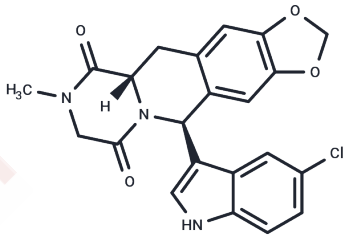
Data Sheet (Cat.No.T15597)

TargetMol

ISA-2011B

Chemical Properties



CAS No. : 1395347-24-6

Formula: C22H18ClN3O4

Molecular Weight: 423.85

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	ISA-2011B is an inhibitor of PIP5K1α and can be used in anticancer studies.
Targets(IC50)	Others
In vitro	ISA-2011B significantly decreases AR-V7 and CDK1 levels in both the nucleus and cytoplasm of 22Rv1 cells, demonstrating strong binding affinity towards PIP5K1α and both MARK1 and MARK4 among 460 kinases. In PC-3 cells, ISA-2011B treatment reduces PIP5K1α expression by 78.6%[1] and eliminates nuclear AR expression without affecting cytoplasmic AR[2]. Additionally, ISA-2011B markedly lowers the proliferation rates of PC-3 cells to 58.77%, 48.65%, and 21.62% at doses of 10, 20, and 50 μM, respectively, compared to controls.
In vivo	Overexpression of AR-V7 enhances PIP5K1α levels, accelerating prostate cancer (PCa) growth in xenograft mice. Conversely, the PIP5K1α inhibitor ISA-2011B significantly curtails the proliferation and invasiveness of AR-V7 overexpressing xenograft tumors. ISA-2011B effectively impedes tumor cell growth in xenograft mice by targeting the PIP5K1α-related PI3K/AKT pathways, including those responsible for survival, proliferation, and invasion[1]. Furthermore, ISA-2011B interferes with AR-V7 protein stabilization through its dependency on PIP5K1α, thereby hindering the aggressive growth of AR-V7-high tumors in xenograft models[2].

Solubility Information

Solubility	DMSO: 150 mg/mL (353.9 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: < 10 mg/mL (23.59 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 10 mg/mL (23.59 mM),Solution. *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	2.3593 mL	11.7966 mL	23.5933 mL
5 mM	0.4719 mL	2.3593 mL	4.7187 mL
10 mM	0.2359 mL	1.1797 mL	2.3593 mL
50 mM	0.0472 mL	0.2359 mL	0.4719 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

Sarwar M, et al. Targeted suppression of AR-V7 using PIP5K1α inhibitor overcomes MDV3100 resistance in prostate cancer cells. Oncotarget. 2016 Sep 27;7(39):63065-63081.
Semenas J, et al. The role of PI3K/AKT-related PIP5K1α and the discovery of its selective inhibitor for treatment of advanced prostate cancer. Proc Natl Acad Sci U S A. 2014 Sep 2;111(35):E3689-98.