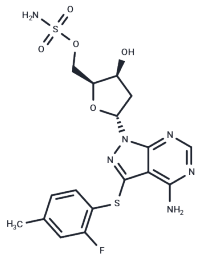
Data Sheet (Cat.No.T39705)

TargetMol

ATG7-IN-1

Chemical Properties



CAS No. : 2226229-87-2

Formula: C17H19FN6O5S2

Molecular Weight: 470.5

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	ATG7-IN-1 is a highly potent, selective small-molecule ATG7 inhibitor with an IC_{50} of 62 nM. ATG7-IN-1 blocks the formation of the ATG12-ATG5 and LC3-PE conjugate system at both the cellular and in vivo levels, thereby inhibiting autophagosome formation. ATG7-IN-1 can be used in research on autophagy mechanisms.
Targets(IC50)	Autophagy,ATG
In vitro	**Methods**: H4 glioma cells were treated with ATG7-IN-1 (0.01, 0.03, 0.1, 0.3, 1, 3 μmol/L) for 6 hours. LC3B spot formation was quantified by immunofluorescence to assess the inhibition of autophagic flux. **Results**: ATG7-IN-1 significantly reduced the number of LC3B foci and inhibited LC3 phosphorylation downstream of ATG7, with an IC_{50} as low as the micromolar range. [1]
In vivo	**Methods**: HCT116 colorectal cancer xenograft mice were administered 150 mg/kg of ATG7-IN-1 via subcutaneous injection. Tumor tissue expression of LC3B and NBR1 was assessed 4 hours after dosing. **Results**: ATG7-IN-1 effectively inhibited autophagy in tumor tissue in vivo, reduced LC3B phosphorylation, and induced NBR1 accumulation, demonstrating good in vivo efficacy. [1]

Solubility Information

Solubility	DMSO: 255 mg/mL (541.98 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 (10.63 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	2.1254 mL	10.627 mL	21.254 mL
5 mM	0.4251 mL	2.1254 mL	4.2508 mL
10 mM	0.2125 mL	1.0627 mL	2.1254 mL
50 mM	0.0425 mL	0.2125 mL	0.4251 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

Huang SC, et al. Discovery and optimization of pyrazolopyrimidine sulfamates as ATG7 inhibitors. Bioorg Med Chem. 2020 Oct 1;28(19):115681.

Zhang W, Chen L, Liu J, et al.Inhibition of autophagy-related protein 7 enhances anti-tumor immune response and improves efficacy of immune checkpoint blockade in microsatellite instability colorectal cancer.Journal of Experimental & Clinical Cancer Research.2024, 43(1): 1-19.