

CANNABINOIDS

Cannabinoids

Cannabinoids are the compounds found primarily in high concentrations in the female cannabis plant and in lesser concentrations in other plants and the human body. There are three main forms of cannabinoids:

Endocannabinoids are the substances that your body naturally makes to stimulate the CB1 and CB2 receptors (1, 2).

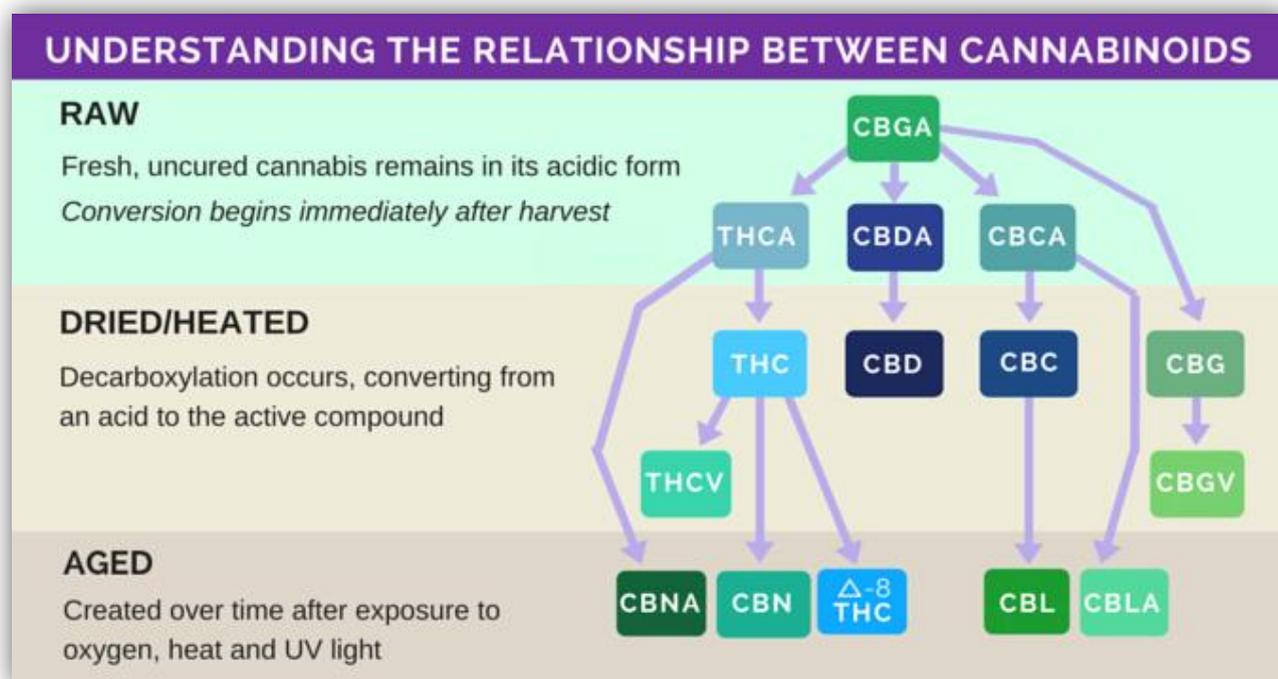
Phytocannabinoids are cannabinoids synthesized in plants that can interact or indirectly stimulate CB1 and CB2 receptors (1, 2, 3).

Synthetic cannabinoids are created in the lab usually focusing on single compounds or a combination of isolated compounds (1, 2).

Each cannabinoid has a unique influence on the body's **endocannabinoid** system (3).

Phytocannabinoids

The cannabis plant consists of more than 100 phytocannabinoids and over 400 trace compounds including terpenes which work synergistically and can be found in various ratios in the differing strains of the plant. Known as the entourage effect, these compounds work together, magnifying the therapeutic benefits of the plant's individual components (2,4). All the compounds in the raw plant are found in the acid or carboxylate form and begin to convert to the de-carboxylated state soon after harvesting, drying and heating. Further conversion to other compounds can occur as a result of exposure to oxygen, light or aging as illustrated below (5).



The main compounds of therapeutic focus include:

CBG-A Cannabigerolic Acid

Cannabigerolic acid is thought of as the stem cell cannabinoid as it is the precursor to all other cannabinoids(6, 7) and is the direct precursor of CBG, a rare neuro-regenerative medicinal compound(3).

CBG Cannabigerol

This non psychoactive compound has been shown to stimulate bone and new brain cell growth. It is also thought to have antibacterial and anti-tumor activity (3).

CBD-A Cannabidiolic Acid

Cannabidiolic Acid was much more commonly found in higher concentrations in Cannabis Ruderalis a wild variety of cannabis found in Russia which is thought to have anti-inflammatory and anti-tumour activity (3).

CBD Cannabidiol

Cannabidiol, a non psychoactive compound has been shown to be valuable in the treatment of seizure disorders especially in combination with naturally occurring terpenes such as linalool(3).

CBD-V Cannabidivarin

Cannabidivarin, a non psychoactive compound has been found in high concentrations in the wild variety grown in northwest India and Nepal (9). With a demonstrated neurochemical pathway(8). CBDV has shown anticonvulsant effects(3).

THC-A Tetrahydrocannabinolic Acid

Tetrahydrocannabinolic Acid, like other acid cannabinoids, is not psychoactive. THC-A is strongly anti-inflammatory, encourages appetite, is anti-tumour, combats insomnia, and is antispasmodic(3).

CBN-A Cannabinolic Acid

Cannabinolic acid is the parent compound that decarboxylates into CBN however very little CBN is derived from CBN-A with most CBN being derived from the oxidation of THC. CBN-A is thought to be an anti-inflammatory(3).

Δ -9-THC Delta 9 Tetrahydrocannabinol

Δ -9-tetrahydrocannabinol is a neutral cannabinoid, well known for being strongly psychoactive. THC enabled the recent discovery of the existence of the endocannabinoid system in humans. THC has been shown to be effective in the treatment of a variety of ailments and disorders including pain, tumours, nausea and ADHD (3,9).

THC V Tetrahydrocannabivarin

Tetrahydrocannabivarin is thought to have potential as an anti-inflammatory and use in the treatment of migraines however in treating(10) The psychoactive effects of THCV are not well characterized(9).

Δ -8-THC Delta-8-Tetrahydrocannabinol

Delta-8-Tetrahydrocannabinol is an analogue of THC with antiemetic, anxiolytic, appetite-stimulating, analgesic, and neuroprotective properties and exhibits a lower psychotropic potency than Δ -9-THC (5,10).

CBN Cannabinol

Cannabinol forms when THC is exposed to oxygen and heat. CBN is known to be very slightly psychoactive and more strongly sedative than other known Cannabinoids. CBN is also somewhat effective as an anti-emetic and anticonvulsant (3).

CBC-A Cannabichromic Acid

Cannabichromic acid is one of the three compounds synthesized by the plant, out of CBG-A. CBC-A is anti-inflammatory, weakly anti-fungal and strongly anti-bacterial (3).

CBC Cannabichromene

Cannabichromene, a non psychoactive displays efficiency in treating inflammation, pain relief and is both anti-viral and anti-tumour. CBC has been shown to stimulate the growth of bone tissue (3).

CBL Cannabicyclol

Cannabicyclol is a degradative product - with exposure to light CBC converts to CBL. It's medical properties are not known(3).

CBL-A Cannabicyclol Acid

Cannabicyclol Acid is the most stable of the cannabinoid acids being resistant to heat decarboxylation. CBL-A is thought to have anti-inflammatory and anti-tumour properties(3).

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