[1][2][4][7].
In Vitro	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1]. Rosiglitazone (0.1-10 μM, 72 h) results in pluripotent C3H10T1/2 stem cell differentiation to adipocytes[2]. Rosiglitazone (1 μM, 24 h) activates PPARγ, which binds to NF-α1 promoter to activate gene transcription in neurons[4]. Rosiglitazone (1 μM, 24 h) protects Neuro2A cells and hippocampal neurons against oxidative stress, and up-regulates BCL-2 expression in an NF-α1-dependent manner[4]. Rosiglitazone (0.01-100 μM, 15 min) inhibits TRPM3 with IC_{50} values of 9.5 and 4.6 μM against nifedipine- and PregS-evoked activity respectively[5]. Rosiglitazone (0.5-50 μM, 7 days) inhibits ovarian cancer cell proliferation[8]. Rosiglitazone (5 μM, 7 days) suppresses Olaparib (HY-10162) induced alterations of cellular senescence and promotes apoptosis in A2780 and SKOV3 cells[8]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Rosiglitazone (oral administration, 5 mg/kg, daily for 8 weeks) decreases the serum glucose in diabetic rats[6]. Rosiglitazone (intraperitoneal injection, 3 mg/kg/day) ameliorates airway inflammation induced by cigarette smoke via inhibiting the M1 macrophage polarization by activating PPARγ and RXRα in male Wistar rats[7]. Rosiglitazone (intraperitoneal injection, 10 mg/kg, once every 2 days) inhibits subcutaneous ovarian cancer growth in A2780 and SKOV3 mouse subcutaneous xenograft models[8]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

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