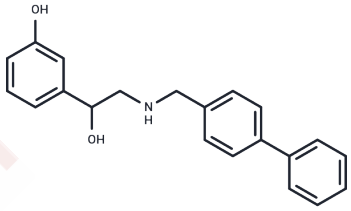
Data Sheet (Cat.No.T14091)

TargetMol

AC-73

Chemical Properties



CAS No. : 775294-71-8

Formula: C21H21NO2

Molecular Weight: 319.4

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	AC-73 is an orally available Cluster of Differentiation 147 (CD147) inhibitor with high bioavailability that selectively disrupts the dimerization of CD147 (the binding site is in the N-terminal IgC2 domain of CD147 including Glu64 and Glu73), resulting in inhibition of the CD147/ERK1/2/STAT3/MMP-2 pathway and inhibition of liver cancer cell motility and invasion. AC-73 has antiproliferative activity and induces autophagy in leukemia cells.
Targets(IC50)	Autophagy
In vitro	AC-73 (5-10 μM; 24 hours; SMMC-7721 and Huh-7 cells) treatment results in a dose-dependent reduction in the migration and invasion of these HCC cell lines, with no significant effect on cell viability at 20 μM. AC-73 potentially binds to CD147 at Glu64 and Glu73 in the N-terminal IgC2 domain, which are located within the CD147 dimer interface. AC-73 (5-10 μM; 24 hours; SMMC-7721 cells), at 10 μM, significantly inhibits the mRNA expression of MMP-2 and MMP-9, especially MMP-2, without affecting MMP-1, MMP-3, MMP-7, MMP-11, or MMP-13, and reduces MMP-2 mRNA levels and protein secretion as confirmed by RT-qPCR and gelatin zymography. AC-73 (5-20 μM; 6 hours; SMMC-7721 cells) also dose-dependently attenuates ERK1/2 and STAT3 phosphorylation.
In vivo	AC-73 (25-50 mg/kg; Injected; daily; for 3 weeks; Male BALB/c nu/nu mice with SMMC-7721 cells) treatment significantly decreases the incidence of metastatic foci in nude mice, inhibits the phosphorylation of ERK1/2 and STAT3 in a dose-dependent manner, and reduces MMP-2, but does not inhibit tumor cell proliferation in vivo.[1]

Solubility Information

Solubility	DMSO: 245 mg/mL (767.06 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: 4 mg/mL (12.52 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	3.1309 mL	15.6544 mL	31.3087 mL
5 mM	0.6262 mL	3.1309 mL	6.2617 mL
10 mM	0.3131 mL	1.5654 mL	3.1309 mL
50 mM	0.0626 mL	0.3131 mL	0.6262 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

Fu ZG, et al. A novel small-molecule compound targeting CD147 inhibits the motility and invasion of hepatocellular carcinoma cells. Oncotarget. 2016 Feb 23;7(8):9429-47.
Spinello I, et al. The small-molecule compound AC-73 targeting CD147 inhibits leukemic cell proliferation, induces autophagy and increases the chemotherapeutic sensitivity of acute myeloid leukemia cells. Haematologica. 2019 May;104(5):973-985.