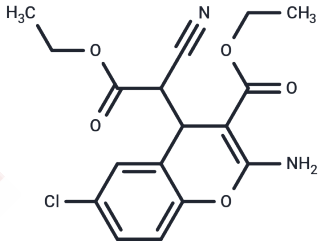
Data Sheet (Cat.No.T2274)

TargetMol

SC79

Chemical Properties



CAS No. : 305834-79-1

Formula: C17H17ClN2O5

Molecular Weight: 364.78

Storage: Store at low temperature,Keep away from moisture
Powder: -20°C for 3 years
Actual storage temperature shall be subject to the COA.

Biological Description

Description	SC79 is an AKT agonist with specificity and blood-brain barrier permeability. SC79 specifically binds to the PH domain of AKT, activates cytoplasmic AKT, and inhibits AKT membrane translocation. SC79 has neuroprotective activity.
Targets(IC50)	Akt
In vitro	**METHODS**: Human cervical cancer cells were starved of HeLa serum for 1 h, treated with SC79 (4 μg/mL) for 30 min, and the expression levels of target proteins were detected by Western Blot. **RESULTS**: SC79 enhanced AKT phosphorylation, and SC79-induced AKT phosphorylation mainly occurred in the cytoplasm. [1] **METHODS**: Human lung cancer cells A549 were treated with SC79 (10 μg/mL) for 24 h. The gene expression level was detected by qPCR. **RESULTS**: SC79 treatment up-regulated the expression of Nrf-2 (NFE2L2) gene itself as well as the downstream targets HO-1 and NQO-1. [2]
In vivo	**METHODS**: To detect in vivo activity, SC79 (0.04 mg/g) was injected intraperitoneally into a C57 Black/6 mouse model of copper relaxation demyelination, and 5 min later middle cerebral artery occlusion (MCAO) was performed to construct an ischemic stroke model. **RESULTS**: A single dose of SC79 reduced the size of neocortical lesions by more than 35% and 40% at 24 h after MCAO and 1 week after MCAO, respectively. [1] **METHODS**: To investigate the effect on liver injury, SC79 (10 mg/kg) was injected intraperitoneally into C57BL/6 mice, and d-Gal/LPS was injected 0.5 h later to induce liver injury. **RESULTS**: SC79 protected mice from TNF-α-mediated liver injury induced by d-Gal/LPS. [3]
Kinase Assay	Cytosolic phosphorylation of Akt: Hela cells are serum starved for 1 hr and treated with IGF (100ng/mL) or SC79 (4 μg/mL) for 30 minutes. Cells are lysed in Lysis buffer containing 250 mM Sucrose, 20 mM HEPES, 10 mM KCl, 1.5 mM MgCl2, 1 mM EDTA, 1 mM EGTA supplemented with protease inhibitors. Cells are passed through 25 g needle several times and kept on ice for 20 minutes. Total cell lysate is taken at this point. Cell lysates are centrifuged at 100,000 g for 30 minutes. Supernatant is collected as the cytosolic fraction. Pellet is washed with lysis buffer and represents the membrane fraction. Total cell lysate, cytosolic and membrane fractions are resolved by SDS-PAGE and analyzed for phospho-Akt (S473), Total Akt, Tubulin (cytosolic marker) and Orai1

Kinase Assay	(membrane marker) by western blotting.
Cell Research	HsSultan or NB4 cells (2.5 × 105) are plated in a 24-well plate in 500 μL of phenol red-free RPMI medium supplemented with 10% FBS. After incubation for 24 hours, each compound (8 μg/mL) is added and cultured for overnight (16–20 h). Fifty microliters of MTT solution (5 mg/mL in PBS) are added to each well. Following 2 hrs incubation, the purple formazan crystals are dissolved by directly adding in 500 μL of isopropanol with 0.1 M HCl to each well. After clearing the cell debris by centrifugation, the absorbance is measured at a wavelength of 570 nm.(Only for Reference)

Solubility Information

Solubility	DMSO: 242.5 mg/mL (664.78 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5.5 mg/mL (15.08 mM),Solution. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.7414 mL	13.7069 mL	27.4138 mL
5 mM	0.5483 mL	2.7414 mL	5.4828 mL
10 mM	0.2741 mL	1.3707 mL	2.7414 mL
50 mM	0.0548 mL	0.2741 mL	0.5483 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.

Reference

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