

THE CANNABINOID SPECTRUM

This Guide to the Cannabinoid Spectrum is an overview of the major cannabinoids contained in marijuana and is intended to inform healthcare practitioners. The evidence and information contained within this document is compiled from the American Herbal Pharmacopoeia Monograph on Cannabis Inflorescence.

https://american-safe-access.s3.amazonaws.com/documents/AHP_Cannabis_Monograph_Preview.pdf

THE MAIN COMPONENTS

There are hundreds of distinct cannabinoids contained in medicinal cannabis. Each one has unique properties and has different effects on patients. Cannabinoids are the components which give cannabis its therapeutic properties. Cannabinoids are also the most studied compounds in cannabis. They have been shown to be an effective treatment for a range of conditions. “The Cannabis Spectrum,” refers to the range of concentrations of cannabinoids which are most researched and effective as treatment options. The most well known and understood compounds are $\Delta 9$ -tetrahydrocannabinol (THC) and Cannabidiol (CBD). These two components form the foundation of the cannabinoid spectrum and make up its extremes. The balance of these two compounds in a medicinal cannabis product accounts for the efficacy of a strain or product and how effective it will be for a certain condition. Please note that no individual component of cannabis has been shown to be an effective therapeutic agent in isolation. The therapeutic effects of cannabis have been shown to result from a range of components working together. The main components, their properties, and their effects are explored in further detail below.

$\Delta 9$ -TETRAHYDROCANNABINOL (THC)

The most well-known and primary therapeutic component of cannabis is THC. THC is primarily responsible for marijuana’s psychoactive effects and mimics a naturally occurring endocannabinoid named anandamide. Researchers have conclusively attributed the following effects to THC:

- Appetite Stimulation
- Anti-Spasticity
- Analgesic
- Antiemetic

In high doses, strains of cannabis containing high proportions of THC have been known to produce feelings of intoxication, anxiety, or disorientation in patients.

CANNABIDIOL (CBD)

Cannabidiol is the primary non-psychoactive component in medicinal cannabis. It is a serotonin receptor agonist and has been shown to enhance the adenosine receptor signaling by preventing the receptor from being inactive. CBD is most often prescribed as a pain-suppressant and to treat inflammation because of the way it interacts with human biology. Research and clinical trials have conclusively demonstrated that CBD has the following effects:

- Anti-seizure
- Anxiolytic
- Neuroprotective
- Antipsychotic
- Anti-inflammatory

MECHANISM OF MEDICINAL CANNABIS DELIVERY

Smoking is not the only way for patients to ingest medicinal cannabis to benefit from its therapeutic effects. In fact, other forms of ingesting medicinal cannabis are recommended over smoking because of the negative side-effects of smoking. Vaporizing is the generally recommended means of ingesting dried medicinal cannabis flowers. By vaporizing dried flowers, a patient experiences the therapeutic effects of medicinal cannabis without all of the harmful effects of inhaling combusted plant matter. Other ways to ingest medicinal cannabis are explored in further detail on the Our Products section of our website.

EFFICACY OF MEDICINAL CANNABIS

Cannabis is an effective treatment for a various conditions due to the combined effects of cannabinoids, especially Tetrahydrocannabinol (THC) and Cannabidiol (CBD).

MEDICINAL CANNABIS DOSAGE

An average medicinal cannabis patient consumes between one and three grams of medication a day. The amount consumed by a patient depends on the patient's condition, the means of ingestion, and other factors.

MEDICINAL CANNABIS STRAINS

There are many different strains of medicinal cannabis which differ with regard to cannabinoid content. To avoid excessive dosing, it is recommended that a patient who is beginning medical cannabis treatment should be prescribed a strain with low THC content. As patients become accustomed to medicinal cannabis treatment they may try strains with different CBD and THC content to better treat their conditions. Please contact and INDIVA customer care representative with any further questions regarding the strains we offer.

SATIVA

Sativa is one of the two primary strains of cannabis. It is a THC dominant strain, although Sativa strains can contain other cannabinoids. Sativa strains tend to be more uplifting and cerebral in their effects.

INDICA

CBD is found in higher quantity in Indica strains. Indicas often contain a mixture of the two primary cannabinoids, THC and CBD. These strains tend to have more full-body effects and are more relaxing.

HYBRID STRAINS

A hybrid strain is a cross between Indica and Sativa which is created by breeding the two strains. Hybrid strains can be customized for specific needs and the cannabinoid content can be tailored quite closely.

THC & CBD

Although research into THC, CBD, and their therapeutic effects is ongoing, it is generally accepted that the interplay between these two compounds give cannabis its therapeutic effects. Their relationship is complex and is part of a compound profile including over 700 metabolites which are contained in dried cannabis flowers. It has been concluded that CBD is a non-psychoactive component of cannabis.

SECONDARY CANNABINOIDS

Aside from THC and CBD, the primary cannabinoids, cannabis contains various other cannabinoids. These compounds are still being studied and the evidence for their individual effects is still limited. It is thought that many are essential metabolites of the primary cannabinoids.

CANNABIGEROL (CBG)

A precursor for the primary cannabinoids, Cannabigerolic acid is present in cannabis to varying degrees, depending on the strain. A non-psychoactive cannabinoid, Cannabigerol has been found to present antimicrobial effects and has been shown to inhibit the proliferation of cancer cells as well as keratinocytes.

 $\Delta 8$ -TETRAHYDROCANNABINOL ($\Delta 8$ -THC)

$\Delta 8$ -THC is contained in cannabis in minuscule amounts. It is not as psychoactive as the primary cannabinoid THC. It can be an effective appetite stimulant, even at low doses.

ADDITIONAL CANNABINOIDS

The therapeutic effects of many of the other cannabinoids have not been studied in detail. These include compounds like Cannabinodiol (CBND), Cannabinol (CBN), and Cannabielsoin (CBE). Our website will be updated with information about such active compounds found in cannabis as studies are released.

SOURCES

ElSohly, M., Chandra, S., Lata, H., Williamson, E., Upton, R., Harder, D., Slade, D., Radwan, M., and Li, K. (2013). Cannabis Inflorescence, Cannabis spp., identity, analysis and quality control. American Herbal Pharmacopoeia (AHP).

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