Data Sheet (Cat.No.TP2288)

TargetMol

Rapalink-1

Chemical Properties

CAS No. : 1887095-82-0

Formula: C91H138N12O24

Molecular Weight: 1784.14

Storage: Keep away from moisture,Store at low temperature
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	Rapalink-1 is a brain-permeable mTOR inhibitor that inhibits oxidative stress-induced DNA damage and senescence in ethanol-exposed endothelial cells, and inhibits the mTORC1-4E-BP1 pathway in mice.Rapalink-1 is used for the study of prostate cancer due to its anticancer activity.
Targets(IC50)	Autophagy,mTOR
In vitro	**METHODS**: U87MG cells were lysed with RapaLink-1 (0.39, 0.78, 1.56, 3.13, 6.25, 12.5 nM, 3 hours) and analyzed by western blot as indicated. **RESULTS**: RapaLink-1 selectively inhibited p-RPS6S235/236 and p-4EBP1T37/46 at doses as low as 1.56 nM. mTORC2 targeting p-AKTS473, p-SGK1S78, and p-NDRG1T346 and p-AKTS473 targeting p-GSK3βS9 were inhibited only at high doses. [1]
In vivo	**METHODS**: BALB/cNU/NU mice were treated with RapaLink-1 (0.4 mg/kg or 4 mg/kg, ip, 15 min) and injected intraperitoneally with 250 mU insulin or saline for 15 min. Mice were sacrificed, and skeletal muscle, liver, and brain were harvested, lysed, and analyzed by Western blotting as indicated. **RESULTS**: RapaLink-1 was able to inhibit the expression of p-RPS6S235/236 and p-4EBP1T37/46 in the brain in a concentration-dependent manner, but did not inhibit the expression of the mTORC2 substrate p-AKTS473. [1]

Solubility Information

Solubility	DMSO: 160 mg/mL (89.68 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 5 mg/mL (2.8 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	0.5605 mL	2.8025 mL	5.6049 mL
5 mM	0.1121 mL	0.5605 mL	1.121 mL
10 mM	0.056 mL	0.2802 mL	0.5605 mL
50 mM	0.0112 mL	0.056 mL	0.1121 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

Fan Q, et al. A Kinase Inhibitor Targeted to mTORC1 Drives Regression in Glioblastoma. Cancer Cell. 2017 Mar 13;31 (3):424-435.