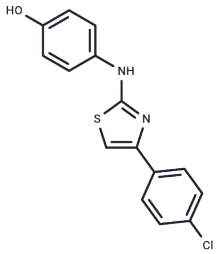
Data Sheet (Cat.No.T6673)

TargetMol

SKI II

Chemical Properties



CAS No. : 312636-16-1

Formula: C15H11ClN2OS

Molecular Weight: 302.78

Appearance: no data available

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

Biological Description

Description	SKI II (SphK-I2) is a highly selective and non-ATP-competitive S1P receptor inhibitor (IC50: 0.5 μM) while exhibiting no inhibitory action on other kinases including PKCα, PI3K, and ERK2.
Targets(IC50)	Apoptosis,S1P Receptor,Wnt/beta-catenin
In vitro	SKI II (50 mg/kg, i.p.) improves bronchial smooth muscle hyperreactivity induced by antigens in mice by inhibiting the production of endogenous sphingosine-1-phosphate. In a homologous Balb/c mouse model with JC mammary carcinoma cells, SKI II (50 mg/kg, i.p./p.o.) significantly reduces tumor growth without evident toxicity or weight loss compared to the control group.
In vivo	Consistent with its role in reducing S1P levels, SKI II induces apoptosis in T24 cells. In JC cells, SKI II decreases S1P formation in a concentration-dependent manner (IC50: 12 μM). Additionally, in the breast cancer cell line MDA-MB-231, SKI II significantly inhibits endogenous SK activity. Among various human cancer cell lines, including T-24, MCF-7, MCF-7/VP, and NCI/ADR, SKI II demonstrates notable antiproliferative effects (IC50: 4.6 /1.2/0.9/1.3 μM). Furthermore, SKI II reverses the cisplatin resistance in SGC7901/DDP by downregulating P-gp expression and inducing apoptosis through the downregulation of SPHK1.
Kinase Assay	SK Assay: A medium-throughput assay suitable for screening for inhibitors of recombinant human SK has been established. Briefly, 5 μg of purified GST-SK fusion protein are combined with 12 nM sphingosine, which contains a 100-fold dilution of [3-3H]sphingosine (20 Ci/mmol), 1 mM ATP, 1 mM magnesium chloride, and 200 μL of assay buffer [20 mM Tris HCl (pH 7.4), 20% glycerol, 1 mM beta-mercaptoethanol, 1 mM EDTA, 20 mM zinc chloride, 1 mM sodium orthovanadate, 15 mM sodium fluoride, and 0.5 mM 4-deoxypyridoxine]. Assays are run for 30 min at 25°C with shaking and contains either 1% DMSO or 5 g/mL test compound, which corresponds to concentrations of 10-25 μM. The reactions are terminated with 50 μL of concentrated ammonium hydroxide, followed by extraction of the assay mixture with chloroform:methanol (2:1). The aqueous portion is transferred to scintillation vials and radioactivity is quantified as a measure of [3H]]S1P formation using a Beckman LS 3801 Scintillation Counter. The intra-assay coefficient of variation is ~10%, whereas interassay variation is ~20%.
Cell Research	T24, MCF-7, MCF-7/VP, and NCI/ADR cells are plated into 96-well tissue culture plates at ~15% confluency. After 24 hours, cells are treated with various concentrations of inhibitors. After an additional 48 hours, cell survival is assayed using the

	sulforhodamine B assay.(Only for Reference)

Solubility Information

Solubility	DMSO: 40 mg/mL (132.11 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.3027 mL	16.5136 mL	33.0273 mL
5 mM	0.6605 mL	3.3027 mL	6.6055 mL
10 mM	0.3303 mL	1.6514 mL	3.3027 mL
50 mM	0.0661 mL	0.3303 mL	0.6605 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

French KJ, et al. Cancer Res, 2003, 63(18), 5962-5969.
French KJ, et al. J Pharmacol Exp Ther, 2006, 318(2), 596-603.
Zhu ZA, et al. Asian Pac J Cancer Prev, 2012, 13(2), 625-631.
Chiba Y, et al. J Pharmacol Sci, 2010, 114(3), 304-310.
Liu H, et al. SphK1 inhibitor SKI II inhibits the proliferation of human hepatoma HepG2 cells via the Wnt5A/β-catenin signaling pathway. Life Sci. 2016 Apr 15;151:23-9.