SB 204990

Cat. No.: HY-16450

CAS No.: 154566-12-8

Molecular Formula: $C_{18}H_{22}Cl_2O_5$

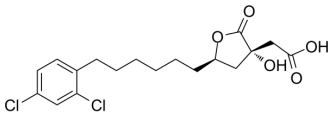
Molecular Weight: 389.27

Target: ATP Citrate Lyase

Pathway: Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (256.89 mM)

H_2O : 25 mg/mL (64.22 mM; Need ultrasonic)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.5689 mL	12.8446 mL	25.6891 mL
	5 mM	0.5138 mL	2.5689 mL	5.1378 mL
	10 mM	0.2569 mL	1.2845 mL	2.5689 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 2.56 mg/mL (6.58 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (5.34 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (5.34 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.34 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

SB 204990 is a potent and specific inhibitor of ATP citrate lyase (ACLY) enzyme.

IC_{50} & Target

ACLY[1].

In Vitro	SB204990 (SB) is a specific inhibitor of ACLY enzyme. SB204990 treatment leads to a decrease in cytosolic Ac-CoA level and is thus expected to decrease acetylated and active β-catenin levels[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	SB 204990, when administered orally to rats, is absorbed into the systemic circulation. When administered in the diet (0.05-0.25%, w/w) for 1 week, SB 204990 causes a dose-related decrease in plasma cholesterol (by up to 46%) and triglyceride levels (by up to 80%) in rats. SB 204990 (25 mg/kg per day) also decreases plasma cholesterol levels (by up to 23%) and triglyceride levels (by up to 38%) in the dog, preferentially decreasing low-density lipoprotein compared with high-density lipoprotein cholesterol levels[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cell Metab. 2023 Jan 3;35(1):200-211.e9.
- Adv Sci (Weinh). 2023 Jun 6;e2301094.
- Pharmacol Res. 2021 Jan 20;165:105393.
- J Pharm Anal. 2023 Sep 21.
- Cell Rep. 2023 Jun 1;42(6):112583.

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REFERENCES

[1]. Shares BH, et al. Active mitochondria support osteogenic differentiation by stimulating β-catenin acetylation. J Biol Chem. 2018 Oct 12;293(41):16019-16027.

[2]. Pearce NJ, et al. The role of ATP citrate-lyase in the metabolic regulation of plasma lipids. Hypolipidaemic effects of SB-204990, a lactone prodrug of the potent ATP citrate-lyase inhibitor SB-201076. Biochem J. 1998 Aug 15;334 (Pt 1):113-9.

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