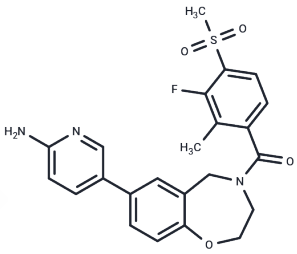
Data Sheet (Cat.No.T6030)

TargetMol

XL388

Chemical Properties



CAS No. : 1251156-08-7

Formula: C23H22FN3O4S

Molecular Weight: 455.5

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	XL388 is a highly effective, specifc, ATP-competitive inhibitor of mTOR (IC50: 9.9 nM), 1000-fold selectivity than the closely related PI3K kinases.
Targets(IC50)	Autophagy,Cytochromes P450,mTOR,PI3K
In vitro	In vitro, XL388 inhibited the activity of solid and hematopoietic tumor cell lines as well as the proliferation of MCF-7 cell line (IC50: 1.37 μM). xL388 inhibited mTORC1 phosphorylation of p70S6K (T389) in MCF-7 cells (IC50: 94 nM). xL388 inhibited the phosphorylation of mTORC2 by AKT (S473) (IC50 : 350 nM).
In vivo	In vitro, XL388 inhibited the activity of solid and hematopoietic tumor cell lines as well as the proliferation of MCF-7 cell line (IC50: 1.37 μM). xL388 inhibited mTORC1 phosphorylation of p70S6K (T389) in MCF-7 cells (IC50: 94 nM). xL388 inhibited the phosphorylation of mTORC2 by AKT (S473) (IC50 : 350 nM).
Kinase Assay	Determination of Enzyme IC50 Values: IC50 values are determined using a 10 concentration point, non-radioactive, functional assay that employs a fluorescence-based, coupled-enzyme format, according to the manufacturer's protocol (Z'-LYTE@biochemical assay). Kinase selectivity is determined using both the Z'-LYTE@ and Adapta@ kinase assay format.

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble or slightly soluble), DMSO: 22 mg/mL (48.3 mM),Sonication is recommended. Ethanol: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (4.39 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	2.1954 mL	10.9769 mL	21.9539 mL
5 mM	0.4391 mL	2.1954 mL	4.3908 mL
10 mM	0.2195 mL	1.0977 mL	2.1954 mL
50 mM	0.0439 mL	0.2195 mL	0.4391 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

Nicole Miller, et al. Mol Cancer Ther, 2009, 8(12 Suppl):B146.
Wang Z, Feng J, Yu J, et al. FKBP12 mediates necroptosis by initiating RIPK1-RIPK3-MLKL signal transduction in response to TNF receptor 1 ligation. Journal of Cell Science. 2019, 132(10): jcs227777
Chen C, Zhang X, Wang Y, et al. Translational and Post-translational Control of Human Naïve versus Primed Pluripotency. iScience. 2021: 103645.
Takeuchi CS, et al. J Med Chem, 2013, 56(6), 2218-2234.
Wang Z, Feng J, Yu J, et al. FKBP12 mediates necroptosis by initiating RIPK1-RIPK3-MLKL signal transduction in response to TNF receptor 1 ligation[J]. Journal of cell science. 2019 May 20;132(10). pii: jcs227777.