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**: 

![Chemical structure of JWH-122](image)

**Molecular Formula**: $C_{25}H_{25}NO$

**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$_1$ and CB$_2$ receptors, and in the case of the CB$_1$ receptors, a subnanomolar binding affinity has been reported$^1$. A review of current scientific literature has shown that there limited reports of the efficacy of many of the synthetic cannabinoids as CB$_1$ receptor agonists and this is also true for JWH-122. However, unpublished results from GTP$_γ$S assays conducted on JWH-122 have revealed an $EC_{50}$ of 7.2±2.2 nM, and an $E_{max}$ of 89±2% relative to the CB$_1$ receptor agonist WIN 55,212-2$^2$. These data suggest that the JWH-122 is an efficacious cannabinoid receptor agonist.


$^2$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 CB₁ receptors as well as evidence that it is an efficacious cannabinoid CB₁ 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 17th, 2010