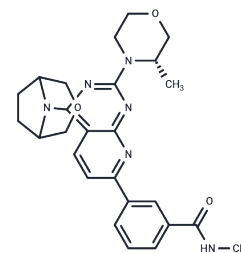


MTI-31

Chemical Properties

CAS No. : 1567915-38-1
 Formula: C₂₆H₃₀N₆O₃
 Molecular Weight: 474.55
 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	MTI-31 (LXI-15029) is a potent, orally active, and highly selective inhibitor of mTORC1 and mTORC2, exhibiting a K _d of 0.20 nM for mTOR and >5,000-fold selectivity over PIK3CA, PIK3CB, and PIK3G in binding assays, with an IC ₅₀ of 39 nM for mTOR in a LANCE assay of mTOR substrate phosphorylation with 100 μM ATP [1].
Targets(IC50)	mTOR
In vitro	MTI-31 (0.01-100 μM) elicits a potent and more substantial inhibition of cell growth than that of Rapamycin[1]. Treatment with MTI-31 for 6 h demonstrates a dose-dependent inhibition of both the mTORC1 substrates P-S6K1(T389), P-S6(S235/6), P-4EBP1(T70) and mTORC2 substrate P-AKT(S473), achieving 50% inhibition at ≤0.12 μM in three representative tumor cell lines harboring mTOR pathway dysregulation (786-O renal, U87MG glioma and MDA-MB-453 breast)[1]. MTI-31-induced apoptosis requires mTORC2-regulated Bim- and GSK3 activity[1].
In vivo	MTI-31(5-40 mg/kg; orally) is efficacious in several tumor models harboring HER2+/PIK3CAmut and/or PTEN-deficiency exemplified by MDA-MB-453 and 786-O[1]. Treatment of tumor bearing nude mice with orally administered MTI-31 inhibits growth of H1975 tumors (25 mg/kg/d; orally) or U87MG tumors (30 mg/kg/d; orally)[2].

Solubility Information

Solubility	DMSO: 8.33 mg/mL (17.55 mM),Sonication and heating to 60°C are recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 0.5 mg/mL (1.05 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	2.1073 mL	10.5363 mL	21.0726 mL
5 mM	0.4215 mL	2.1073 mL	4.2145 mL
10 mM	0.2107 mL	1.0536 mL	2.1073 mL
50 mM	0.0421 mL	0.2107 mL	0.4215 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

Jianchang Qian, et al. Oncotarget . 2016 Oct 11;7(41):67071-67086.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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