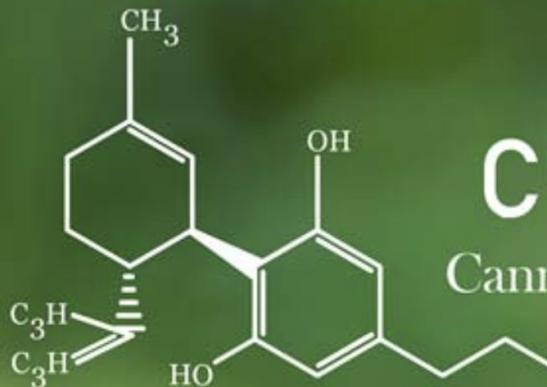


KNOW YOUR CBD EBOOK

Know Your CBD

Know the science of THC and CBD, the medical benefits, the types of cannabis products, and what impact your individual response to CBD.

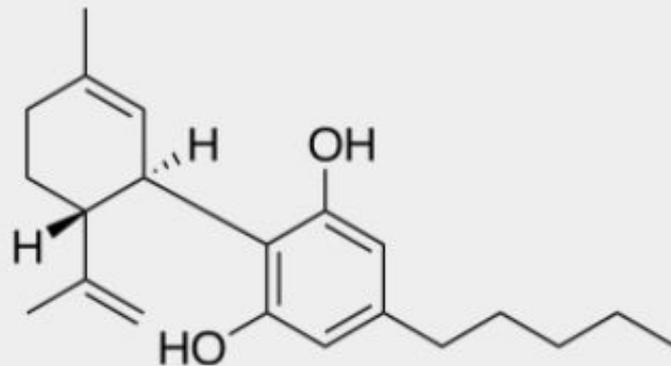
- Hemp and THC derived CBD
- Medical benefits of CBD
- Full Spectrum vs Single Strain
- Extracts vs Concentrates
- Not all CBD are created equal; the benefits of various Terpenes
- What Strains are best for you



What is CBD?

Cannabidiol (CBD) is a non-intoxicating compound extracted from the hemp plant and is known to alleviate anxiety, pain, inflammation, and many other medical ailments.

- Also known as Hemp CBD, this unique plant originates from the *Cannabis Sativa L* family of plants.



Chemical composition of CBD

How is CBD different from Marijuana?

- **Hemp-derived CBD** must contain *less than 0.3% THC* in order to be classified as **Hemp CBD**.

- Due to this extremely *low amount of THC*, Hemp-derived CBD will calm, ease pain and more – *without inducing any unwanted mind-altering effects!*



There are
2 species
of Cannabis



HEMP

less than 0.3% THC



MARIJUANA

more than 20% THC

Why use CBD?

In addition to common uses for anxiety, stress, pain management and sleep disorders, properly targeted Cannabidiol (CBD) products can help with specific ailments such as:

- Seizure Disorder (epilepsy)
- Muscle Disorders & Inflammation
- Parkinson Disease
- Crohn Disease
- Multiple Sclerosis
- Psoriasis
- Irritable Bowel Syndrome
- Nausea *AND MORE!*



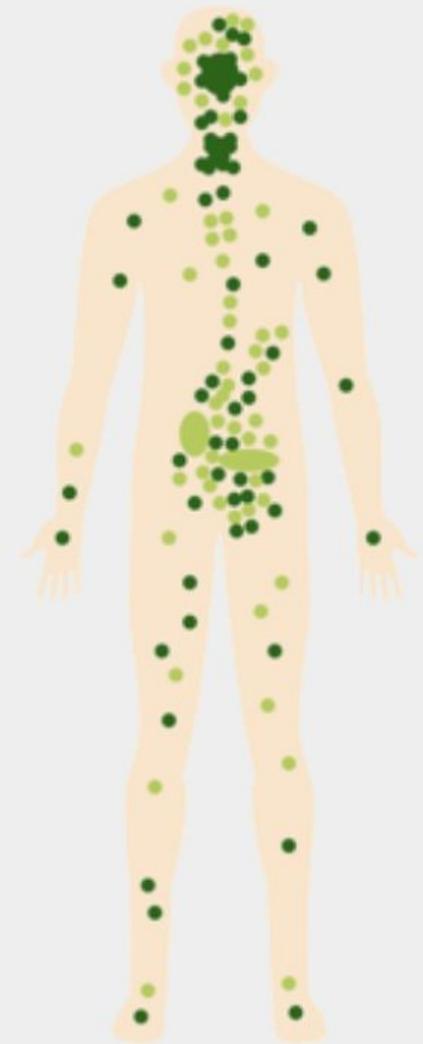
Additionally, CBD has relaxing properties, making it ideal for counteracting anxiety associated with THC – or for *anytime use!* It is a perfect starting point for new users.

Health Effects of Marijuana	THC	THC-A	THC-V	CBN	CBD	CBD-A	CBC	CBC-A	CBG	CBG-A	Benefits
Pain relief	■				■				■	■	Analgesis
Reduces inflammation			■				■	■	■	■	Anti-inflammatory
Supresses appetite				■							Anoretic
Stimulates appetite		■				■					Appetite stimulant
Reduces vomiting and nausea		■				■					Antimetic
Reduces contractions of small intestine						■					Intestinal antiprokinetic
Relieves anxiety						■					Anxiolytic
Tranquilizing / psychosis management						■					Antipsychotic
Reduces seizures and convulsions			■	■		■					Antiepileptic
Suppresses muscle spasms		■			■	■					Antispasmodic
Aides sleep					■						Anti-insomnia
Reduces efficacy of immune system						■					Immunosuppressive
Reduces blood sugar levels				■		■					Anti-diabetic
Prevents nervous system degeneration						■					Neuroprotective
Treats psoriasis						■					Antipsoriasis
Reduces risk of artery blockage						■					Anti-ischemic
Kills or slows bacteria growth						■		■	■	■	Anti-bacterial
Treats fungal infection						■			■	■	Anti-fungal
Inhibits cell growth in tumours / cancer			■			■	■	■		■	Anti-proliferative
Promotes bone growth				■		■		■		■	Bone-stimulant

How does CBD Work?

The Endocannabinoid System (The EC System) is a *unique communications system* in the brain and body that affects many important functions including how a person feels, moves and reacts.

- Named after the cannabis sativa plant and its active ingredients, the natural chemicals produced by the body that interact within the EC system are called *cannabinoids*. Like CBD, they interact with receptors to regulate these important *body functions*.
- The EC System doesn't just respond to the endocannabinoids produced in the body, but also responds to external cannabinoids like CBD



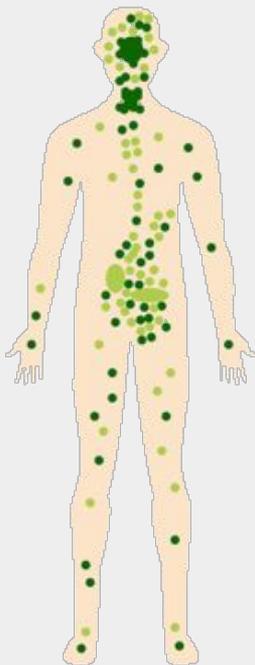
HUMAN ENDOCANNABINOID SYSTEM

THE MOST WELL KNOWN CANNABINOID RECEPTORS, CB1 AND CB2, ARE PROTEINS THAT ARE IMBEDDED IN THE MEMBRANE OF CELLS. THESE SURFACE PROTEINS ARE THEN ATTACHED TO ANOTHER PROTEIN THAT DETERMINES THE SIGNALING DIRECTION ACTIVATION OR INHIBITION

CB1

CB1 Receptors target :

- Appetite
- Immune cells
- Motor activity
- Motor coordination
- Pain perception
- Short term memory
- Thinking



CB2

CB2 Receptors target :

- Adipose tissue
- Bone
- Cardiovascular system
- Central nervous system
- Eyes
- Gut
- Immune system
- Kidneys
- Liver
- Pancreas
- Reproductive system
- Respiratory tract
- Skeletal muscle
- Skin
- Tumors

CB1

CB1 Receptors are primarily found in the brain and central nervous system, and to a lesser extent in the other tissues.

CB2

CB2 Receptors are mostly in the peripheral organs especially cells associated with the immune system.

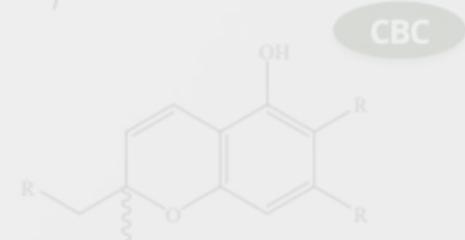
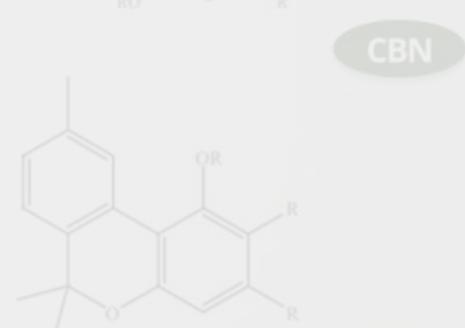
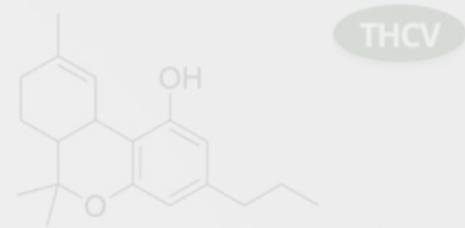
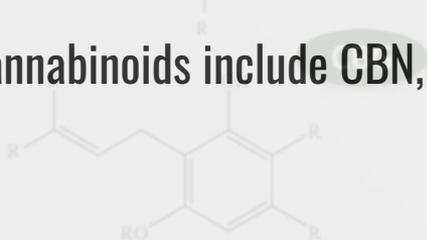
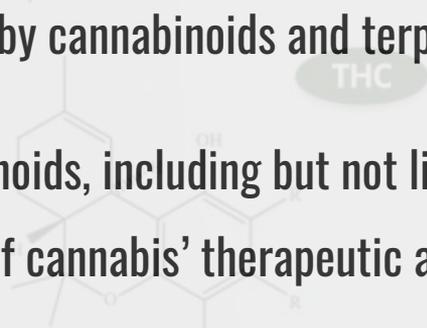
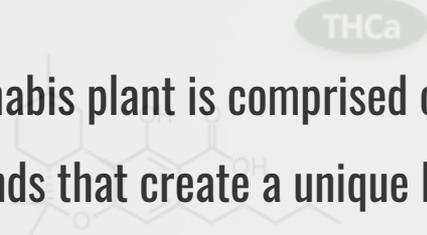
Understanding the EC Interaction

- CBD acts on your CB1 and CB2 receptors in your body, producing positive outcomes.
- CBD activates TRPV1 receptors that control essential functions like body temperature, pain perception, and inflammation.
- CBD can also boost how much anandamide you have in your body. Anandamide contributes to neural generation of motivation and pleasure.

Did you know? 'Anandamide' comes from the Sanskrit word that means 'bliss.' The chemical soon became known as the **'bliss'** molecule!

What are Cannabinoids?

- The cannabis plant is comprised of hundreds of chemical compounds that create a unique harmony of effects, primarily induced by cannabinoids and terpenes.
- Cannabinoids, including but not limited to CBD, are the main drivers of cannabis' therapeutic and recreational effects.
- Other Cannabinoids include CBN, THC, CBG, and more.

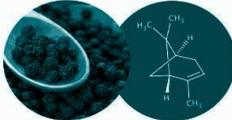
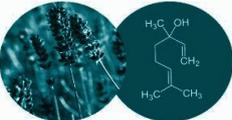
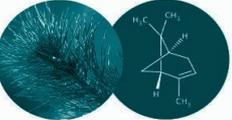


What are Terpenes?

Terpenes: or terpenoids, are aromatic metabolites found in the oils of all plants.

MOST COMMON TERPENES IN CANNABIS



	<u>MYRCENE</u>	<u>LIMONENE</u>	<u>CARYOPHYLLENE</u>	<u>LINALOOL</u>	<u>A-PINENE</u>
AROMA	earthy cloves herbal	citrus lemon orange	pepper wood spicy	floral sweet citrus	pine wood mountain air
EFFECTS	analgesic anti-inflammatory antipsychotic antispasmodic hypnotic muscle relaxant sedative	antidepressant antifungal antimicrobial antispasmodic anxiolytic gastroprotective immunostimulant	anti-inflammatory analgesic protects digestive tract cell lining anti-depressant anti-septic	analgesic anticonvulsant antiepileptic antineoplastic antipsychotic anxiolytic sedative	anti-inflammatory gastroprotective energy booster bronchodilator aids memory anti-bacterial
ALSO FOUND IN	 <chem>CC(C)C(C)C</chem> hops fresh mango lemongrass	 <chem>CC1=CC=C(C)C=C1</chem> citrus fruit rinds juniper peppermint	 <chem>CC1(C)C(C)C2C1C(C)C2</chem> black pepper Thai basil cloves	 <chem>CC(C)C(C)C(O)C</chem> lavender laurel mints	 <chem>CC1(C)C(C)C2C1C(C)C2</chem> pine needles orange peel parsley

What are Flavonoids?

Flavonoids: Compounds found throughout nature, from flowers to fruits and vegetables.

Similar to terpenes, flavonoids affect smell and taste, but they also affect the final color of the plant.

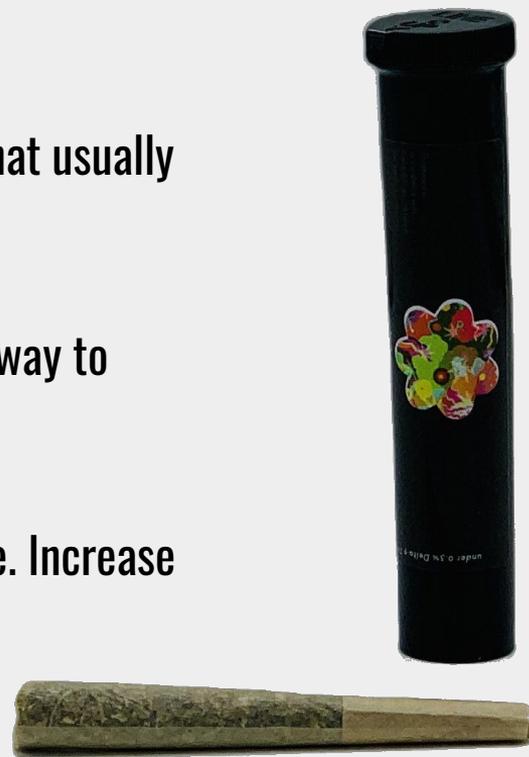
Flavonoids contain pharmacologically active compounds.



Ways to Use CBD

Smoking

- There are *more than 20 different strains* of smokable CBD flower that usually come in the form of pre-rolled joints, blunts and loose flower.
- Because the effects are noticed or felt quickly, smoking is an ideal way to receive immediate relief and find the best dosage for you.
- Try 1-3 inhalations and wait 10-15 minutes to gauge your ideal dose. Increase dose as necessary.



Oil Drops/Tinctures

- Oil Drops are infused liquids that extract cannabis compounds using an alcohol soak.
- They are applied directly under the tongue, but unlike ingestible oil and infused foods, tincture oil goes into the bloodstream immediately allowing for fast-acting effects and better dose control.
- CBD tinctures for pets too!



Capsules

- Much like tinctures, gel-capsules are incredibly convenient for controlling dosage and convenience.
- There are multiple strengths and wellness-need options in the capsule category.
- Organic | Non-Gmo| Made in USA



Edibles

- The diversity of CBD edibles expanding quickly and is already vast, so much so that you can infuse virtually anything.
- Candies are another convenient option due to flavor and dosage control.
- Start with a low dose and be patient. Due to the digestive process, edibles take longer to kick in (45-60 mins).
- Organic | Non-Gmo | Made in USA



Topicals

- CBD topicals come in the form of *Cremes, Creams, Salves and Bath-bombs in different flavors and potencies.*
- Topicals are CBD-infused lotions or balms that are applied directly to the skin for localized relief of pain, soreness, and inflammation.
- One unique property of CBD topicals is their ability to treat symptoms without psychoactive effects.



Proper Dosing

Dry Herb: 0.25-0.5g

Edibles: 20-25mg

Oil Extracts: Up to 1g, divided in multiple doses

Transdermal Patch: 10-20mg per patch

Extracts (Dabbing, Vaping): 25mg per dab

Microdosing: 5-10mg

What's the best dosage for you?

$$[\text{YOUR WEIGHT IN POUNDS}] \div [10] \times [\text{DESIRED STRENGTH IN MG}] = [\text{YOUR DOSE}]$$

If you prefer metric, the formula changes only slightly:

$$\text{YOUR WEIGHT IN KG} \div [4.5] \times [\text{DESIRED STRENGTH IN MG}] = [\text{YOUR DOSE}]$$

Weight Metric	Low Strength	Medium Strength	High Strength
Imperial (pounds)	1 mg every 10 lbs	3 mg every 10 lbs	6 mg every 10 lbs

Here's an example of this in practice:

- Let's say Alex a 140-pounds, and Alex looking for a medium strength dose.

- 1) Alex will first divide weight in pounds by 10.
- 2) $[140] \div [10] = 14$.
- 3) Now you simply multiply 14 by the medium strength dosage guideline, which in this case is 3 mg.

$$[14] \times [3 \text{ mg}] = 42 \text{ mg CBD}$$

So a good starting dose for Alex would be about 42 mg CBD per day in this example. Alex can take 21 mg in the morning and 21 mg in the afternoon/ evening. Alternatively, Alex can reduce dosage and take very 3 hours.

What are the different CBD Strains?

- **Sativa**
- **Indica**
- **Ruderalis**
- **Hybrids**
(Any combination of the above)



Sativa



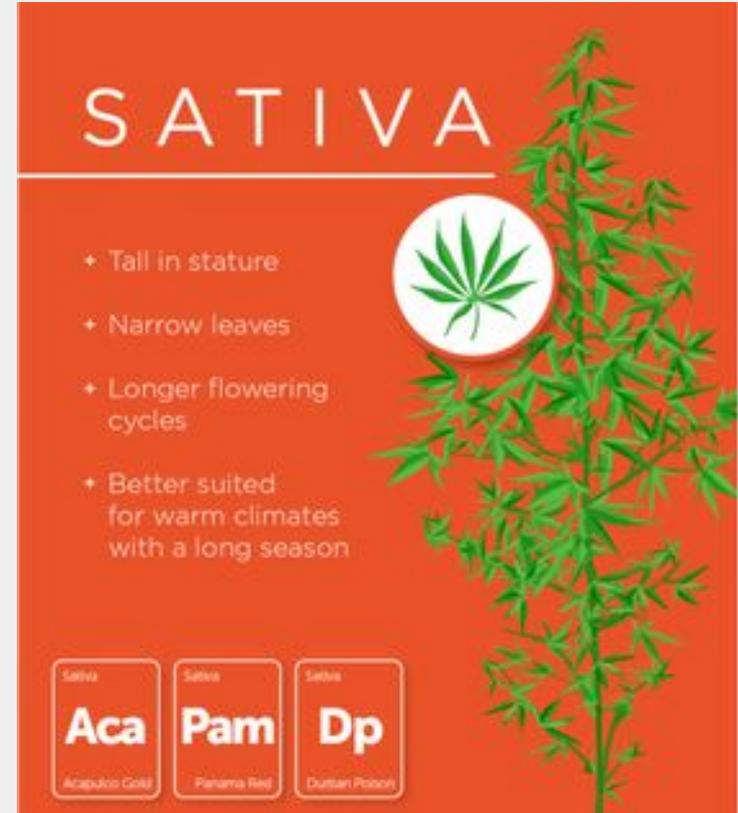
Indica



Ruderalis

What are the different CBD Strains?

- **Sativa:** Sativas provide an energized, thoughtful, focused, and uplifted head-high. Sativas have a lighter, fruitier aroma than that of other strains. They are known for being more social and geared for physical activities. Sativas are ideal for daytime use.



What are the different CBD Strains?

- **Indica:** Indica strains can induce a sleepy, relaxed environment as well as a body buzz. Indicas provide pain relief, reduce nausea, increase appetite, and fight depression. Indica strains are ideal for nighttime use.



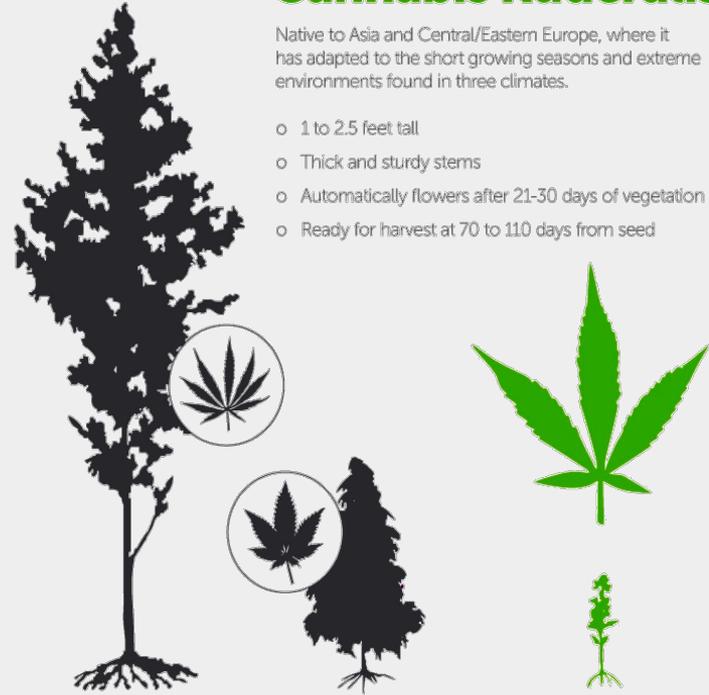
What are the different CBD Strains?

- **Ruderalis:** Ruderalis strains are characterized by varied leaflets in the mature leaves, a shorter stature and generally small size.
 - This Strain Classification is used to create hybrids with selected desired traits. (Examples include smaller plant size or plant automatically flowers within a month)
 - Generally, these strains are not optimized for Smoking.

Cannabis Ruderalis

Native to Asia and Central/Eastern Europe, where it has adapted to the short growing seasons and extreme environments found in three climates.

- 1 to 2.5 feet tall
- Thick and sturdy stems
- Automatically flowers after 21-30 days of vegetation
- Ready for harvest at 70 to 110 days from seed



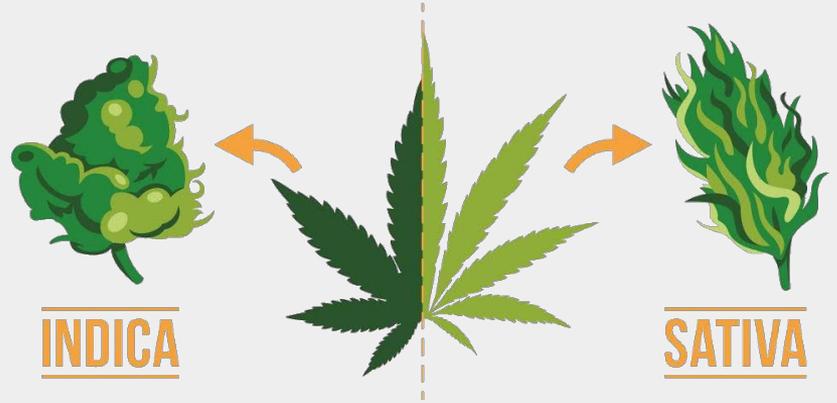
SATIVA

INDICA

RUDERALIS

What are the different CBD Strains?

- **Hybrids:** Hybrids occur when breeders cross breed different strains, for example a sativa and indica strain. Hybrid effects correspond to the dominant strain mainly, however will also have some effects of the recessive strain.

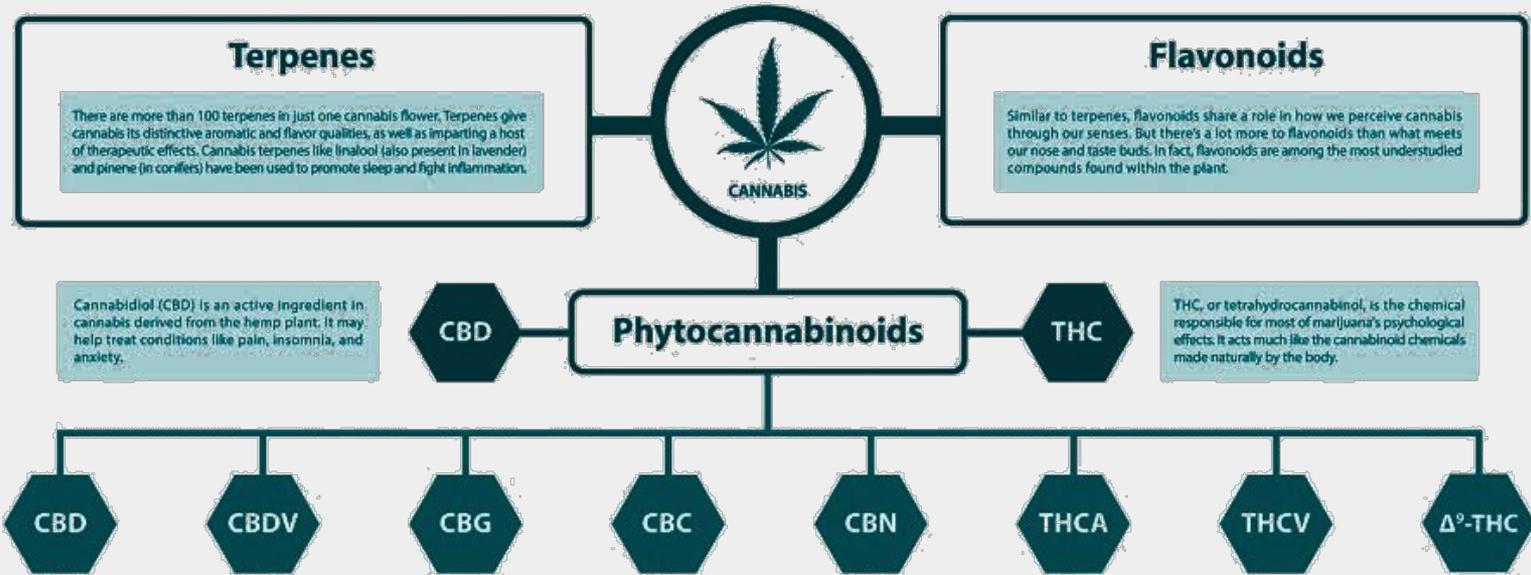


Choosing the Right Strain for You

- Finding the right strain for you is more straightforward once you've developed a better understanding of Cannabinoids, Terpenes and Flavonoids.
- A high CBD content Indica with myrcene would be ideal for bedtime.
- Sativas are geared those who want a buzzy energetic and uplifting strain to keep you going throughout the day.
- For those beginners and low tolerance consumers, we've compiled *basic tips for finding that perfect first-time experience.*

THE ENTOURAGE EFFECT

THE ENTOURAGE EFFECT IS A PROPOSED MECHANISM BY WHICH CANNABIS COMPOUNDS ACT SYNERGISTICALLY TO MODULATE THE OVERALL PSYCHOACTIVE EFFECTS OF THE PLANT, PRIMARILY BY THE ACTION OF CBD AND THC.



Phytocannabinoids, or exogenous cannabinoids, are plant-derived cannabinoids produced by glandular trichomes covering the surface of the cannabis plant. Trichomes are responsible for producing all of the plant's desirable compounds. More than 100 cannabinoids have been discovered in the cannabis plant. Phytocannabinoids interact with our body's receptors to produce numerous psychotropic and therapeutic effects. Both plants and animals produce their own cannabinoids, those produced inside the mammalian body are called endocannabinoids. Phytocannabinoids demonstrate above are Cannabidiolic acid (CBDA), Cannabidivarin (CBDV), Cannabigerol (CBG), Cannabichromene (CBC), Cannabinol (CBN), Tetrahydrocannabinolic acid (THCA), Tetrahydrocannabivarin (THCv), Delta-9-tetrahydrocannabinol (Δ⁹-THC).

Tips for New Users!

1. Start with CBD flower strains or other products that will enable you to achieve your desired effect, based on the information provided.
2. Settle yourself into a comfortable place and start with a low-dose, maybe perhaps a couple of puffs from a joint or 1-2 gummy bears if it's your first time.
3. Find the perfect method of consumption that works best for you and your body chemistry. It is possible to have multiple preferences of consumption, so try a few methods and see which is most effective for your body.
4. Keep in mind that premium CBD products will be lab-tested in order to ensure the most benefits.

CBD Extracts & Concentrations

CBD concentrates are much more potent than flower, providing a more economical way to consume product.

Concentrates are more efficient than flower or edibles, allowing patients to remedy medical ailments efficiently with a quick, large dose of cannabinoids. This also means faster pain relief.

Concentrates are a great option for seasoned cannabis connoisseurs looking to increase the intensity of their effect, as well as flavor connoisseurs who are seeking to taste the most exquisite terpene profiles.



CBD Extracts & Concentrations

Kief: The simplest and most traditional type of concentrate available. The process used to extract kief typically involves cannabis flower and specialized filtering screens or tumblers. By rubbing the flower against the screen, trichomes are agitated and isolated, and the resulting product will comprise of these collected trichomes.



CBD Extracts & Concentrations

Wax: Wax is made by blasting plant material with a solvent using a closed-loop extraction system. The resulting slurry is heated at low temperatures and whipped vigorously to remove all residual solvent.

Shatter: Shatter is made by blasting plant material with a solvent using a closed-loop extraction system. The resulting slurry is collected onto parchment paper and placed in a vacuum oven for solvent purging. Shatter ranges in color from light to dark amber and is high with terpene content.





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blis commitment to Single Strain products:
The process of formulating CBD products from a single strain in order to achieve the desired effect from one specific strain.



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Ultra-Premium CBD:
“Calm Body, Alert Mind”