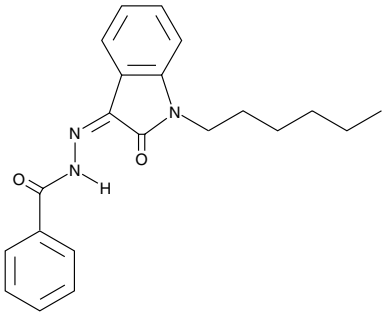
Product Information

MDA 19

Item No. 10563

CAS Registry No.: 1048973-47-2
Formal Name: 2-(1-hexyl-1,2-dihydro-2Z-oxo-3H-indol-3-ylidene)hydrazide, benzoic acid
MF: $C_{21}H_{23}N_3O_2$
FW: 349.4
Purity: ≥95%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max}: 276, 342 nm



Laboratory Procedures

For long term storage, we suggest that MDA 19 be stored as supplied at -20°C. It should be stable for at least two years.

MDA 19 is supplied as a crystalline solid. A stock solution may be made by dissolving the MDA 19 in the solvent of choice. MDA 19 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of MDA 19 in these solvents is approximately 3, 10, and 20 mg/ml, respectively.

If aqueous stock solutions are required for biological experiments, they can best be prepared by diluting the organic solvent into aqueous buffers or isotonic saline. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

MDA 19 is a selective agonist of the human peripheral cannabinoid (CB_2)receptor, with an EC_{50} value for activation (63.4 nM) that is 14-fold lower than that for central cannabinoid (CB_1) activation (EC_{50} = 867 nM).[1] Surprisingly, it acts as an inverse agonist at the rat CB_2 receptor in cell-based functional assays.[2] MDA 19 attenuates tactile allodynia produced by spinal nerve ligation or paclitaxel in a dose-related manner in rats and in $CB_2^{+/+}$ mice but not in $CB_2^{-/-}$ mice, indicating that CB_2 receptors mediated the effects of MDA 19.[1,2] These effects of MDA 19 are blocked by the selective CB_2 antagonist AM630.[1]

References

1. Diaz, P., Xu, J., Astruc-Diaz, F., *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. *J. Med. Chem.* **51**, 4932-4947 (2008).
2. Xu, J.J., Diaz, P., Astruc-Diaz, F., *et al.* Pharmacological characterization of a novel cannabinoid ligand, MDA19, for treatment of neuropathic pain. *Anesth. Analg.* **111**, 99-109 (2010).

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