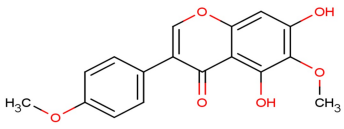
Data Sheet (Cat.No.TN1035)

TargetMol
A DRUG SCREENING EXPERT

Irisolidone

Chemical Properties



CAS No.:	2345-17-7
Formula:	C17H14O6
Molecular Weight:	314.29
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	Irisolidone is a potent volume-regulated anion channel (VRAC) current inhibitor, it exhibits high efficacy for VRAC blockade with IC50s of 5-13 μM.
Targets(IC_{50})	IL Receptor: None NF-κB: None TNF-α: None
In vitro	In this study, we screened a group of 53 structurally related natural flavonoids and three synthetic flavonoids for their inhibitory activities on VRAC currents. A whole-cell patch technique was used to record VRAC currents in the human embryonic kidney (HEK) 293 and human umbilical vein endothelial (HUVEC) cells. The 5'-bromo-2-deoxyuridine (BrdU) assay technique was used to investigate cell proliferation. At 100 μM, 34 of 53 compounds significantly inhibited hypotonic extrasolution-induced VRAC currents by > 50% in HEK293 cells. Among these compounds, luteolin, baicalein, eupatorin, galangin, quercetin, fisetin, karanjin, Dh-morin, genistein, Irisolidone, and prunetin exhibited the highest efficacy for VRAC blockade (the mean inhibition > 80%) with IC50s of 5-13 μM and Emaxs of about 87-99%. We also studied the effects of three synthetic flavonoids on VRAC currents in HEK293 cells. Flavoxate showed high inhibition efficacy toward VRAC currents (IC50 = 2.3 ± 0.3 μM; Emax = 91.8% ± 2.7%). Finally, these flavonoids inhibited endogenous VRAC currents and cell proliferation in endothelial cells[1]
In vivo	Irisolidone may attenuate ethanol-induced gastritis by inhibiting the infiltration of immune cells, particularly neutrophils, through the regulation of CXCL-4 or IL-8 secretion[2].

Solubility Information

Solubility	DMSO: 10 mM (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.182 mL	15.909 mL	31.818 mL
5 mM	0.636 mL	3.182 mL	6.364 mL
10 mM	0.318 mL	1.591 mL	3.182 mL
50 mM	0.064 mL	0.318 mL	0.636 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. Natural and synthetic flavonoids, novel blockers of the volume-regulated anion channels, inhibit endothelial cell proliferation.Pflugers Arch. 2018 Jun 30.

2. Geum-Dan, Kang, Sang-Yoon, et al. Irisolidone attenuates ethanol-induced gastric injury in mice by inhibiting the infiltration of neutrophils[J]. Molecular Nutrition & Food Research, 2016.

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