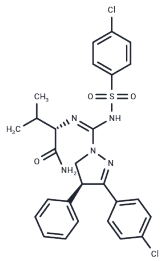
Data Sheet (Cat.No.T4453)

TargetMol

JD-5037

Chemical Properties



CAS No. : 1392116-14-1

Formula: C27H27Cl2N5O3S

Molecular Weight: 572.51

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	JD-5037 is a novel, peripherally restricted CB1R antagonist with an IC50 of 1.5 nM.
Targets(IC50)	Cannabinoid Receptor
In vivo	JD5037, when administered at a dosage of 3 mg/kg/day intraperitoneally (i.p.), effectively induces uniform reductions in body weight and mitigates high-fat diet (HFD)-induced hyperglycemia, hepatic injury, and steatosis in obese Magel2-null mice. Likewise, oral administration of JD5037 (3 mg/kg/day, p.o.) significantly diminishes tumor size and eliminates tumors in DEN-treated mice. Moreover, JD5037 reduces anandamide (AEA) levels in hepatocellular carcinoma (HCC) samples from mice.
Animal Research	Mice: JD-5037 is formulated in vehicle (V; 1% Tween80, 4% DMSO, 95% Saline). Obese mice are treated chronically (28 d) with vehicle (V; 1% Tween80, 4% DMSO, 95% Saline), JD5037, or SLV319 at a dose of 3 mg/kg, i.p. Body weight and food intake are monitored daily. Mice are euthanized by cervical dislocation under anesthesia; the brain, hypothalamus, liver, and combined fat pads are removed, weighed, and snap-frozen, and trunk blood is collected for determining the endocrine and biochemical parameters

Solubility Information

Solubility	DMSO: 240 mg/mL (419.21 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 (3.49 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	1.7467 mL	8.7335 mL	17.4669 mL
5 mM	0.3493 mL	1.7467 mL	3.4934 mL
10 mM	0.1747 mL	0.8733 mL	1.7467 mL
50 mM	0.0349 mL	0.1747 mL	0.3493 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

Knani I,etal.Targeting the endocannabinoid/CB1 receptor system for treating obesity in Prader-Willi syndrome.Mol Metab. 2016 Oct 22;5(12):1187-1199.
Tan S, Liu H, Ke B, et al. The peripheral CB1 receptor antagonist JD5037 attenuates liver fibrosis via a CB1 receptor/β-arrestin1/ Akt pathway. The peripheral CB1 receptor antagonist JD5037 attenuates liver fibrosis via a CB1 receptor/β-arrestin1/Akt pathway. British Journal of Pharmacology. 2020, 177(12): 2830-2847
Li P, Lin Q, Sun S, et al. Inhibition of cannabinoid receptor type 1 sensitizes triple-negative breast cancer cells to ferroptosis via regulating fatty acid metabolism. Cell Death & Disease. 2022, 13(9): 1-15.
Chorvat RJ.etal.Peripherally restricted CB1 receptor blockers.Bioorg Med Chem Lett. 2013 Sep 1;23(17):4751-60.
Mukhopadhyay B,etal.Cannabinoid receptor 1 promotes hepatocellular carcinoma initiation and progression through multiple mechanisms.Hepatology. 2015 May;61(5):1615-26.
Tan S, Liu H, Ke B, et al. The peripheral CB1 receptor antagonist JD5037 attenuates liver fibrosis via a CB1 receptor/β-arrestin1/Akt pathway[J]. British Journal of Pharmacology. 2020, 177(12): 2830-2847.