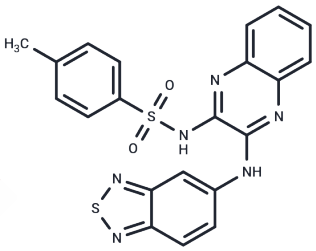
Data Sheet (Cat.No.T2377)

TargetMol

Pilaralisib analogue

Chemical Properties



CAS No. : 956958-53-5

Formula: C21H16N6O2S2

Molecular Weight: 448.52

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	Pilaralisib analogue (XL147 analogue) is a selective and reversible class I PI3K inhibitor targeting PI3Kα/δ/γ.
Targets(IC50)	Apoptosis,DNA-PK,PI3K
In vitro	Treatments were administered to thymus-deficient mice bearing BT474 xenografts, randomly utilizing XL147, lapatinib, trastuzumab, or a combination of XL147 with each HER2 antagonist. Every single-agent therapy significantly inhibited tumor growth, with the combination therapy proving substantially more effective than any drug used alone. The combined use of XL147 and trastuzumab exhibited a notably higher suppression of pHER3 compared to other treatments. Among all three single agents, XL147 uniquely demonstrated a statistically significant inhibition of nuclear pAKT levels, with no detectable change in cytoplasmic pAKT levels.
In vivo	At a concentration of 20 μM, XL147 induces cell death and leads to dose-dependent inhibition of PI3K. Treatment with XL147 reduces the levels of cell cycle proteins D1 and pRB and increases the level of CDK inhibitor p27KIPI, without detectable changes in the levels of total or cleaved poly(ADP-ribose) polymerase (PARP). Furthermore, XL147 treatment results in a dose-dependent decrease in pAKTS473/T308 and pS6S240/244. As a selective and reversible inhibitor of PI3K, XL147 exhibits an IC50 of 40 nM against p110α, acting as an ATP competitive inhibitor. In a set of HER2-overexpressing human breast cancer cell lines, XL147 treatment abolishes AKT and S6 phosphorylation but also induces the expression and phosphorylation of HER3 and other RTKs. In HER2+ cells, the combination of XL147 with siRNA against HER3 or HER2 inhibitors like trastuzumab or lapatinib enhances XL147-induced cell death and inhibition of pAKT and pS6.
Cell Research	Cells including BT474, HCC1937 et al. are seeded in 100-mm dishes in media containing 2.5% FBS with or without XL147. After 3 days, detached and adherent cells are pooled, ? xed, and labeled with propidium iodide by using the APO-BrdU kit. Labeled cells are analyzed using the Becton Dickinson FACSCalibur system. (Only for Reference)

Solubility Information

Solubility	Ethanol: < 1 mg/mL (insoluble or slightly soluble), DMSO: 22.45 mg/mL (50.05 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble),

Solubility	(< 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 (4.46 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	2.2296 mL	11.1478 mL	22.2955 mL
5 mM	0.4459 mL	2.2296 mL	4.4591 mL
10 mM	0.223 mL	1.1148 mL	2.2296 mL
50 mM	0.0446 mL	0.223 mL	0.4459 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

Chakrabarty A, et al. Proc Natl Acad Sci U S A, 2011, 1-6.