

JWH-073

1-Butyl-3-(1-naphthoyl)indole

[Synthetic Cannabinoid in Herbal Products]

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DEA/OD/ODE

Introduction:

JWH-073 is a synthetic cannabinoid agonist without the classical cannabinoid chemical structure. It is used in scientific research as a tool to study the cannabinoid system. The substance has been identified in the herbal incense products sold via the Internet, gas stations, convenience stores, tobacco shops and head shops.

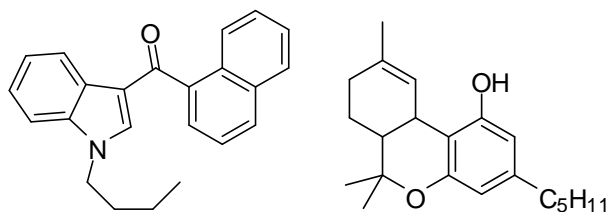
Licit Uses:

JWH-073 was designed and evaluated in basic scientific research to investigate structure activity relationships in the cannabinoid system.

Chemistry:

JWH-073 (1-butyl-3-(1-naphthoyl)indole or naphthalen-1-yl-(1-butyl-1*H*-indol-3-yl)methanone) [Chemical Abstract Service (CAS) Registry Number 208987-48-8] has been identified as a substance that has some pharmacological similarities to Δ^9 -THC, the primary psychoactive constituent of *Cannabis sativa* L. (marijuana). However, it is not related in chemical structure to tetrahydrocannabinols, or other cannabinoids contained in marijuana. JWH-073 is not categorized as a THC substance.

The chemical structure of JWH-073 (left) and Δ^9 -THC (right), a compound representative of THC substances that occur in marijuana, are shown below.



Pharmacology:

Behavioral pharmacology studies show that JWH-073 has Δ^9 -THC-like activity in animals. In mice, it decreases overall activity, produces analgesia, and decreases body temperature. Together with the production of catalepsy (effect for which JWH-073 was not tested), these four effects are used by scientists to predict Δ^9 -THC-like psychoactivity in humans. JWH-073's activity in the three tests conducted suggests that it might have Δ^9 -THC-like

psychoactive effects in humans.

In vitro studies show that JWH-073 binds to both the brain cannabinoid receptor CB1 with increased affinity relative to Δ^9 -THC and the peripheral cannabinoid receptor CB2 with similar affinity as Δ^9 -THC, suggesting that it would have the same effects as Δ^9 -THC in vivo. JWH-073 has also been evaluated in functional assays.

The short and long term health effects of JWH-073 have not been evaluated in humans.

Illicit Uses:

JWH-073 substance has been identified spiked on plant material in numerous herbal products including "Spice", "K2", "K3", and others. These products may be smoked for their psychoactive effects.

User Population:

The primary abusers are youth purchasing these substances from Internet websites, gas stations, convenience stores, tobacco shops and head shops.

Illicit Distribution:

The System to Retrieve Drug Evidence (STRIDE) is a federal database for the seized drugs analyzed by DEA forensic laboratories and the National Forensic Laboratory System (NFLIS) is a system that collects drug analysis information from state and local forensic laboratories. These systems contain more than 1,300 reports of various synthetic cannabinoids in seized exhibits from over 30 states.

Control Status:

As of March 1, 2011, JWH-073, its isomers, salts, and salts of isomers have been temporarily placed in Schedule I under the Controlled Substances Act.

Comments and additional information are welcomed by the Drug and Chemical Evaluation Section, Fax 202-353-1263, telephone 202-307-7183, or E-mail ODE@usdoj.gov.