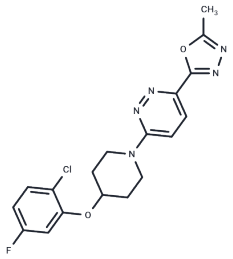
Data Sheet (Cat.No.T14878)

TargetMol

CAY10566

Chemical Properties



CAS No. : 944808-88-2

Formula: C18H17ClFN5O2

Molecular Weight: 389.81

Storage: Store at low temperature
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	CAY10566 shows excellent cellular activity in blocking the conversion of saturated long-chain fatty acid-CoAs (LCFA-CoAs) to monounsaturated LCFA-CoAs in HepG2 cells (IC50=7.9 nM or 6.8 nM). CAY10566 is a potent, orally bioavailable and selective stearoyl-CoA desaturase1 (SCD1) inhibitor with IC50s of 4.5 and 26 nM in mouse and human enzymatic assays, respectively..
Targets(IC50)	Dehydrogenase,Stearoyl-CoA Desaturase (SCD)
In vitro	CAY10566 (0.0001-10 μM; 24 hours) concentration-dependently decreases Swiss 3T3 cell proliferation [3].
In vivo	Upon the formation of detectable tumors, mice receive either a placebo or the SCD1 inhibitor CAY10566 (2.5 mg/kg orally twice daily). SCD1 inhibition demonstrates a more pronounced effect on Akt-driven tumors compared to Ras-driven tumors. Specifically, the average tumor volume on days 13 or 14 after treatment, compared to control tumors, was 0.5±0.04 for Akt-driven tumors and 0.67±0.05 for Ras-driven tumors (P=0.01 for Ras-Akt comparison, according to a two-tailed t-test) [4].

Solubility Information

Solubility	DMSO: 26.84 mg/mL (68.85 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 (5.13 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	2.5654 mL	12.8268 mL	25.6535 mL
5 mM	0.5131 mL	2.5654 mL	5.1307 mL
10 mM	0.2565 mL	1.2827 mL	2.5654 mL
50 mM	0.0513 mL	0.2565 mL	0.5131 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

Masuda M, et al. Activating transcription factor 4 regulates stearate-induced vascular calcification. J Lipid Res. 2012 Aug;53(8):1543-52.
Piezo1 regulates colon stem cells to maintain epithelial homeostasis through SCD1-Wnt-β-catenin and programming fatty acid metabolism
Liu G, et al. Discovery of potent, selective, orally bioavailable stearoyl-CoA desaturase 1 inhibitors. J Med Chem. 2007 Jun 28;50(13):3086-100.
Koeberle A, et al. Palmitoleate is a mitogen, formed upon stimulation with growth factors, and converted to palmitoleoyl-phosphatidylinositol. J Biol Chem. 2012 Aug 3;287(32):27244-54.
Kamphorst JJ, et al. Hypoxic and Ras-transformed cells support growth by scavenging unsaturated fatty acids from lysophospholipids. Proc Natl Acad Sci U S A. 2013 May 28;110(22):8882-7.