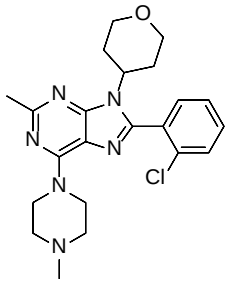
Product data sheet

MedKoo Cat#: 527492 Name: LY2828360 CAS: 1231220-79-3 Chemical Formula: $C_{22}H_{27}ClN_6O$ Exact Mass: 426.1935 Molecular Weight: 426.949	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:
LY2828360 is a novel potent, selective, and efficacious CB2 agonist.

2. CoA, QC data, SDS, and handling instruction
SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
Chloroform	30.0	70.27
DMSO	20.83	48.79

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.34 mL	11.71 mL	23.42 mL
5 mM	0.47 mL	2.34 mL	4.68 mL
10 mM	0.23 mL	1.17 mL	2.34 mL
50 mM	0.05 mL	0.23 mL	0.47 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator
Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study
In vitro study

1. Ao Z, Cai H, Wu Z, Song S, Karahan H, Kim B, Lu HC, Kim J, Mackie K, Guo F. Tubular human brain organoids to model microglia-mediated neuroinflammation. Lab Chip. 2021 Jul 13;21(14):2751-2762. doi: 10.1039/d1lc00030f. PMID: 34021557; PMCID: PMC8493632.
2. Lin X, Dhopeshwarkar AS, Huibregtse M, Mackie K, Hohmann AG. Slowly Signaling G Protein-Biased CB2 Cannabinoid Receptor Agonist LY2828360 Suppresses Neuropathic Pain with Sustained Efficacy and Attenuates Morphine Tolerance and Dependence. Mol Pharmacol. 2018 Feb;93(2):49-62. doi: 10.1124/mol.117.109355. Epub 2017 Nov 30. PMID: 29192123; PMCID: PMC5749492.

In vivo study

1. Carey LM, Xu Z, Rajic G, Makriyannis A, Romero J, Hillard C, Mackie K, Hohmann AG. Peripheral sensory neuron CB2 cannabinoid receptors are necessary for both CB2-mediated antinociceptive efficacy and sparing of morphine tolerance in a mouse model of anti-retroviral toxic neuropathy. Pharmacol Res. 2023 Jan;187:106560. doi: 10.1016/j.phrs.2022.106560. Epub 2022 Nov 20. PMID: 36417942; PMCID: PMC9845180.
2. Iyer V, Slivicki RA, Thomaz AC, Crystal JD, Mackie K, Hohmann AG. The cannabinoid CB2 receptor agonist LY2828360 synergizes with morphine to suppress neuropathic nociception and attenuates morphine reward and physical dependence. Eur J Pharmacol. 2020 Nov 5;886:173544. doi: 10.1016/j.ejphar.2020.173544. Epub 2020 Sep 5. PMID: 32896549; PMCID: PMC7694697.

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7. Bioactivity

Biological target:

LY2828360 is a slowly acting but efficacious G protein-biased cannabinoid (CB2) agonist.

In vitro activity

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.

Reference: Mol Pharmacol. 2018 Feb;93(2):49-62. https://pubmed.ncbi.nlm.nih.gov/29192123/

In vivo activity

In ddC-treated $CB2^{f/f}$ mice, LY2828360 suppressed development of morphine tolerance and reversed established morphine tolerance, albeit with greater efficacy in male compared to female mice.

Reference: Pharmacol Res. 2023 Jan;187:106560. https://pubmed.ncbi.nlm.nih.gov/36417942/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.