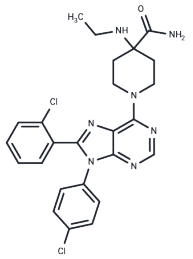
Data Sheet (Cat.No.T3530)

TargetMol

Otenabant

Chemical Properties



CAS No. : 686344-29-6

Formula: C25H25Cl2N7O

Molecular Weight: 510.42

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	Otenabant (CP-945598) has been investigated for the treatment of Obesity.
Targets(IC50)	Cannabinoid Receptor
In vitro	Otenabant HCl has a low Ki affinity for human CB2 receptors of 7.6 μM[1]. Otenabant HCl inhibits CB1 receptor with moderate unbound microsomal clearance, low hERG affinity, and adequate CNS penetration[2].
In vivo	Otenabant effectively enhances energy expenditure and promotes fat oxidation in rats, alongside reducing the respiratory quotient, indicative of a shift towards greater fat utilization. When administered orally at a dosage of 10 mg/kg, Otenabant results in a notable 9% weight reduction over 10 days in mice with diet-induced obesity, after adjusting for vehicle effects. Additionally, Hydrochloride (HCl) form of Otenabant counteracts behaviors induced by cannabinoid agonists—including altered locomotor activity, hypothermia, analgesia, and catalepsy—triggered by the synthetic CB1 receptor agonist CP-55940. Furthermore, in rodent models, Otenabant HCl demonstrates a dose-dependent appetite-suppressing effect and increases both energy expenditure and fat oxidation.

Solubility Information

Solubility	DMSO: 10 mg/mL (19.59 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: 1 mg/mL (1.96 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	1.9592 mL	9.7959 mL	19.5917 mL
5 mM	0.3918 mL	1.9592 mL	3.9183 mL
10 mM	0.1959 mL	0.9796 mL	1.9592 mL
50 mM	0.0392 mL	0.1959 mL	0.3918 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

John R. Hadcock, et al. In vitro and in vivo pharmacology of CP-945,598, a potent and selective cannabinoid CB1 receptor antagonist for the management of obesity. Biochemical and Biophysical Research Communications, 2010; 394;366-371.

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.

Zhang L, Yi Y, Wang T, et al.25-Hydroxycholesterol inhibits classical swine fever virus entry into porcine alveolar macrophages by depleting plasma membrane cholesterol.Veterinary Microbiology.2023: 109668.

Griffith DA, et al. Discovery of 1-[9-(4-chlorophenyl) -8-(2-chlorophenyl)- 9H-purin-6-yl] -4-ethylaminopiperidine-4-carboxylic acid amide hydrochloride (CP-945,598), a novel, potent, and selective cannabinoid type 1 receptor antagonist. JMedChem. 2009 ;5