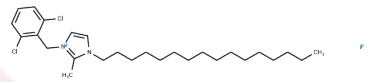
Data Sheet (Cat.No.T60122)

TargetMol

Aldometanib

Chemical Properties



CAS No. : 2904601-67-6

Formula: C27H43Cl2IN2

Molecular Weight: 593.46

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	Aldometanib (LXY-05-029) is an orally active aldolase inhibitor that prevents FBP from binding to v-ATPase-associated aldolase and activates lysosomal AMPK, useful in metabolic homeostasis research [1].
Targets(IC50)	AMPK
In vitro	Aldometanib (0-1000 nM; 2 h) activates AMPK through preventing aldolase from binding to FBP to engender a pseudo-starvation signal [1]. Western Blot Analysis [1] Cell Line: Mouse primary hepatocytes, MEFs cells Concentration: 0-1000 nM Incubation Time: 2 h Result: Activated AMPK in mouse embryonic fibroblasts (MEFs) and mouse primary hepatocytes cells. Immunofluorescence [1] Cell Line: MEFs cells Concentration: 5 nM Incubation Time: 2 h Result: Inhibited TRPVs and induces AXIN lysosomal translocation.
In vivo	Aldometanib, administered orally at dosages ranging from 0-10 mpk, effectively reduces blood glucose levels in lean mice and, when given at 2-10 mpk twice daily for a week, mitigates blood glucose and ameliorates fatty liver in obese hyperglycemic mice. Additionally, it addresses fatty liver and nonalcoholic steatohepatitis issues, and a regimen of 2 mpk twice daily over a month alleviates liver fibrosis in NASH mice. Moreover, Aldometanib extends the lifespan of C. elegans through the lysosomal pathway when administered orally at 0-50 μM for up to 50 days. In lean mice, dosages of 0-10 mpk lower fasting blood glucose, enhance glucose tolerance, and promote muscular TBC1D1 phosphorylation for glucose uptake. In obese hyperglycemic mice, a week-long administration of 2-10 mpk effectively lowers blood glucose, decreases hepatic TAG, and enhances insulin sensitivity through muscular AMPK dependencies, also diminishing fat mass. For NASH mice, a month-long administration of 2 mpk results in the reduction of NASH diagnostic histological scores, decreased hepatic cell apoptosis, reduced inflammatory liver responses, and improved glucose tolerance. In C. elegans, dosages of 0-50 μM improve oxidative stress resistance and bolster mitochondrial functions, while for C57BL/6 mice, administering 100 μg/mL orally rejuvenates muscle function and extends lifespan by increasing NAD+ levels and mitochondrial oxidative respiration.

Solubility Information

Solubility	DMSO: 131.25 mg/mL (221.16 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.685 mL	8.4252 mL	16.8503 mL
5 mM	0.337 mL	1.685 mL	3.3701 mL
10 mM	0.1685 mL	0.8425 mL	1.685 mL
50 mM	0.0337 mL	0.1685 mL	0.337 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

Zhang CS, et al. The aldolase inhibitor aldometanib mimics glucose starvation to activate lysosomal AMPK. Nat Metab. 2022 Oct;4(10):1369-1401.