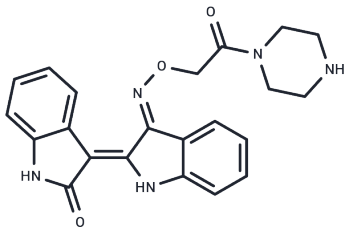
Data Sheet (Cat.No.T61977)

TargetMol
YOUR TARGET MOLECULES

FLT3/D835Y-IN-1

Chemical Properties



CAS No. : 2648799-49-7

Formula: C22H21N5O3

Molecular Weight: 403.43

Appearance: no data available

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

Biological Description

Description	FLT3/D835Y-IN-1 (compound 13a) is a orally active, and selective inhibitor of FLT3 and FLT3/D835Y, with IC50s of 0.26 nM and 0.18 nM, respectively. FLT3/D835Y-IN-1 has anticancer efficacy, and has research value in AML (acute myeloid leukemia).
In vitro	FLT3/D835Y-IN-1 (compound 13a), at a concentration of 100 nM over a period of 3 hours, effectively inhibits the proliferation of Ba/F3-FLT3-ITD, Ba/F3-FLT3-ITD/D835Y, Ba/F3-FLT3-ITD-F691L cell lines, and AML cells. When administered at concentrations ranging from 3-30 nM for 16 hours, it markedly suppresses the FLT3, AKT, ERK, and STAT5 signaling pathways. In a cell proliferation assay using these cell lines and AML cells at a 100 nM concentration and a 3-hour incubation, significant inhibition was observed alongside GI50 values of 0.59, 0.73, 5.54, 1.30, 6.20, and 4.58 nM, respectively. Additionally, Western Blot analysis of MOLM14-ITD/D835Y and MOLM14-ITD/F691L cells treated with concentrations of 3, 10, and 30 nM for 16 hours demonstrates a significant reduction in the activity of FLT3, AKT, ERK, and STAT5 pathways at lower doses.
In vivo	Administering FLT3/D835Y-IN-1 at a dosage of 10 mg/kg interperitoneally (IP) daily for six days per week notably inhibits tumor proliferation and demonstrates strong antitumor efficacy against MOLM14-ITD/D835Y cells. Conversely, administering a single dose of 10 mg/kg intravenously (IV) or orally reveals a considerably low area under the curve (AUC) and elevated clearance rates in pharmacokinetic studies, indicating rapid drug elimination. Additionally, pharmacokinetic parameters assessed in ICR mice include an AUC of 1360 ± 110 ng*h/mL, clearance rate (CL) of 6.96 ± 0.66 L/h/kg, steady-state volume of distribution (Vss) of 14.8 ± 0.7 L/kg, and a half-life (T1/2) of 1.5 ± 0.1 hours. In trials involving NOD/SCID mice (9 per group, 6 weeks old, male), the compound significantly reduced tumor size when given IP daily at 10 mg/kg from day 7 to 29. Similarly, in ICR mice (7-8 weeks old, male), a single dose of the compound, dissolved in 10% DMSO, 40% PEG400, and 50% PBS, administered IV or orally showed significantly low AUC and high clearance.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4787 mL	12.3937 mL	24.7874 mL
5 mM	0.4957 mL	2.4787 mL	4.9575 mL
10 mM	0.2479 mL	1.2394 mL	2.4787 mL
50 mM	0.0496 mL	0.2479 mL	0.4957 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.