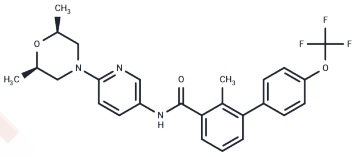
Data Sheet (Cat.No.T1926)

TargetMol

Sonidegib

Chemical Properties



CAS No. : 956697-53-3

Formula: C26H26F3N3O3

Molecular Weight: 485.5

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	Sonidegib (Erismodegib), a Smoothened (Smo) antagonist, inhibits Hedgehog (Hh) signaling with IC50 of 1.3 nM (mouse) and 2.5 nM (human), respectively.
Targets(IC50)	Hedgehog/Smoothened,Smo
In vitro	The PAMPA experiment revealed that LDE225 possesses a permeability of up to 90.8%. In gradient dilution tests across clinical species, LDE225 demonstrated high oral bioavailability, with biological efficacy ranging from 69% to 102%. LDE225 is weakly basic (pKa: 4.20) and exhibits relatively poor water solubility. The compound shows dose-dependent antitumor activity. It strongly binds to plasma proteins in rats, mice, and humans (>99%), and exhibits binding capacities of 77% and 85% with dog and monkey plasma proteins, respectively. In the Rip1-Tag2 mouse model, LDE225 significantly reduced tumor volume by 95.7%. Administered at a dosage of 5 mg/kg/day, it significantly inhibited tumor growth, equivalent to a 33% T/C value. At dosages of 10 or 20 mg/kg/day, LDE225 achieved tumor regression effects of 51% and 83%, respectively. The inhibition of Gli1 mRNA is associated with the contact between the tumor and plasma mediated by LDE225. In an animal model with tumor transplantation, LDE225 was able to cross the blood-brain barrier and inhibit tumor growth after four days of treatment.
In vivo	LDE 225 (0.6-0.8 μM) inhibits the TM3 fluorescent reporter cell line, which has been treated with Hh agonists Ag1.5 ranging from 1 nM to 25 nM.
Cell Research	LDE225 is prepared for assay by serial dilution in DMSO and then added to empty assay plates. TM3Hh12 cells (TM3 cells containing Hh-responsive reporter gene construct pTA-8xGli-Luc) are cultured in F12 Ham's/DMEM (1:1) containing 5% horse serum, 2.5% fetal bovine serum (FBS), and 15 mM HEPES, pH 7.3. Cells are harvested by trypsin treatment, resuspended in F12 Ham's/DMEM (1:1) containing 5% horse serum and 15 mM HEPES, pH 7.3, added to assay plates, and incubated with LDE225 for approximately 30 min at 37 °C in 5% CO2. Then 1 nM or 25 nM Ag1.5 is added to assay plates and incubated at 37 °C in the presence of 5% CO2. After 48 hours, either Bright-Glo or MTS reagent is added to the assay plates and luminescence or absorbance at 492 nm is determined. IC50 values, defined as the inflection point of the logistic curve, are determined by nonlinear regression of the Gli-driven luciferase luminescence or absorbance signal from MTS assay vs log10 (concentration) of LDE225 using the R statistical software pack (Only for

Cell Research	Reference)

Solubility Information

Solubility	DMSO: 255 mg/mL (525.23 mM),Sonication is recommended. Ethanol: 90 mg/mL (185.38 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (10.3 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	2.0597 mL	10.2987 mL	20.5973 mL
5 mM	0.4119 mL	2.0597 mL	4.1195 mL
10 mM	0.206 mL	1.0299 mL	2.0597 mL
50 mM	0.0412 mL	0.206 mL	0.4119 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

Pan SF, et al. ACS Med. Chem. Lett., 2010, 1 (3), 130–134.
Machine learning-enabled virtual screening indicates the anti-tuberculosis activity of aldoxorubicin and quarfloxin with verification by molecular docking, molecular dynamics simulations, and biological evaluations
Fendrich V, et al. Ann Surg, 2011, 254(5), 818-23.
Tauchi T, et al. Arthritis Res Ther, 2012, 14(Suppl 1), O43.