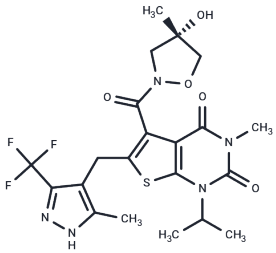
Data Sheet (Cat.No.T3210)

TargetMol

AZD3965

Chemical Properties



CAS No. : 1448671-31-5

Formula: C21H24F3N5O5S

Molecular Weight: 515.51

Storage: 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	AZD3965 (AZD-3965) is a selective inhibitor of monocarboxylate transporter 1 (MCT1).
Targets(IC50)	Monocarboxylate transporter
In vitro	In lymphoma cell lines that preferentially express MCT1, AZD3965 potently inhibits lactate transport and cell growth. [1] AZD3965 inhibits MCT1 activity in cells, and shows higher sensitivity in hypoxia. [2] In H526, HGC27 cells and DMS114 cells, AZD3965 increases intracellular lactate and significantly reduces lactate uptake. [3]
In vivo	In nonobese diabetic scid-γ mice bearing COR-L103 xenografts, AZD3965 (100 mg/kg, p.o.) reduces tumor growth and increased intratumor lactate. [2] In mice bearing H526 tumors, AZD3965 (100 mg/kg, p.o.) causes increased lactate concentration, a reduction in growth and increased radiation sensitivity. [3]
Kinase Assay	Cells are plated overnight and treated with 100 nM AZD3965 or vehicle for 24 hours. The cells are then washed, once in PBS and twice with lysis buffer (50 mM Mops, 100 mM KCl, 5 mM MgCl2, 1 mM EDTA, 0.1 mM DTT, 1 mM PMSF supplemented with 1× mini complete protease inhibitor cocktail tablets. The cells are harvested by scraping and centrifugation, and the pellet snap frozen without buffer in liquid nitrogen. Frozen aliquots of cells are thawed on ice and re-suspended in lysis buffer. Cells are lysed by 3 rounds of freezing in liquid nitrogen and thawing at 37°C for 2 minutes each. Lysates are subsequently centrifuged (13000 g, 10min, 4°C) until clear and then stored on ice. Enzyme activity in the cell lysates is determined using a micro-plate reader to measure either production or depletion of NADH/NADPH, through its absorbance at 340/10 nm, occurring as a result of direct or coupled enzyme reactions. The 96 well plates used for the assays are pre-heated to 37°C for 10 minutes prior to starting reactions, initiated by the addition of 5 µL cell lysate to 95 µL of reaction buffer (50 mM Mops pH 7.4, 100 mM KCl, 5 mM free magnesium). The standard reaction buffer is supplemented to assay the kinetics of the different enzymes. Absorbance values for controls are subtracted from absorbance of corresponding reactions. Graphpad prism 6 is used to plot V0 values against substrate concentration and determine Vmax and Km values. The Vmax is then normalised to the protein concentration in the cell lysate[1].

Solubility Information

Solubility	Ethanol: 100 mg/mL (193.98 mM),Sonication is recommended. DMSO: 100 mg/mL (193.98 mM),Sonication is recommended. H2O: < 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: 4 mg/mL (7.76 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	1.9398 mL	9.6991 mL	19.3983 mL
5 mM	0.388 mL	1.9398 mL	3.8797 mL
10 mM	0.194 mL	0.9699 mL	1.9398 mL
50 mM	0.0388 mL	0.194 mL	0.388 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

Critchlow SE, et al. 2012. AACR 103rd Annual Meeting.
Li F F, Zhang Y L, Guo D X, et al. Biochemometric approach combined with 1D CSSF-TOCSY for the identification of sensitization agents in Curcuma longa L. and prediction of their action mechanisms. Microchemical Journal. 2022 October
Li X, Zhang Y, Xu L, et al.Ultrasensitive sensors reveal the spatiotemporal landscape of lactate metabolism in physiology and disease.Cell Metabolism.2023, 35(1): 200-211. e9.
Polański R, et al. Clin Cancer Res. 2014, 20(4), 926-937.
Bola BM, et al. Mol Cancer Ther. 2014, 13(12), 2805-2816.
Zhang Y T, Xing M L, Fang H H, et al.Effects of lactate on metabolism and differentiation of CD4+T cells.Molecular Immunology.2023, 154: 96-107.