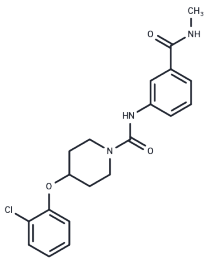
Data Sheet (Cat.No.T4515)

TargetMol

A939572

Chemical Properties



CAS No. : 1032229-33-6

Formula: C20H22ClN3O3

Molecular Weight: 387.86

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	A939572 is stearoyl-CoA desaturase1 (SCD1) inhibitor with IC50 values of <4 nM for mSCD1 and 37 nM for hSCD1.
Targets(IC50)	Dehydrogenase,Stearoyl-CoA Desaturase (SCD)
In vitro	A939572 has been used to induce cell death of hPSCs as well as to inhibit the proliferation of human non-small cell lung carcinoma H1299 cells in vitro[1][2].
In vivo	Athymic nude (nu/nu) mice bearing A498 ccRCC xenografts were treated with A939572 and Tem individually or in combination over the course of four weeks, and tumor volume (mm3) was recorded .?A939572 and Tem monotherapy generated similar growth responses with approximately 20 30% reductions in tumor volume (vs. placebo control) being observed upon study completion, with values reaching statistical significance only within the last week of treatment.?The combination group yielded over a 60% decrease in tumor volume (vs. placebo control) by study completion with significant reductions recorded after approximately 1 week of treatment.?All of the animals maintained a healthy weight throughout the course of the treatment , however those in both the A939572 and the Combo group exhibited increased blinking, and slight mucosal discharge from the eyes after the first week of treatment[3].
Kinase Assay	Caki1 and A498 cells were transiently transfected with p5xATF6-GL3 UPR luciferase reporter and pRL-CMV-renilla luciferase plasmid using Lipofectamine2000 (Invitrogen). Cells (DMSO vs. A939572, NT vs. shSCD780) were harvested after 48hrs using Dual Luciferase assay kit per the manufacturer s protocol and luciferase activity was measured using a Veritas Luminometer; reported as relative luminescence[3].
Animal Research	A498 cells were subcutaneously implanted in athymic nu/nu mice at 1×10^6 cells/mouse in 50%Matrigel.?Tumors reached ~50 mm^3 prior to 4wk treatment.? A939572 was re-suspended in strawberry-flavored Kool-Aid in sterilized H2O (0.2g/mL) vehicle at 30mg/kg in a 50µl dose.?Mice were orally fed by using a syringe to administer the 50µl dose twice daily/mouse.?This modified method was found to be effective and less stressful on the mice.?Temsirolimus was solubilized in 30% ethanol/saline and administered via intraperitoneal injection at 10mg/kg in a 50µl dose once every 72hrs/mouse.?Tumor volumes were calculated using the formula and body weight were measured every 3 days[3].

Solubility Information

Solubility	DMSO: 45 mg/mL (116.02 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: 2 mg/mL (5.16 mM),Sonication is recommended. *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	2.5782 mL	12.8912 mL	25.7825 mL
5 mM	0.5156 mL	2.5782 mL	5.1565 mL
10 mM	0.2578 mL	1.2891 mL	2.5782 mL
50 mM	0.0516 mL	0.2578 mL	0.5156 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

Roongta U V , Pabalan J G , Wang X , et al. Cancer Cell Dependence on Unsaturated Fatty Acids Implicates Stearoyl-CoA Desaturase as a Target for Cancer Therapy[J]. Molecular Cancer Research, 2011, 9(11):1551-1561.
Liu Y, Wang Y, Lin Z, et al.SLC25A22 as a key mitochondrial transporter against ferroptosis by producing GSH and MUFAs.Antioxidants and Redox Signaling.2023 (ja).
Ben-David U , Gan Q F , Golan-Lev T , et al. Selective Elimination of Human Pluripotent Stem Cells by an Oleate Synthesis Inhibitor Discovered in a High-Throughput Screen[J]. Cell Stem Cell, 2013, 12(2):167-179.
Huang F, Zhao N, Cai P, et al.Active AKT2 stimulation of SREBP1/SCD1-mediated lipid metabolism boosts hepatosteatosis and cancer.Translational Research.2024
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