MDA 19

Cat. No.: HY-15451

CAS No.: 1048973-47-2

Molecular Formula: $C_{21}H_{23}N_3O_2$

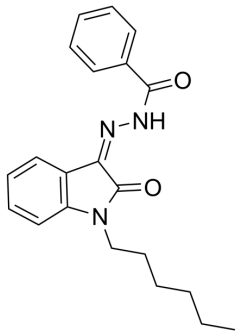
Molecular Weight: 349.43

Target: Cannabinoid Receptor

Pathway: GPCR/G Protein; Neuronal Signaling

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 14.29 mg/mL (40.90 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.8618 mL	14.3090 mL	28.6180 mL
	5 mM	0.5724 mL	2.8618 mL	5.7236 mL
	10 mM	0.2862 mL	1.4309 mL	2.8618 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: 1.43 mg/mL (4.09 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.43 mg/mL (4.09 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

MDA 19 is a potent and selective agonist of human cannabinoid receptor 2 (CB2), with a K_i of 43.3 nM. MDA 19 has antiallodynic effects in a rat model of neuropathic pain and does not affect rat locomotor activity[1][2].

In Vitro

MDA19 displayed 4-fold-higher affinity at the human CB(2) than at the human CB1 receptor (K(i) = 43.3 +/- 10.3 vs 162.4 +/- 7.6 nM) and nearly 70-fold-higher affinity at the rat CB2 than at the rat CB1 receptor (K(i) = 16.3 +/- 2.1 vs 1130 +/- 574 nM). In guanosine triphosphate (GTP)gamma[(35)S] functional assays, MDA19 behaved as an agonist at the human CB1 and CB2 receptors and at the rat CB1 receptor but as an inverse agonist at the rat CB2 receptor. In 3',5'-cyclic adenosine monophosphate (cAMP) assays, MDA19 behaved as an agonist at the rat CB1 receptor and exhibited no functional activity at the rat CB(2) receptor. In extracellular signal-regulated kinases 1 and 2 activation assays.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo	MDA19 behaved as an agonist at the rat CB2 receptor. MDA19 attenuated tactile allodynia produced by spinal nerve ligation or paclitaxel in a dose-related manner in rats and CB2(+/+) mice but not in CB2(-/-) mice, indicating that CB2 receptors mediated the effects of MDA19. MDA19 did not affect rat locomotor activity. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Biol Direct. 2019 May 3;14(1):9.

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REFERENCES

[1]. Diaz, Philippe; Xu, Jijun; Astruc-Diaz, Fanny et al. Design and Synthesis of a Novel Series of N-Alkyl Isatin Acylhydrazone Derivatives that Act as Selective Cannabinoid Receptor 2 Agonists for the Treatment of Neuropathic Pain. Journal of Medicinal Chemi

[2]. Xu JJ, Diaz P, Astruc-Diaz F et al. Pharmacological characterization of a novel cannabinoid ligand, MDA19, for treatment of neuropathic pain. Anesth Analg. 2010 Jul;111(1):99-109.

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