

# CBD 101



"Cannabidiol: The most misunderstood compound on earth."

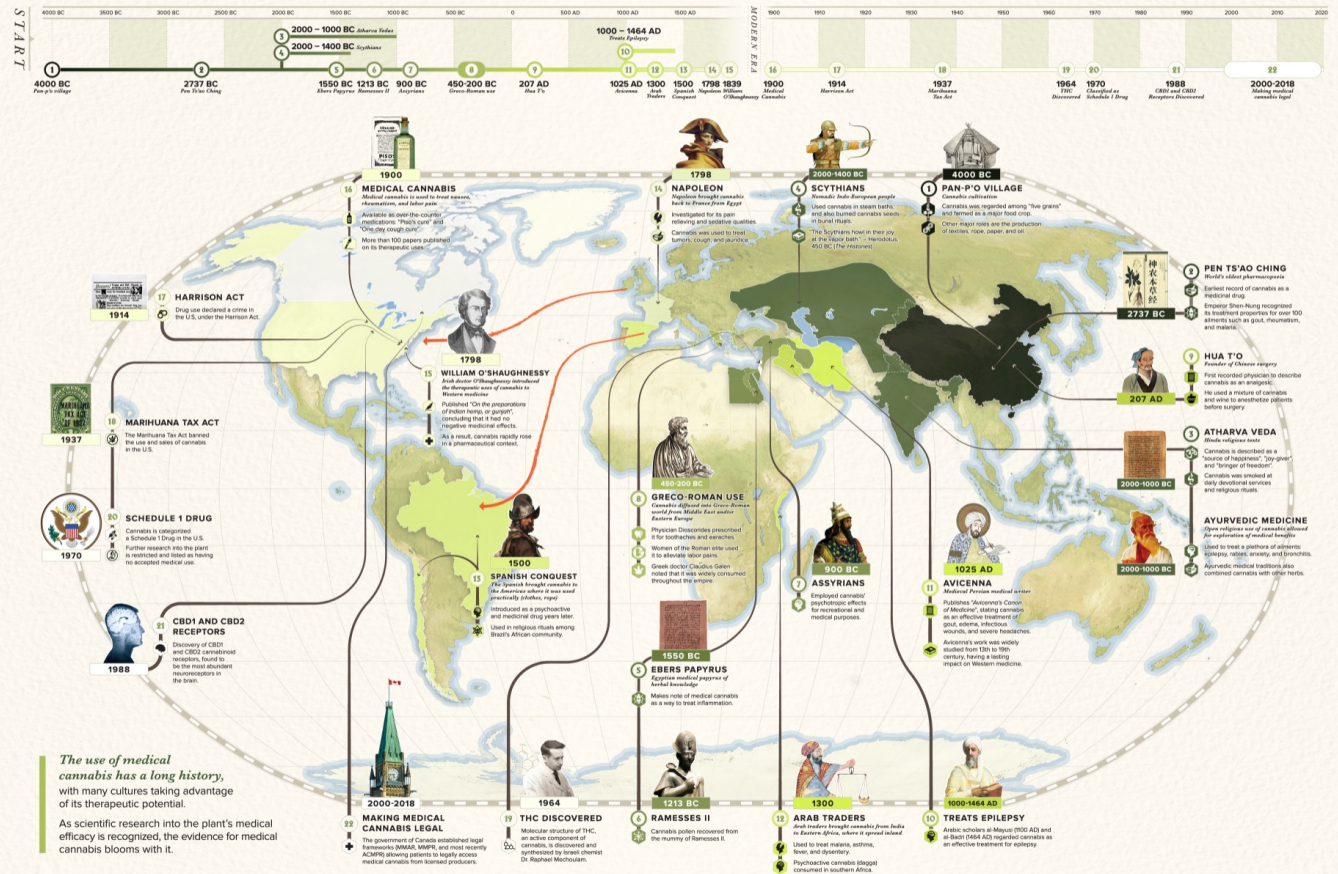
# 6000 years!

Cannabis has long been recognized - and celebrated - for its numerous health-related properties. In fact, the use of cannabis as a medicine dates back to ancient times, when many cultures used cannabis for a variety of ailments, including pain relief and anesthetic purposes.

# a 6,000 YEAR HISTORY of CANNABIS

THE CANNABIS SPACE IS HIGHLY POLARIZED TODAY.

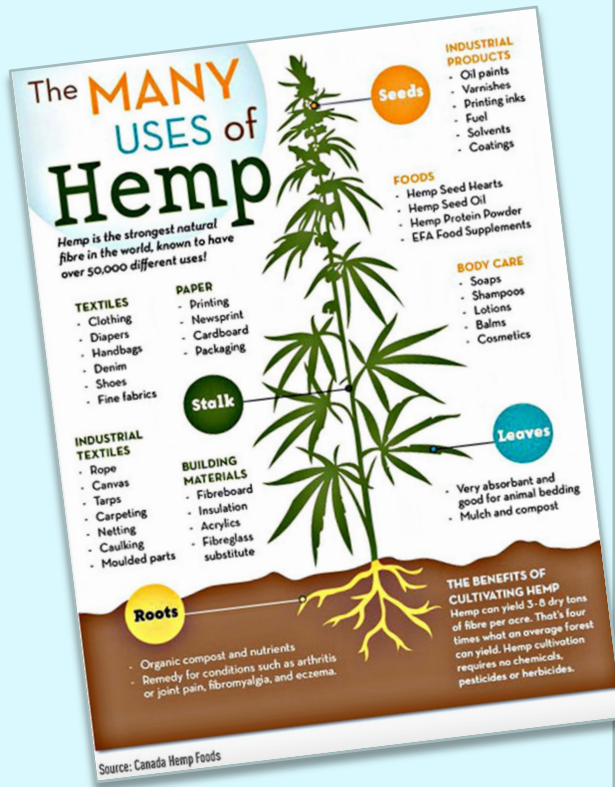
However, it's less known that the plant has over 6,000 years of documented history - and its therapeutic applications appear to have been realized by most cultures. With medical cannabis making a comeback around the world, it's worth tracing the plant's humble beginnings and how it played a vital role throughout the centuries.



The use of medical cannabis has a long history, with many cultures taking advantage of its therapeutic potential. As scientific research into the plant's medical efficacy is recognized, the evidence for medical cannabis blooms with it.

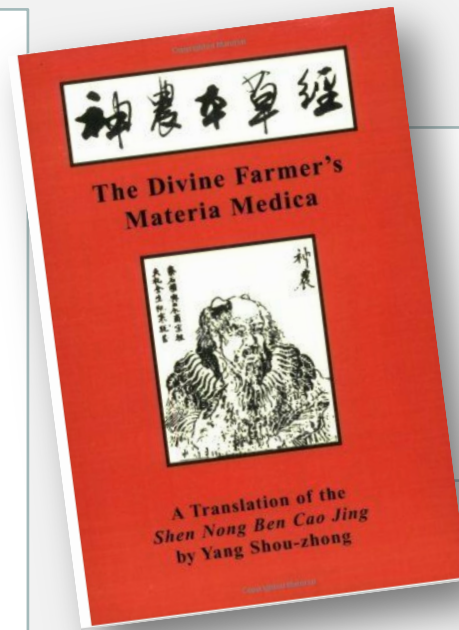
• A Historical Geography of Cannabis. Dr. Barney Hart. Geographical Review 34 (4). © 2016 American Geographical Society of New York.  
 • History of Medical Cannabis. Andrew Hurrell (MSc) et al. Journal of Pain Management 9 (4). © 2016 Medknow Co. and Nova Science Publishers, Inc.  
 • Cannabis: A Complete Guide. Dr. Suresh Sood. © 2016 DCC Press.

# HOW IT ALL BEGAN



Cannabis is one of the oldest agricultural crops in the world and it's cultivated in hundreds of countries across nearly every continent. Archaeologists have found evidence that suggests cannabis was used by humans as far back as 10,000 years ago; however, **we also know that it was used primarily for industrial purposes for thousands of years before it was valued as a medicinal plant.**

- Fiber (stalks/hemp)
- Edible (seed)
- Pharmacological Effects (flower)

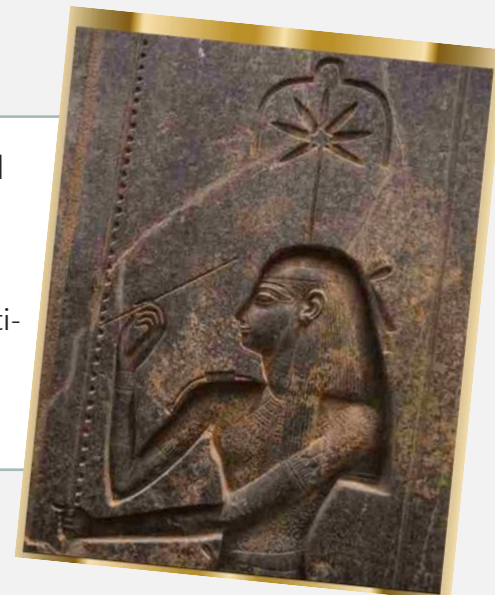
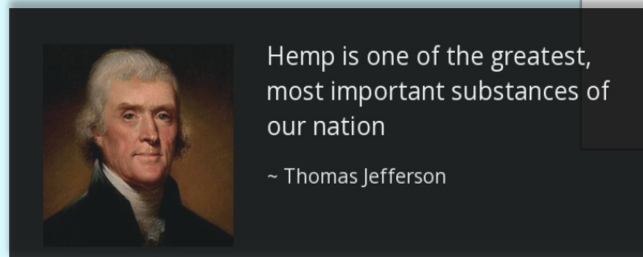


Some of the **earliest documented medicinal uses** can be found in the oldest Chinese Pharmacopeia:

- Hallucinatory effects
- Appetite stimulation
- Tonic effects
- Anti-senility

Also engraved in stone in Egyptian Pyramids and other evidence about medicinal use in Egypt:

- Oral, rectal and topical applications
- Treatment for eyes
- May have been used for glaucoma or as anti-inflammatory
- Grief, epilepsy, pain, lice and anti-anxiety.



## ...AND THEN IT WAS DANGEROUS

**1600s:** Farmers were required to grow hemp as it was used as a critical textile source.

**1800s:** Marijuana was added to the US Pharmacopeia as "cannabis" to treat various symptoms such as opiate addiction, alcoholism, leprosy, and menstrual bleeding.

**1900s: The first marijuana prohibition law was passed and it only pertained to Mexicans.** Roosevelt signs Pure Food & Drug Act (Wiley Act) requiring labeling for over the counter remedies, alcohol, morphine, heroin, and marijuana. Also, it is during this period that recreational use of marijuana was introduced by Mexican immigrants.

**1920s:** During the Great Depression, fear and prejudice against Mexican-American culture rises. For various economical and political reasons, the government began to link marijuana usage to racially inferior underclass communities.

**1930s:** Rumors quickly spread of Mexicans distributing this "demon weed," or "locoweed," to unsuspecting American schoolchildren, wrote author Eric Schlosser in his 1994 Atlantic article "[Reefer Madness](#)." Harry Anslinger, Commissioner of the Federal Board of Narcotics proposed the Marijuana Tax Act making possession and sale of marijuana illegal.

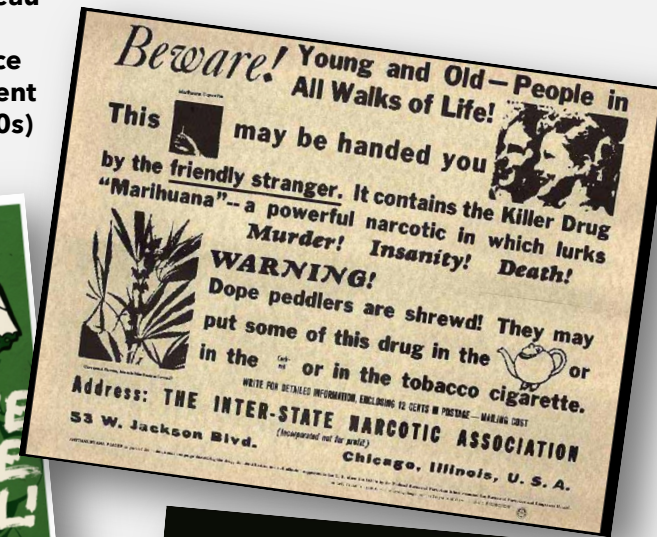
**1960s:** As drugs became symbols of youthful rebellion, social upheaval, and political dissent, the government halted scientific research to evaluate their medical safety and efficacy.

**1970s:** President Nixon (despite recommendations not to do so, signed the Controlled Substances Act into law and classified cannabis as a Schedule 1 drug with high potential for abuse.

**1996:** The Compassionate Use of Medical Marijuana Act was enacted in California by popular vote allowing doctors to recommend it to patients.



Federal Bureau of Narcotics public service announcement (1930s-1940s)



Reefer Madness



**2012:** Washington and Colorado became the first states to legalize cannabis for recreational use.

**2018:** The 2018 Farm Bill passed in the US and it removed hemp from the definition of marijuana. Hemp is defined as any cannabis plant, or derivative thereof, that contains no more than 0.3% Delta 9 THC on a dry-weight basis.

# What is CBD?

- CBD is short for **Cannabidiol**
- Is it **one of over 100 compounds**, called cannabinoids, found in the cannabis plant
- It is typically the **2<sup>nd</sup> most abundant cannabinoid** after THC
- CBD is one of the **most powerful cannabinoids and has multiple medicinal benefits**

*Simply put, and politics aside, marijuana is the single most medicinally valuable plant that ever existed.*

-Michael Moskowitz, MD

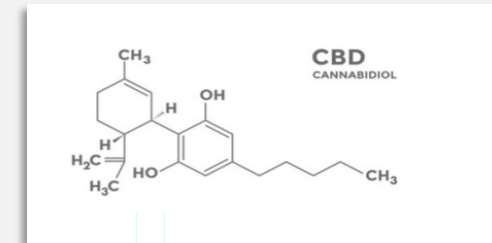
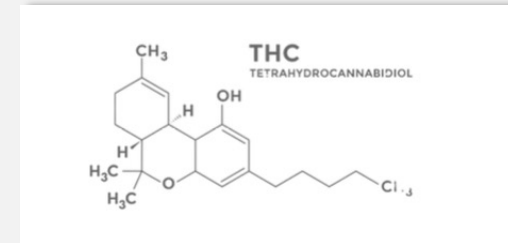


# Isn't CBD the same thing as Marijuana?



The biggest difference lies in their chemical makeup.

- **Marijuana** contains high amounts of THC (anywhere between 5-30%)
- **Hemp** contains higher amounts of CBD and contains less than 0.3% THC.



**Cannabis is often used as an “umbrella” term to reference marijuana, which is what contributes to most to the confusion regarding the law and its intoxicating effects.**

**Will CBD get me high?**

NO! THC is the intoxicating compound in cannabis. CBD contains such a minor amount of THC, if any, that it doesn't produce an intoxicating effect.

# How Does it Work in Your Body?

The first step to understanding CBD and THC is to understand **cannabinoids**.

**Cannabinoids:** Chemical compounds found in the cannabis plant that interact with receptors in the brain and body.

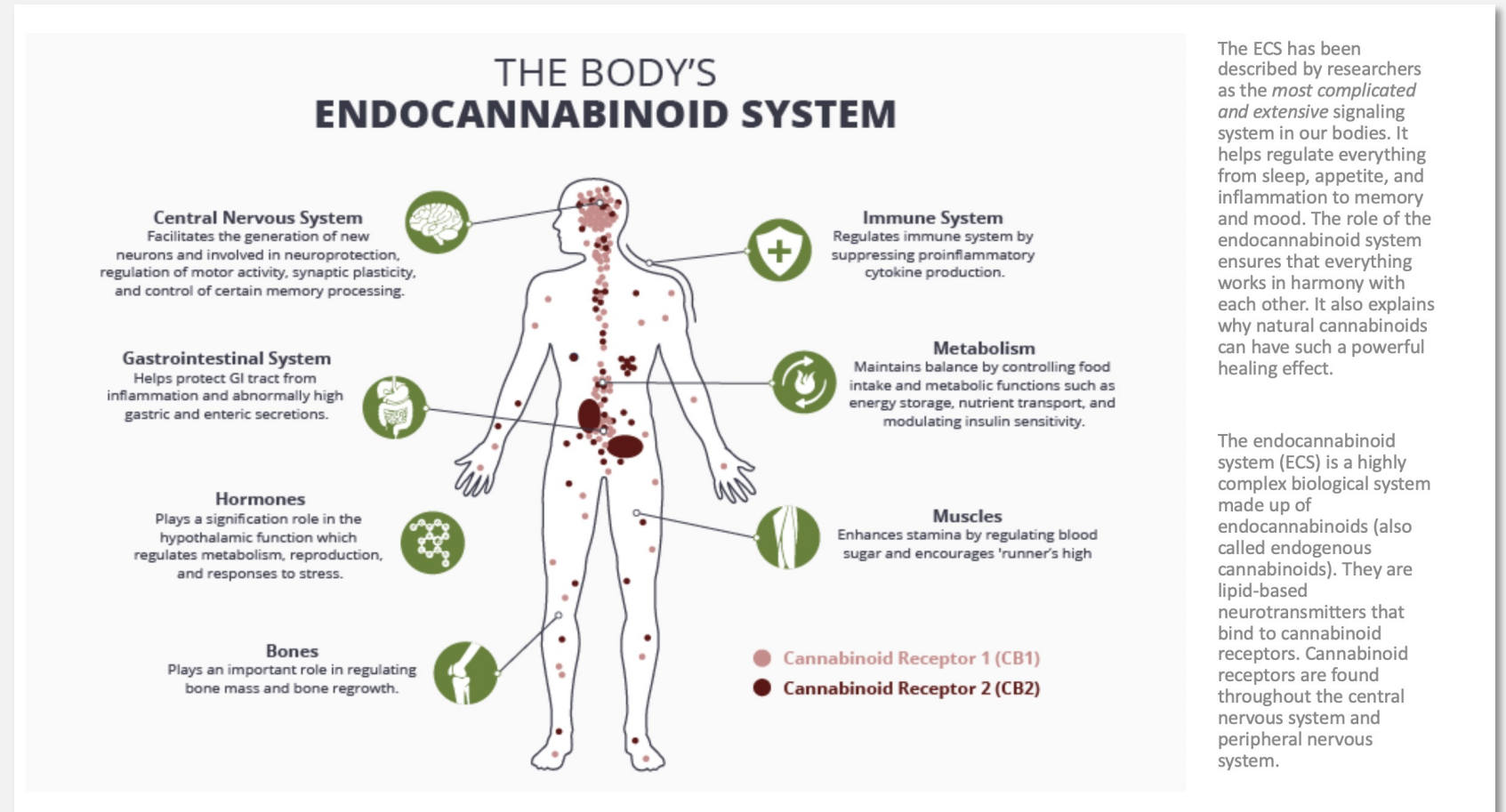
Cannabinoids interact with a system in our body called the **Endocannabinoid System (ECS)**.



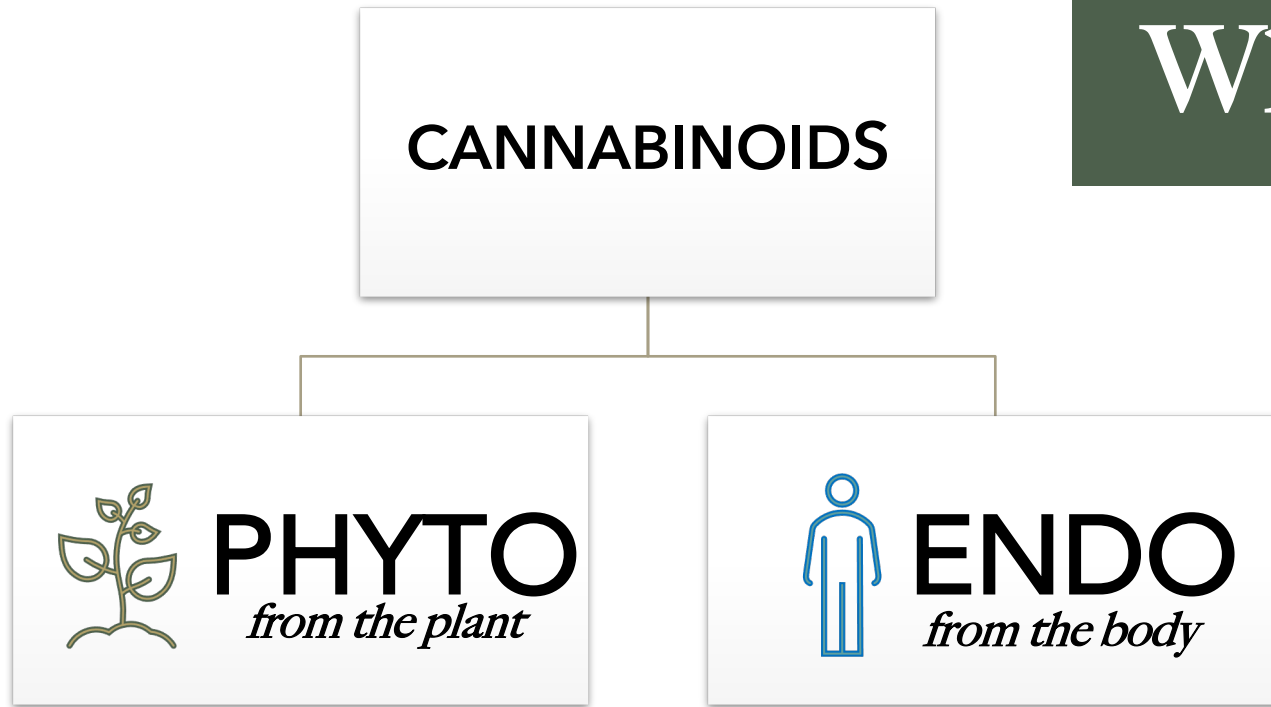
The ECS is the largest network of receptors in the human body.

The ECS is responsible for regulating “balance” – which is also called **Homeostasis**.

Homeostasis is a healthy state that is only achieved by a constant adjustment of biochemical and physiological pathways.



# What are Cannabinoids?



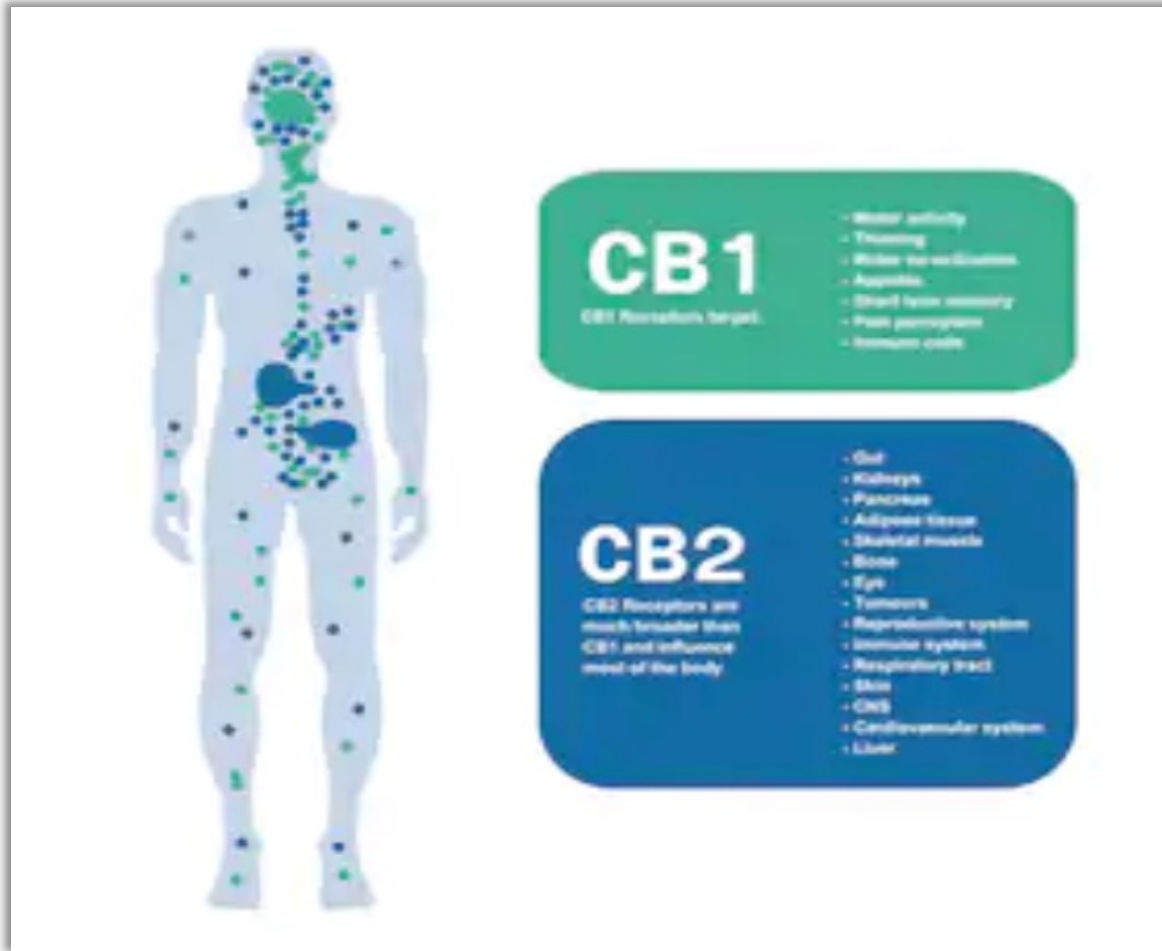
*The human body produces "endo" cannabinoids that have the same molecular structure as "phyto" cannabinoids*

There are two main endocannabinoids produced naturally by the cells in the human body.

1. **Anandamide** (based on the Sanskrit word "ananda" meaning "inner bliss"): A little-known brain chemical found in humans, and which is made naturally within the body - is now considered the "bliss molecule."
2. **2-Arachidonoylglycerol or 2-AG**: The most abundant cannabinoid and is thought to play an important role in the regulation of appetite, immune system functions and pain management.



# OUR RECEPTORS



Two primary cannabinoid receptors were identified in the early 90's, termed CB1 and CB2.

- **CB1** is found predominantly in the central nervous system and brain.
- **CB2** is linked to immune system regulation. Endocannabinoids bind to, as well as activate, cannabinoid receptors.

# It's Not Just About CBD

## The Entourage Effect

### How Does CBD Affect the Body?

The **Entourage Effect** is used to explain how the whole has a greater impact than its individual parts. There are more than **400** trace components found in hemp plants, including plant terpenes, flavinoids, vitamins, and minerals. Many of these compounds have the ability to interact synergistically, meaning they work together.



When cannabinoids, plant terpenes, flavinoids and vitamins have the ability to work together, they have the potential to magnify the benefits of the others — strengthening the potential effects.

The **Entourage Effect** accounts for the ability of synergistic plant compounds to multiply the effects of other compounds. Many people prefer Full Spectrum or Broad Spectrum CBD products because of the potential to benefit from the Entourage Effect.

CBD Isolate products contain 99.9% CBD and zero trace of other plant components. For this reason, those who use CBD Isolate products cannot benefit from the Entourage Effect.

### WORKING TOGETHER



Like the links of a chain, plant components in Full Spectrum and Broad Spectrum products work together to strengthen the effectiveness of each individual part.



When isolated, a single component (in our case, CBD) does not have as large of an impact as many parts together.

*The Sum Is Greater Than Its Parts*

# Different Types of CBD

## FULL SPECTRUM



**WHOLE PLANT**

- 0.3% or less of THC
- Phytocannabinoid-rich
- Other beneficial cannabinoids (CBG, CBN, CBC)
- Terpenes
- Essential Amino Acids

## BROAD SPECTRUM



**WHOLE PLANT MINUS THC**

- 0% THC
- Phytocannabinoid-rich
- Other beneficial cannabinoids (CBG, CBN, CBC)
  - Terpenes
- Essential Amino Acids

## ISOLATE



**JUST CBD**

# DELIVERY METHODS

## CBD OIL DROPS

Oil drops taken sublingually, or held under the tongue, are one of the most popular delivery methods for CBD.

This method allows the oil to be absorbed quickly, so the blood vessels in the mouth can pick it up right away. The downside? Not everyone enjoys the flavor.



- **Onset: 1-2 hours**
- **Duration: 4-8 hours**
- **Controlled, duplicatable dosing**
- **Best for chronic conditions that need higher strength & overall wellness**

## VAPE LIQUID & FLOWER

Inhalation, whether you're using a vaporizer or smoking CBD-rich hemp flower, is great for cases where you want nearly immediate effects.

That's why folks who suffer from anxiety often prefer inhaled CBD. They can take it as needed, and feel the effects right away.



- **Onset: 1-10 minutes**
- **Duration: 1-4 hours**
- **Can tailor response via strains & terpenes**
- **Fastest onset**

- **Onset: 1 hour**
- **Duration: 4-6 hours**
- **Controlled dosing**
- **No "hempy" taste**
- **Flexible**



## CAPSULES AND SOFTGELS

If you're used to taking over-the-counter drugs in pill form, this method is familiar and foolproof.

But because capsules and softgels go through the digestive system, they may take longer to kick in. On the other hand, the effects can last longer than they do with other methods.

## TOPICAL & TRANSDERMAL



Transdermal products are made to penetrate the skin and enter the bloodstream for whole-body effects.

Lotions, creams, balms, salves, and other topicals tend to be more ideal for treating localized issues like eczema or acne.

- **Onset: 1-10 minutes**
- **Duration: 2-4 hours**
- **Targeted, fast relief**

## FOOD & BEVERAGES

You can find a CBD-infused version of dozens of foods and beverages, from gummy candies to coffee.

Many of these products are low in potency, though. If you're looking for effective products, check the label to see how much CBD is included.



# DOSING

- No standard dosing established
- Start low & increase slowly
- Find a dose that consistently duplicates effects
- Find lowest dose with greatest efficacy
- Be patient

**Start with a low dose of 10-20mg per day.** After 5 days if there are no results, then we recommend increasing your dose slowly, every two to three days, and only 5-10mg at a time. If your condition is somewhat serious then it is reasonable to start with higher doses.

**While high doses are usually well-tolerated, less is more.** CBD can be quite expensive, so who wants to consume more and spend more when it isn't necessary? That's why we say be patient.

**For individuals who have light to moderate symptoms,** a dose of 10-20mg of CBD per day can be enough to feel the desired effects and results.

**If you have a more serious condition** then it is reasonable to start with higher doses

## Important Tips



Be consistent in taking it everyday.



Be patient, do not expect results right away. Give it up to 2-4 weeks to really notice results.



CBD stays in your body for 6-8 hours, so it is better to take it twice a day in gaps.

**10-40mg per day**

For non-serious to semi-serious cases.

**30-100mg per day**

For semi-serious to serious cases.

**50-350mg per day**

For serious to severe cases.

**200-500mg per day**

For severe cases.

# ALL CBD IS NOT CREATED EQUAL

- When choosing CBD for you, it is important to do your research and know what you're putting in your body. Remember this is an unregulated product.
- Sourced from an organic hemp farm in the United States. Best are Certified Organic Industrial Hemp.
- **3rd Party Lab Tested for potency and safety.** Look for a QR code that links directly to the lab tests
- Don't buy online, from a smoke shop, grocery store, gas station, etc.
- Speak to an expert that can assist you with dosing, delivery, etc.



# The Myths

## Myths

- All CBD is the same
- CBD will get you high
- The CBD industry is regulated
- Using CBD topically is the safest way to use it
- The label on the product explains what the company has sold the consumer

## Facts

- Not all CBD Rich Hemp Extract is the same. In a recent study by UCONN over 100 products were tested and 67% of the products were labeled improperly.
- The CBD industry is currently an unregulated market, but the World Health Organization deemed CBD non-psychoactive and non-addictive.
- There are numerous delivery methods; (Topical, Sublingual, Water Soluble, Vaping etc.)
- What is on the label is important, unfortunately the content inside the bottle is often mislabeled. Look for products with QR Codes that lead straight to a Certificate of Analysis

## Frequently Asked Questions

- Do I need a prescription?
  - No, Products made from Industrialized hemp was made legal with the passing of the Farm Bill in 2018
- Will it interact with any medications I am taking?
  - We always recommend consulting your physician first, but start low and slow
  - Do I have to take it every day?
  - We recommend taking it consistently, twice a day
- Can I fly with it in the US?
  - Refer to TSA guidelines

*Marijuana and certain cannabis infused products, including some Cannabidiol (CBD) oil, remain illegal under federal law except for products that contain no more than 0.3 percent THC on a dry weight basis or that are approved by FDA. (See the Agriculture Improvement Act of 2018, Pub. L. 115-334.) TSA officers are required to report any suspected violations of law to local, state or federal authorities.*

*TSA's screening procedures are focused on security and are designed to detect potential threats to aviation and passengers. Accordingly, TSA security officers do not search for marijuana or other illegal drugs, but if any illegal substance is discovered during security screening, TSA will refer the matter to a law enforcement officer.*

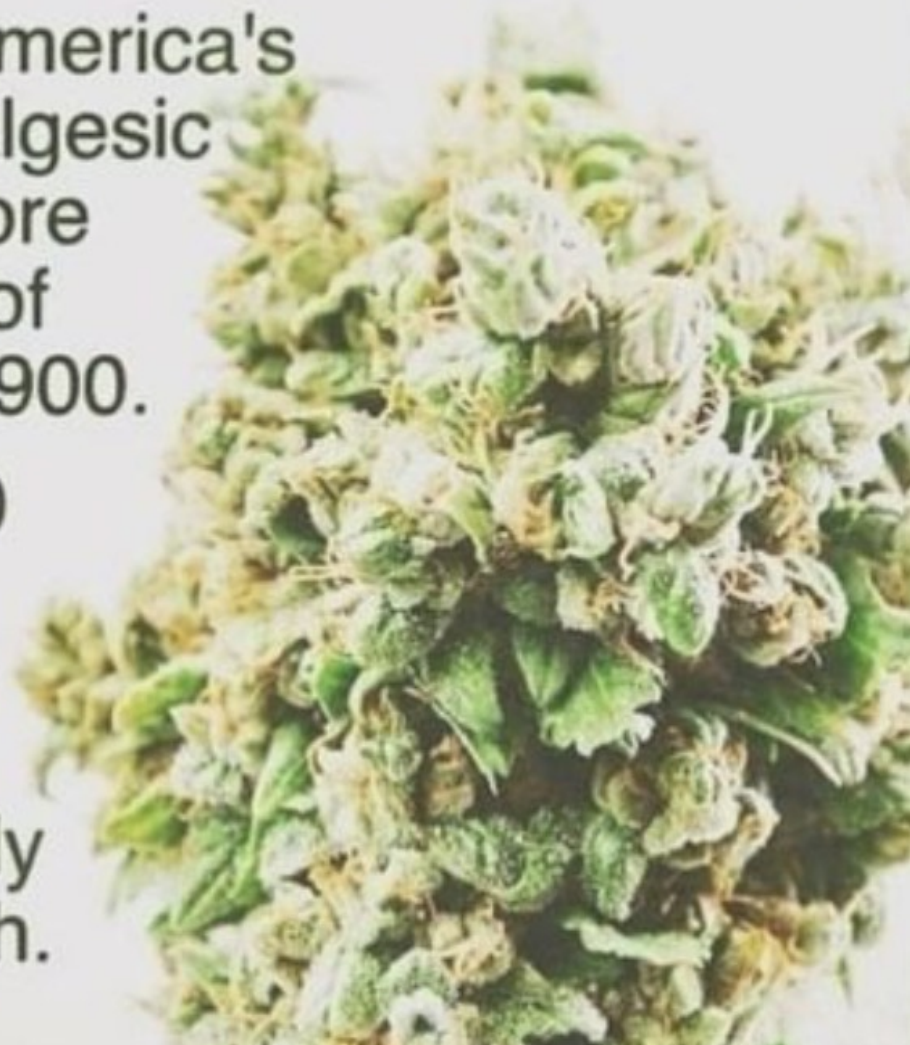
- Is it safe for my animals?
  - Yes... they have the same ECS that humans do.



# Cannabis historical fact:

Cannabis was America's number one analgesic for 60 years before the rediscovery of aspirin around 1900.

From 1842-1900 cannabis made up nearly half of all medicine sold, with virtually no fear of its high.



THANK YOU!

YOUR **CBD Store**<sup>®</sup>

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