

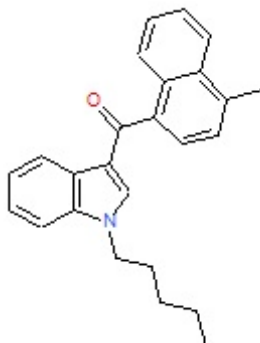
## Drug Status Report

**Drug:** JWH-122

**Drug Name Status:** JWH-122 is the common name.

**Chemical Name:** 1-pentyl-3-(4-methyl-1-naphthoyl)indole

**Chemical structure:**



**Molecular Formula:** C<sub>25</sub>H<sub>25</sub>NO

**Pharmacological class / Application:** Cannabinoid receptor agonist.

**International status:**

US: The substance is not listed on the schedules to the US Controlled Substances Act.

United Nations: The substance is not listed on the Yellow List - List of Narcotic Drugs under International Control nor the Green List - List of Psychotropic Substances under International Control.

Canadian Status: JWH-122 is a synthetic cannabimimetic substance that has been reported in the literature to display potent binding affinity for the CB<sub>1</sub> and CB<sub>2</sub> receptors, and in the case of the CB<sub>1</sub> receptors, a subnanomolar binding affinity has been reported<sup>1</sup>. A review of current scientific literature has shown that there limited reports of the efficacy of many of the synthetic cannabinoids as CB<sub>1</sub> receptor agonists and this is also true for JWH-122. However, unpublished results from GTPγS assays conducted on JWH-122 have revealed an EC<sub>50</sub> of 7.2±2.2 nM, and an E<sub>max</sub> of 89±2% relative to the CB<sub>1</sub> receptor agonist WIN 55,212-2<sup>2</sup>. These data suggest that the JWH-122 is an efficacious cannabinoid receptor agonist.

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<sup>1</sup>Huffman, JW. (2005) Structure-activity relationships for 1-alkyl-3-(1-naphthoyl)indoles at the cannabinoid CB1 and CB2 receptors: steric and electronic effects of naphthoyl substituents. New highly selective CB2 receptor agonists, *Bio. Med. Chem.* **13**:89-112.

<sup>2</sup>Personal email communication with JW Huffman, 17 September 2010.

Cannabinoid receptor agonists have been declared to be included within item 1 of Schedule II to the CDSA by virtue of being “similar synthetic preparations.” Cannabinoid receptor antagonists have been declared to fall outside item 1 of Schedule II to the CDSA. Given the high binding affinity of JWH-122 for the CB<sub>1</sub> receptors as well as evidence that it is an efficacious cannabinoid CB<sub>1</sub> receptor agonist activity, JWH-122 should be included in item 1 of Schedule II.

Recommendation: JWH-122 is included in item 1 of Schedule II to the CDSA and is a controlled substance.

September 17<sup>th</sup>, 2010