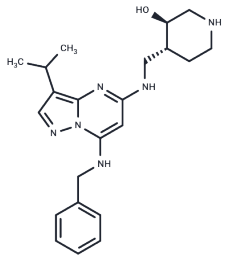
Data Sheet (Cat.No.T61835)

TargetMol

Samuraciclib

Chemical Properties



CAS No. : 1805833-75-3

Formula: C22H30N6O

Molecular Weight: 394.51

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	Samuraciclib (CT7001) is a potent, selective, and orally active CDK7 inhibitor with an ATP-competitive nature, effectively inhibiting CDK7 with an IC50 of 41 nM. It demonstrates 45-fold, 15-fold (IC50 of 578 nM), 230-fold, and 30-fold selectivity over CDK1, CDK2, CDK5, and CDK9, respectively. Samuraciclib inhibits the growth of breast cancer cell lines with GI50 values of 0.2-0.3 μM and possesses anti-tumor effects [1] [2].
Targets(IC50)	Apoptosis,Others,CDK
In vitro	Samuraciclib (ICEC0942; 0-10 μM; 24 hours; HCT116 cells) treatment promotes cell apoptosis [1]. Samuraciclib (ICEC0942; 0-10 μM; 24 hours; HCT116 cells) treatment induces cell cycle arrest [1]. Samuraciclib (ICEC0942; 0-10 μM; 0-24 hours; HCT116 cells) treatment inhibits the phosphorylation of PolII CTD in a dose and time dependent manner in HCT116 colon cancer cells. Samuraciclib also inhibits phosphorylation of CDK1, CDK2 and retinoblastoma [1]. Samuraciclib (ICEC0942) inhibits the growth of MCF7, T47D, MDA-MB-231, HS578T, MDA-MB-468, MCF10A and HMEC cells with GI 50 values of 0.18 μM, 0.32 μM, 0. 33 μM, 0.21 μM, 0.22 μM, 0.67 μM and 1.25 μM, respectively [1]. Apoptosis Analysis [1] Cell Line: HCT116 cells Concentration: 0 μM, 0.1 μM, 1 μM and 10 μM Incubation Time: 24 hours Result: Induced caspase 3/7 and demonstrated PARP cleavage. Cell Cycle Analysis [1] Cell Line: HCT116 cells Concentration: 0 μM, 0.01 μM, 0.1 μM, 1 μM and 10 μM Incubation Time: 24 hours Result: Showed accumulation of cells in G2/M. Western Blot Analysis [1] Cell Line: HCT116 cells Concentration: 0 μM, 0.1 μM, 1 μM and 10 μM Incubation Time: 0 hour, 4 hours, 8 hours, 16 hours or 24 hours Result: PolII CTD phosphorylation was inhibited in a dose and time dependent manner in HCT116 colon cancer cells.
In vivo	Samuraciclib (ICEC0942; 100 mg/kg; oral gavage; daily; for 14 days) administered to female nu/nu-BALB/c athymic nude mice resulted in a 60% inhibition of tumor growth by day 14, with significant decreases in PolII Ser2 and Ser5 phosphorylation levels in both PBMCs and tumors. Combined with ICI 47699, Samuraciclib achieved complete inhibition of growth in estrogen receptor (ER)-positive tumor xenografts. This study, utilizing 7-week-old female nu/nu-BALB/c athymic nude mice implanted with MCF7 cells, demonstrates the compound's potent anticancer activity.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5348 mL	12.6739 mL	25.3479 mL
5 mM	0.507 mL	2.5348 mL	5.0696 mL
10 mM	0.2535 mL	1.2674 mL	2.5348 mL
50 mM	0.0507 mL	0.2535 mL	0.507 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.