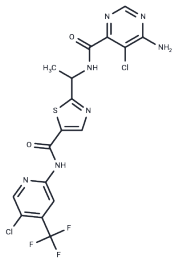
Data Sheet (Cat.No.T6895)

TAK-580

Chemical Properties



CAS No. : 1096708-71-2

Formula: C17H12Cl2F3N7O2S

Molecular Weight: 506.29

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	TAK-580 (MLN2480) is an oral, selective pan-Raf kinase inhibitor in Clinicalal trials.
Targets(IC50)	Raf
In vitro	TAK-580 inhibits MAPK pathway signaling in BRAF mutant and some RAS mutant preClinicalal cancer models at concentrations that are tolerated in vivo. It is found to activate phosphorylated MEK at very low concentrations, but inhibits this same activity at higher concentrations. The inhibitory effects of MLN-2480 are found to vary across models and genetic contexts. In vitro analysis of this drug combination of TAK-580 and TAK-733(an investigational allosteric MEK kinase inhibitor) in cell proliferation assays demonstrates synergistic activity. In addition, western blot analysis demonstrates the effect of TAK-580 in reversing feedback activation of MEK in response to TAK-733, leading to more concerted MAPK pathway inhibition.MLN-2480 only modestly inhibits PRAK.
In vivo	In vivo, TAK-580 shows antitumor activity in melanoma, colon, lung, and pancreatic cancer xenograft models.MLN-2480 (37.5 mg/kg) is well tolerated in a tumor xenograft model. The combination of MLN-2480 (12.5 mg) and TAK-733 (1 mg/kg) is effective in an SK-MEL-30 xenograft model, but monotherapy with either compound produces negligible effects.
Animal Research	[4]Animal Models: C57BL/6J miceFormulation: 100% PEG400Dosages: 12.5 mg/kgAdministration: oral gavage

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble or slightly soluble), DMSO: 93 mg/mL (183.69 mM),Sonication is recommended. Ethanol: 93 mg/mL (183.69 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: 1 mg/mL (1.98 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*

In vivo Formulation	*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	1.9752 mL	9.8758 mL	19.7515 mL
5 mM	0.395 mL	1.9752 mL	3.9503 mL
10 mM	0.1975 mL	0.9876 mL	1.9752 mL
50 mM	0.0395 mL	0.1975 mL	0.395 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

Elizabeth Grace Carideo Cunniff, et al. Journal of Clinical Oncology. 2013:e13529.
Macauley D, et al.Drugs Fut.2012,37(6):451.
Drew Warren Rasco, et al. J Clin Oncol 31, 2013 (suppl; abstr 2547)