



CP-47,497 and homologues

5-(1,1-Dimethylheptyl)-2-[(1R,3S)-3-hydroxycyclohexyl]-phenol [Synthetic Cannabinoid in Herbal Products]

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Introduction:

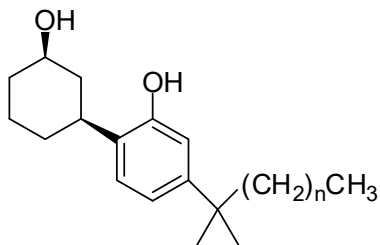
CP-47,497 is a synthetic cannabinoid agonist without the classical cannabinoid chemical structure. It is used in scientific research as a tool to study the cannabinoid system. CP-47,497 and its homologues have been identified in herbal incense mixtures, with names including "Spice", "K2", and others, sold via the Internet, gas stations, convenience stores, tobacco shops and head shops.

Licit Uses:

CP-47,497 is used in basic scientific research to identify cannabinoid receptors in the brain and study Δ^9 -THC's mechanisms of action.

Chemistry:

The chemical name for CP-47,497 is 5-(1,1-Dimethylheptyl)-2-[(1R,3S)-3-hydroxycyclohexyl]-phenol; 3-(4-(1,1-dimethylheptyl)-2-hydroxyphenyl) cyclohexanol; *cis*-3-[2-hydroxy-4(1,1-dimethylheptyl) phenyl]-cyclohexan-1-ol); IUPAC Name: 2-[(1R,3S)-3-hydroxycyclohexyl]-5-(2-methyloctan-2-yl)phenol. It has the Chemical Abstract Service (CAS) Registry Number 70434-82-1. shares The chemical structures for CP-47,497(n=5) and side chain homologues of CP-47,497(n=4, 6, or 7) top) are shown below.



Pharmacology:

Behavioral pharmacology studies show that CP-47,497 has Δ^9 -THC-like activity in animals.

In drug discrimination studies in rats, CP-47,497 generalized to Δ^9 -THC, i.e. produced subjective effects similar to those of Δ^9 -THC.

In vitro studies show that CP-47,497 binds to both the brain cannabinoid receptor CB1 and the peripheral cannabinoid receptor CB2 with higher affinity than Δ^9 -THC suggesting that it would have the same effects as THC in vivo.

Illicit Uses:

CP-47,497 homologues have been identified in herbal incense mixtures which are 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 Information from Drug Evidence (STRIDE)/STARLiMS is the database for the seized drugs analyzed by DEA forensic laboratories and the National Forensic Laboratory Information System (NFLIS) is a system that collects drug analysis information from state, local, and federal forensic laboratories. Federal, state, and local forensic laboratories identified 20 exhibits as CP-47,497 and its C8 homologue from 2010 to 2013.

Control Status:

CP-47,497 and cannabicyclohexanol (CP-47,497 C8 homologue) (including their isomers) are controlled in schedule I of the Controlled Substances Act.

Comments and additional information are welcomed by the Drug and Chemical Evaluation Section; Fax 571-362-4250, Telephone 571-362-3249; or E-mail DPE@usdoj.gov.