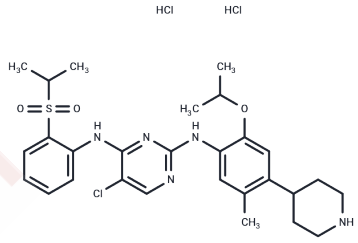
Data Sheet (Cat.No.T1791L)

TargetMol

Ceritinib dihydrochloride

Chemical Properties



CAS No. : 1380575-43-8

Formula: C28H38Cl3N5O3S

Molecular Weight: 631.06

Storage: Store at low temperature,Store under nitrogen
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	Ceritinib dihydrochloride (LDK378 dihydrochloride) is a selective, orally bioavailable, ATP-competitive inhibitor of ALK tyrosine kinase (IC50 of 200 pM) and also inhibits IGF-1R, InsR, and STK22D [IC50 values of 8, 7, and 23 nM, respectively], demonstrating significant antitumor potency.
Targets(IC50)	ALK,IGF-1R
In vitro	In vitro experiments also showed that lipopolysaccharide (LPS)-induced migration of MDSCs was similarly owing to the activation of GRK2 and upregulation of CCR2 by LPS, whereas the treatment with LDK378 partially blocked the LPS-induced phosphorylation of p38 and GRK2 and decreased the expression of CCR2 on the cell surface, therefore leading to the suppression of MDSC migration[1].
In vivo	Ceritinib significantly improved the survival of CLP-induced polymicrobial septic mice, which was paralleled by reduced organ injury, decreased release of inflammatory cytokines and decreased recruitment of MDSCs to the spleen.Importantly, Ceritinib inhibited the migration of MDSCs to the spleen by blocking the CLP-mediated upregulation of CC chemokine receptor 2 (CCR2), a chemokine receptor critical for the recruitment of MDSCs.Mechanistically, Ceritinib treatment blocked the CLP-induced CCR2 upregulation of MDSCs via partially inhibiting the phosphorylation of p38 and G-protein-coupled receptor kinase-2 (GRK2) in bone marrow MDSCs of septic mice[1].

Solubility Information

Solubility	H2O: 5 mg/mL (7.92 mM),Sonication is recommended. DMSO: 95 mg/mL (150.54 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: 3.3 mg/mL (5.23 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	1.5846 mL	7.9232 mL	15.8464 mL
5 mM	0.3169 mL	1.5846 mL	3.1693 mL
10 mM	0.1585 mL	0.7923 mL	1.5846 mL
50 mM	0.0317 mL	0.1585 mL	0.3169 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

Hu J , Zhang W , Liu Y , et al. LDK378 inhibits the recruitment of myeloid-derived suppressor cells to spleen via the p38-GRK2-CCR2 pathway in mice with sepsis[J]. Immunology and Cell Biology, 2019.

Marsilje TH, et al. Synthesis, structure-activity relationships, and in vivo efficacy of the novel potent and selective anaplastic lymphoma kinase (ALK) inhibitor 5-chloro-N2-(2-isopropoxy-5-methyl-4-(piperidin-4-yl)phenyl)-N4-(2-(isopropylsulfonyl)phenyl)pyrimidine-2,4-diamine (LDK378) currently in phase 1 and phase 2 clinical trials. J Med Chem. 2013, Jun 6.