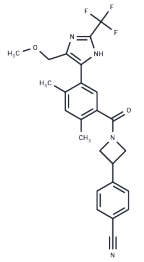
Data Sheet (Cat.No.T17181)

TargetMol

TVB-3664

Chemical Properties



CAS No. : 2097262-58-1

Formula: C25H23F3N4O2

Molecular Weight: 468.47

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	TVB-3664 is an orally active, selective, reversible, and highly bioavailable fatty acid synthase inhibitor (FASN) with an IC50 for palmitate synthesis of 18 nM in human and 12 nM in mouse.Significantly inhibits microtubule protein palmitoylation and mRNA expression.
Targets(IC50)	Fatty Acid Synthase
In vitro	**METHODS**: CaCo2, HT29 and LIM2405 cells were treated with TVB-3664 in cell line-specific medium supplemented with 10% FBS for 7 days without medium change and cell proliferation was assessed by cell counting. **RESULTS** TVB-3664 inhibited the proliferation of CaCo2, HT29 and LIM2405 cells. [1] **METHODS**: Primary CRC cells from Pt 93 and Pt 130 were treated with 0.2 μM TVB-3664 for 6 days under normal or serum-starved conditions and labeled with CD36-FITC antibody. Perform flow cytometric analysis. **RESULTS** Inhibition of FASN activity by TVB-3664 resulted in an increase in membrane-associated CD36 compared to control cells under normal and serum-poor conditions. [2]
In vivo	**METHODS**: Animals were treated with 3 mg/kg (Pt 2614 and Pt 2449PT) or 6 mg/kg (Pt 2402 and Pt 2449LM) of TVB-3664 daily by oral gavage. **RESULTS** TVB-3664 treatment significantly reduced the tumor volume and tumor weight of Pt 2614, Pt 2449PT and Pt 2402 PDX models, with average tumor weight reductions of 30%, 37.5% and 51.5% respectively. [1] **METHODS**: To assess the correlation between activation of major oncogenic pathways and tumor responses in vivo, the levels of pAkt, pAMPK, pErk1/2, and TIP47 in tumor tissues in the G0 PDX model were analyzed. **RESULTS** TVB-3664 treatment induced the activation of pAkt and pAMPK, but reduced the level of TIP47 in the Pt 2387 model; analysis of tumor samples of TVB-3664-treated Pt 2377PT and LM models showed that the activation of pErk1/2 and pAMPK, respectively Increase. [1] **METHODS**: A trial was conducted using the H2122 mouse xenograft model, in which we dosed mice with 5 mg/kg TVB-3664 and 10 mg/kg MRTX849 for approximately 3 weeks. **RESULTS** The weight of the mice remained stable throughout. The combined treatment was significantly better than the single drug group and could prevent tumor growth. [2]

Solubility Information

Solubility	DMSO: 150 mg/mL (320.19 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: 10 mg/mL (21.35 mM),Suspension. 10% DMSO+90% Saline: < 10 mg/mL (21.35 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. *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	2.1346 mL	10.673 mL	21.3461 mL
5 mM	0.4269 mL	2.1346 mL	4.2692 mL
10 mM	0.2135 mL	1.0673 mL	2.1346 mL
50 mM	0.0427 mL	0.2135 mL	0.4269 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

Zaytseva YY, et al. Preclinical evaluation of novel fatty acid synthase inhibitors in primary colorectal cancer cells and a patient-derived xenograft model of colorectal cancer. Oncotarget. 2018 May 15;9(37):24787-24800.
Drury J,et al. Inhibition of Fatty Acid Synthase Upregulates Expression of CD36 to Sustain Proliferation of Colorectal Cancer Cells. Front Oncol. 2020 Jul 31;10:1185.