

# **Certificate of Analysis**

Print Date: Apr 9th 2020

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Product Name: MDA 19 Catalog No.: 4205 Batch No.: 1

CAS Number: 1048973-47-2

IUPAC Name: N'-[(3Z)-1-Hexyl-2-oxo-1,2-dihydro-3H-indol-3-ylidene]benzohydrazide

#### 1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{21}H_{23}N_3O_2$ Batch Molecular Weight:349.43Physical Appearance:Yellow solid

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Solubility: DMSO to 50 mM

ethanol to 50 mM

Storage: Store at +4°C

**Batch Molecular Structure:** 

#### 2. ANALYTICAL DATA

TLC: R<sub>f</sub> = 0.78 (Ethyl acetate:Petroleum ether [1:1])

**HPLC:** Shows 100% purity

<sup>1</sup>H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis: Carbon Hydrogen Nitrogen

Theoretical 72.18 6.63 12.03 Found 72.15 6.82 11.89

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## **Product Information**

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#### **Description:**

 $CB_2$  receptor agonist. Displays 4-fold higher affinity for the human  $CB_2$  receptor than the human  $CB_1$  receptor ( $K_i$  values are 43.3 and 162.4 nM respectively); shows 70-fold affinity for the rat  $CB_2$  receptor over the rat  $CB_1$  receptor ( $K_i$  values are 16.3 and 1130 nM respectively). Attenuates tactile allodynia in a rat model; does not affect rat locomotor activity.

#### **Physical and Chemical Properties:**

Batch Molecular Formula: C<sub>21</sub>H<sub>23</sub>N<sub>3</sub>O<sub>2</sub> Batch Molecular Weight: 349.43 Physical Appearance: Yellow solid

Minimum Purity: ≥99%

#### **Batch Molecular Structure:**

Storage: Store at +4°C

### Solubility & Usage Info:

DMSO to 50 mM ethanol to 50 mM

#### Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

#### References:

**Xu** et al (2010) Pharmacological characterization of a novel cannabinoid ligand, MDA19, for treatment of neuropathic pain. Anesth.Analg. **111** 99. PMID: 20522703.

**Diaz** et al (2008) 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. PMID: 18666769.