Small Molecules

CP-945,598 (Hydrochloride)

CB1 receptor antagonist

Catalog #100-0898

10 mg

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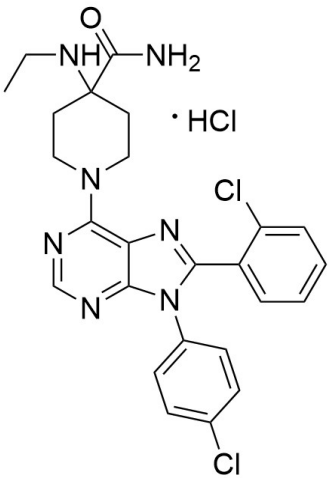
Product Description

CP-945,598 is a selective cannabinoid type 1 (CB1) receptor antagonist (K_i = 0.7 nM) and exhibits low affinity for CB2 receptors (K_i = 7.6 µM; Hadcock et al.). Cannabinoid receptors are part of the G protein-coupled receptor (GPCR) superfamily, and CB1 receptors are abundant in the brain and are able to attenuate neurotransmission (Mackie). Endocannabinoid system signaling components are expressed in the basal ganglia and interact with both GABA and dopaminergic signaling pathways. Modulation of CB1 is a potential therapeutic target for Parkinson's disease (Han et al.).

Alternative Names:	Otenabant
CAS Number:	686347-12-6
Chemical Formula:	$C_{25}H_{25}Cl_2N_7O \bullet HCl$
Molecular Weight:	546.9 g/mol
Purity:	≥ 98%
Chemical Name:	1-[8-(2-chlorophenyl)-9-4-chlorophenyl)-9H-purine-6-yl]-4-ethylamino)-4-piperidinecarboxamide, monohydrochloride

Structure:



Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. Protect product from prolonged exposure to light. For long-term storage, store with a desiccant. Stable as supplied for 12 months from date of receipt.
Solubility:	· DMSO ≤ 540 µM

For example, to prepare a 300 µM stock solution in DMSO, resuspend 10 mg in 61 mL of DMSO.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

Published Applications

METABOLISM
· Alters fat oxidation and energy expenditure in rats (Hadcock et al.).

References

Hadcock JR et al. (2010) In vitro and in vivo pharmacology of CP-945,598, a potent and selective cannabinoid CB(1) receptor antagonist for the management of obesity. Biochem Biophys Res Commun 394(2): 366–71.

Han Q-W et al. (2020) The therapeutic role of cannabinoid receptors and its agonists or antagonists in Parkinson's disease. Prog Neuropsychopharmacol Biol Psychiatry 96: 109745.

Mackie K. (2006) Mechanisms of CB1 receptor signaling: endocannabinoid modulation of synaptic strength. Int J Obes (Lond) 30(1): S19–23.

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This product is hazardous. Please refer to the Safety Data Sheet (SDS).