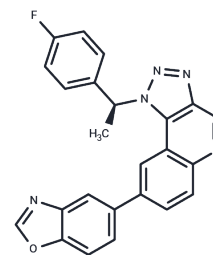


CLK1-IN-1

Chemical Properties

CAS No. :	2123491-32-5
Formula:	C ₂₄ H ₁₆ FN ₅ O
Molecular Weight:	409.42
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	CLK1-IN-1 is a potent and selective inhibitor of Cdc2-like kinase 1 (CLK1) with an IC ₅₀ of 2 nM.
Targets(IC ₅₀)	CDK
In vitro	In addition to CLK1, only two kinases have an IC ₅₀ value less than 100 nM, namely CLK2 (IC ₅₀ : 31 nM) and CLK4 (IC ₅₀ : 8 nM), DYRK1A is the strongest off-target. The effects of CLK1-IN-1 on yellow LC3 puncta also displays obvious dose dependency, and a dose of 10 μM shows the best performance. In addition, in CLK1-IN-1-treated cells, the number of red LC3 puncta (mRFP signals only ³⁵) increases compared with that of DMSO-treated cells, indicating the formation of autolysosomes. Importantly, CLK1-IN-1 stimulates the degradation of SQSTM1/p62 and increases the ratio of red LC3 puncta to yellow LC3 puncta, both of which indicate induction of autophagic flux by CLK1-IN-1.
In vivo	Exposure to APAP causes severe liver injury, but treatment with CLK1-IN-1 (i.p., 30 mg/kg) provides significant hepatoprotection, reducing serum ALT and AST levels to normal.

Solubility Information

Solubility	DMSO: 25 mg/mL (61.06 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2 mg/mL (4.88 mM), Sonication is recommended. <i>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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4425 mL	12.2124 mL	24.4248 mL
5 mM	0.4885 mL	2.4425 mL	4.885 mL
10 mM	0.2442 mL	1.2212 mL	2.4425 mL
50 mM	0.0488 mL	0.2442 mL	0.4885 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

Sun QZ, et al. Discovery of Potent and Selective Inhibitors of Cdc2-Like Kinase 1 (CLK1) as a New Class of Autophagy Inducers. J Med Chem. 2017 Jul 27;60(14):6337-6352.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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