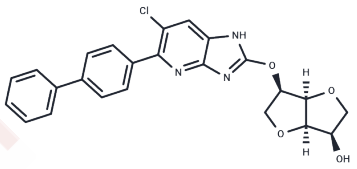
Data Sheet (Cat.No.T16099)

TargetMol

MK8722

Chemical Properties



CAS No. : 1394371-71-1

Formula: C24H20ClN3O4

Molecular Weight: 449.89

Storage: Store at low temperature,Keep away from moisture,
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	MK8722 is an effective and systemic activator of pan-AMPK.
Targets(IC50)	AMPK
In vitro	MK8722 is an effective, direct, allosteric activator of all 12 mammalian AMPK complexes. pAMPK activation by maximal AMP plus MK8722 is synergistic, demonstrating that the agents act at distinct sites. MK8722 activates pAMPK complexes with increased potency and magnitude versus AMP (EC50: ~1 to 60 nM) and increased activation by factors of ~4 to 24. Although MK8722 exhibits a higher affinity for β1-containing (~1 to 6 nM) versus β2-containing (~15 to 63 nM) pAMPK complexes, it is the most potent activator of β2 complexes reported to date .
In vivo	MK8722(once-daily)administration, causes dose-dependent lowering of ambient blood glucose. Chronic MK8722 dosing in mice also increases muscle Glut4 protein levels, possibly contributing to efficacy. Chronic antihyperglycemic efficacy of MK8722 is evaluated in db/db mice (a leptin receptor-deficient T2DM model). Glucose reductions after MK8722 treatment (30 mpk/day) are comparable to those observed with the PPARγ agonist BRL49653 (3 mpk/day), on treatment day 12. Dose-dependent enhances in tissue pACC are maintained throughout the dosing period. Chronic efficacy, without tachyphylaxis, is also observed in additional dysmetabolic and diabetic rodent models. In all cases, efficacy is associated with trough MK8722 plasma levels comparable to the concentrations required to acutely stimulate skeletal muscle glucose uptake. The glucose-lowering action of MK8722 manifests without significant effects on body weight .

Solubility Information

Solubility	DMSO: 50 mg/mL (111.14 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: 2 mg/mL (4.45 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	2.2228 mL	11.1138 mL	22.2277 mL
5 mM	0.4446 mL	2.2228 mL	4.4455 mL
10 mM	0.2223 mL	1.1114 mL	2.2228 mL
50 mM	0.0445 mL	0.2223 mL	0.4446 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

Myers RW, et al. Systemic pan-AMPK activator MK-8722 improves glucose homeostasis but induces cardiachypertrophy. Science. 2017 Aug 4;357(6350):507-511.