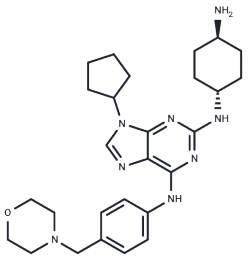
Data Sheet (Cat.No.T11298)

TargetMol

FLT3-IN-3

Chemical Properties



CAS No. : 2229050-90-0

Formula: C27H38N8O

Molecular Weight: 490.64

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	FLT3-IN-3 is an effective FLT3 inhibitor, and the IC50s of FLT3 WT and FLT3 D835Y are 13 and 8 nM, respectively.
Targets(IC50)	FLT
In vitro	FLT3-IN-3 inhibits the proliferation of FLT3-ITD positive MV4-11 and MOLM-13 cell lines very effectively at low nanomolar concentrations (GI50 values 2 and 1 nM, respectively). FLT3-IN-3 (1 nM, 10nM, 100 nM, 1 μM and 10 μM; 72 hours) inhibits the Ba/F3 FLT3-ITD cells with the GI50 of 0.034±0.015 μM, and inhibits the parental Ba/F3 cells with the GI50 value of 1.136±0.389 μM. Concentrations as low as 1 nM are sufficient to block the autophosphorylation of the FLT3 receptor tyrosine kinase at three different tyrosine residues (589, 591, and 842). Moreover, this inhibition suppresses phosphorylation of several downstream targets of FLT3. Notably, FLT3-IN-3 (0.01, 0.1, 1, 10 and 100 nM; 1 hours) abolishes phosphorylation of STAT5 at Y694, which is a direct substrate of the oncogenic FLT3-ITD variant. The second pathway affected is the MAPK cascade: Two key components of this signaling pathway, ERK1/2 (T202/Y204) and MEK1/2 (S217/221), exhibit reduced phosphorylation upon treatment with FLT3-IN-3. FLT3-IN-3 also interfers with PI3K/AKT pathway which is confirmed by reduced phosphorylation of AKT at S473.
In vivo	A single dose of FLT3-IN-3 in mice with subcutaneous MV4-11 xenografts results in sustained inhibition of FLT3 and STAT5 phosphorylation for 48 hours.

Solubility Information

Solubility	DMSO: 250 mg/mL (509.54 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: 5 mg/mL (10.19 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	2.0382 mL	10.1908 mL	20.3815 mL
5 mM	0.4076 mL	2.0382 mL	4.0763 mL
10 mM	0.2038 mL	1.0191 mL	2.0382 mL
50 mM	0.0408 mL	0.2038 mL	0.4076 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

Gucký T, et al. Discovery of N2-(4-Amino-cyclohexyl)-9-cyclopentyl- N6-(4-morpholin-4-ylmethyl-phenyl)- 9H-purine-2,6-diamine as a Potent FLT3 Kinase Inhibitor for Acute Myeloid Leukemia with FLT3 Mutations. J Med Chem. 2018 May 10;61(9):3855-3869.

Huang F, Liang J, Lin Y, et al.Repurposing of Ibrutinib and Quizartinib as potent inhibitors of necroptosis. Communications Biology.2023, 6(1): 972.