Data Sheet (Cat.No.T214375)

TargetMol

KRASG12C IN-19

Chemical Properties

CAS No. : 2915282-32-3

Formula: C33H31FN8O2

Molecular Weight: 590.66

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	KRASG12C IN-19 is a selective inhibitor of KRASG12C. It exhibits potent antiproliferative activity against the KRASG12C-mutant non-small cell lung cancer (NSCLC) cell line H358, with an IC50 of 7.6 nM, and effectively inhibits downstream ERK phosphorylation (IC50= 24.06 nM). It shows no significant inhibitory activity on KRASG12V and KRASG12D mutant cancer cells (PANC 1, Panc 03.27, AsPC 1, and GP2d cells) with IC50 values greater than 10,000 nM. KRASG12C IN-19 rapidly forms a covalent bond with KRASG12V-GDP, leading to dose-dependent inhibition of the downstream KRAS pathway. This compound is suitable for research on KRASG12C-driven cancers, including non-small cell lung cancer, pancreatic cancer, and colorectal cancer.
Targets(IC50)	ERK
In vitro	KRASG12C IN-19 (compound 8t) demonstrates remarkable metabolic stability in human and mouse liver microsomes, with half-lives (T 1/2) of 188.2 and 112.3 minutes, and intrinsic clearance rates (CL int) of 6.4 and 15.8 mL/min/kg, respectively. It shows significant nanomolar antiproliferative activity against H358 non-small cell lung cancer cells, with an IC 50 of 7.6 nM at concentrations of 4.88-312.5 nM over 72 hours. However, KRASG12C IN-19 exhibits no cell inhibitory effect on PANC-1 (IC 50 > 1000 nM, KRAS G12V mutation), Panc 03.27, AsPC-1 (IC 50 > 1000 nM, KRAS G12D mutation), and GP2d cancer cells. Additionally, at 4.88-312.5 nM over 3 hours, KRASG12C IN-19 inhibits ERK phosphorylation in a dose-dependent manner in H358 cells, with an IC 50 of 24.06 nM, and specifically inhibits ERK phosphorylation in KRAS G12C mutant H358 cells. It also exhibits low toxic potential against the hERG channel, with an IC 50 > 30 μM in CHO cell lines.
In vivo	Administered orally at a dosage of KRASG12C IN-19 (30 mg/kg, once daily for 29 consecutive days), this compound effectively inhibits the growth of KRAS G12C mutant human-derived H358 NSCLC cell xenografts in female BALB/c mice without causing any observable toxic side effects.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.693 mL	8.4651 mL	16.9302 mL
5 mM	0.3386 mL	1.693 mL	3.386 mL
10 mM	0.1693 mL	0.8465 mL	1.693 mL
50 mM	0.0339 mL	0.1693 mL	0.3386 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.