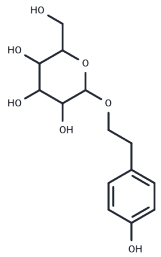
Data Sheet (Cat.No.T2717)

TargetMol

Salidroside

Chemical Properties



CAS No. : 10338-51-9

Formula: C14H20O7

Molecular Weight: 300.3

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Salidroside is a bioactive phenolic glycoside compound isolated from Rhodiola rosea and is a prolyl endopeptidase inhibitor. Salidroside can alleviate cachexia symptoms in a tumor cachexia mouse model by activating mTOR signaling and protect dopaminergic neurons by enhancing PINK1/Parkin-mediated mitochondrial autophagy. Salidroside can also inhibit the growth of cancer cells by regulating the CDK4-cyclin D1 pathway to block the G1 phase and/or regulating the Cdc2-cyclin B1 pathway to block the G2 phase.
Targets(IC50)	Apoptosis,mTOR
In vitro	**METHODS**: Min6 cells were co-treated with salidroside (Rhodioloside) (50 μM, 3 days), glucose or H2O2, and the changes in protein levels in β cells were detected by western blot. **RESULTS** Salidroside downregulated the expression of NOX2 and inhibited the subsequent activation of JNK and caspase 3, thereby preventing β cell death. [4] **METHODS**: SH-SY5Y cells were treated with Salidroside (Rhodioloside) (25-100 μM, 24 hours) and then exposed to MPP+ (500 μM, 24 hours). Cell viability was determined by MTT assay, cell apoptosis was analyzed by flow cytometry, and cell morphology was evaluated by Hoechst staining. **RESULTS** Salidroside concentration-dependently prevented the decrease in cell viability induced by MPP+; Salidroside concentration-dependently significantly reduced the number of MPP+-treated annexin V/PI-stained cells; in Hoechst staining, Salidroside significantly inhibited the MPP+-induced increase in chromatin condensation, hyperfluorescence, and nuclear fragmentation in SH-SY5Y cells. [5] **METHODS**: siDJ-1 transfected H-SY5Y cells were treated with Salidroside (25-100 μM, 24 hours), and then treated with MPP+ (500 μM, 24 hours). , the mRNA expression of DJ-1, Nrf2, GCLc, SOD1 and SOD2 was determined and statistically analyzed. **RESULTS** Silencing of DJ-1 significantly inhibited the Salidroside-induced increase in mRNA and protein levels (DJ-1, Nrf2, GCLc, SOD1 and SOD2) in MPP+-treated SH-SY5Y cells; silencing DJ-1 also significantly Significantly inhibited the Salidroside-induced decrease in ROS levels and increase in GSH levels in MPP+-treated cells. [5]
In vivo	**METHODS**: Salidroside (Rhodioloside) (100 mg, oral, once a day. 5 weeks) was used to treat db/db mice after 10 weeks of HFD, and its effect on db/db mice with prediabetes at 4 weeks was observed; after 5 weeks of treatment , conduct OGTT experiment **RESULTS** Salidroside could not significantly alleviate the elevated blood glucose in db/db mice within the first 15 days; Salidroside protected db/db mice from severe hyperglycemia after 21 days of treatment; Salidroside-treated db/db mice were less

	Rats' tolerance to glucose was significantly improved. [4]

Solubility Information

Solubility	DMSO: 55 mg/mL (183.15 mM),Sonication is recommended. Ethanol: 4 mg/mL (13.32 mM),Sonication is recommended. H2O: 55 mg/mL (183.15 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.330 mL	16.650 mL	33.300 mL
5 mM	0.666 mL	3.330 mL	6.660 mL
10 mM	0.333 mL	1.665 mL	3.330 mL
50 mM	0.0666 mL	0.333 mL	0.666 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.

Reference

Hu X, et al. A preliminary study: the anti-proliferation effect of salidroside on different human cancer cell lines. Cell Biol Toxicol. 2010 Dec;26(6):499-507.
Yu S, et al. Involvement of ERK1/2 pathway in neuroprotection by salidroside against hydrogen peroxide-induced apoptotic cell death. J Mol Neurosci. 2010 Mar;40(3):321-31.
Zhang L, et al. Salidroside protects PC12 cells from MPP^+-induced apoptosis via activation of the PI3K/Akt pathway. Food Chem Toxicol. 2012 Aug;50(8):2591-7.
Ju L, et al. Salidroside, A Natural Antioxidant, Improves β-Cell Survival and Function via Activating AMPK Pathway. Front Pharmacol. 2017 Oct 18;8:749.
Wu L, et al. Salidroside Protects against MPP+-Induced Neuronal Injury through DJ-1-Nrf2 Antioxidant Pathway. Evid Based Complement Alternat Med. 2017;2017:5398542.
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