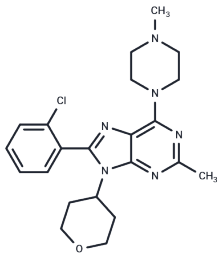
Data Sheet (Cat.No.T7316)

TargetMol

LY2828360

Chemical Properties



CAS No. : 1231220-79-3

Formula: C22H27ClN6O

Molecular Weight: 426.94

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	LY2828360 is a cannabinoid (CB) receptor 2 agonist (Ki = 40.3 nM). It selectively activates CB2 over CB1 in a GTPγS binding assay (EC50s = 20.1 and >100,000 nM, respectively).
Targets(IC50)	Cannabinoid Receptor
In vitro	In vitro, LY2828360 was a slowly acting but efficacious G protein-biased CB2 agonist, inhibiting cAMP accumulation and activating extracellular signal-regulated kinase 1/2 signaling while failing to recruit arrestin, activate inositol phosphate signaling, or internalize CB2 receptors.
In vivo	In wild-type (WT) mice, LY2828360 (3 mg/kg per day × 12 days) suppressed chemotherapy-induced neuropathic pain produced by paclitaxel without producing tolerance. Antiallodynic efficacy of LY2828360 was absent in CB2 knockout (KO) mice. Morphine (10 mg/kg per day × 12 days) tolerance developed in CB2KO mice but not in WT mice with a history of LY2828360 treatment (3 mg/kg per day × 12 days). LY2828360-induced antiallodynic efficacy was preserved in WT mice previously rendered tolerant to morphine (10 mg/kg per day × 12 days), but it was absent in morphine-tolerant CB2KO mice. Coadministration of LY2828360 (0.1 mg/kg per day × 12 days) with morphine (10 mg/kg per day × 12 days) blocked morphine tolerance in WT but not in CB2KO mice. WT mice that received LY2828360 coadministered with morphine exhibited a trend (P = 0.055) toward fewer naloxone-precipitated jumps compared with CB2KO mice. LY2828360 is a slowly signaling, G protein-biased CB2 agonist that attenuates chemotherapy-induced neuropathic pain without producing tolerance and may prolong effective opioid analgesia while reducing opioid dependence. LY2828360 may be useful as a first-line treatment in chemotherapy-induced neuropathic pain and may be highly efficacious in neuropathic pain states that are refractive to opioid analgesics.

Solubility Information

Solubility	DMSO: 1 mg/mL (2.34 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 (2.34 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one.*

In vivo Formulation	*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	2.3422 mL	11.7112 mL	23.4225 mL
5 mM	0.4684 mL	2.3422 mL	4.6845 mL
10 mM	0.2342 mL	1.1711 mL	2.3422 mL
50 mM	0.0468 mL	0.2342 mL	0.4684 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

Lin X , Dhopeshwarkar A S , Huibregtse M , et al. The slowly signaling G protein-biased CB2 cannabinoid receptor agonist LY2828360 suppresses neuropathic pain with sustained efficacy and attenuates morphine tolerance and dependence[J]. Molecular Pharmacology, 2017:mol.117.109355.