



Cannabis Overview*

CANNABINOID REFERENCE CHART

Here are the most common cannabinoids found in cannabis. Also listed is anandamide, or AEA, the best known of our body's own endocannabinoids. Cannabinoids and other compounds in cannabis elicit various effects when they bind to receptor sites in the cell walls of our bodies, illustrating our close relationship with the cannabis plant.

CB1 receptors are found primarily in the brain. They are also present in both the male and female reproductive systems. CB1 receptors are absent in the medulla oblongata, the part of the brain stem responsible for respiratory and cardiovascular functions. Thus, there is not the risk of respiratory or cardiovascular failure that can be induced by some drugs. CB1 receptors appear to be responsible for the euphoric and anticonvulsive effects of cannabis.

CB2 receptors are predominantly found in the immune system, with the greatest density in the spleen. CB2 receptors appear to be responsible for the anti-inflammatory and other therapeutic effects of cannabis.

THC or tetrahydrocannabinol is well known for its psychoactivity. Effects include: psychoactive, euphoria, sensory enhancement, anti-cancer, anti-nausea, pain relief, improves appetite, help for glaucoma, muscle relaxant, help for autoimmune disorders, and anti-inflammatory.

CBD or cannabidiol is not psychoactive, yet it modifies the effects of THC. CBD has great medical potential, and effects include: anti-depressant, anti-cancer, anti-nausea, anxiolytic, pain relief, mitigates spasms, improves blood circulation, help for autoimmune disorders, and bone stimulant.

CBG or cannabigerol is not psychoactive. It is commonly found in large quantities in fiber hemp. Certain medical strains have considerable CBG, which has promise for its anti-tumor qualities. Effects include: promising as an anti-cancer agent, lowers blood pressure, anti-inflammatory, and bone stimulant.

THCV or tetrahydrocannabivarin is not psychoactive, but moderates some of the effects of THC. THCV is present in certain strains of cannabis, notably ones originating from Southeast Asia or South Africa. Effects include: decreases appetite, mitigates seizures, bone stimulant, and may help with diabetes.

CBN or cannabinol is primarily a decomposition product of THC from exposure to heat or light, and very little CBN is found in fresh plants. CBN has only mild psychoactivity, and effects include relief from pain, causes drowsiness, mitigates spasms, help for glaucoma, and anti-inflammatory.

CBC or cannabichromene is not psychoactive. Effects include: anti-cancer, antibacterial, antifungal, anti-inflammatory, analgesic, and bone stimulant.

Anandamide, or AEA, is one of the endocannabinoids found in the human body, and has a chemical structure unlike the phytocannabinoids found in cannabis. Anandamide regulates the functions of our central nervous system and our immune system. AEA regulates appetite, memory, sensations of pleasure and pain, our immune system, and sleep patterns. It also inhibits certain cancers, such as breast cancer in humans.

TERPENE REFERENCE CHART

Terpenes (terpenoids) are components of the essential oils and resins found in many plants, and especially in cannabis plants. Terpenes synergize with and modify the effects of THC and other cannabinoids. We are only beginning to understand their effects and interactions with the phytocannabinoids in cannabis and the endocannabinoids in our bodies. From over 100 terpenes possible in the cannabis plant, here are some of the more common terpenes present in cannabis.

Beta-myrcene is found in cannabis in abundance, especially in the tropical sativas, and enhances absorption of cannabinoids. It smells like cloves, citrus and fruit. Effects include analgesic, anti-inflammatory, muscle relaxant, anti-depressant, antibiotic, and blocks certain carcinogens such as aflatoxin B. High levels of beta-myrcene are found in the cannabis strain White Widow and probably in Neville's Haze.

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Limonene smells like oranges, and is abundant in citrus fruits. Effects include relaxation, enhanced alertness and focus, anti-depressant, anti-cancer, antibiotic and anti-fungal. Helps with absorption of cannabinoids. Limonene is abundant in the strains Lemon Skunk and Big Bang.

Beta-caryophyllene, a terpene also known as BCP, binds to the CB2 receptor site, and thus is the first known food cannabinoid. It is not psychoactive. Most cannabis strains contain large amounts of beta-caryophyllene. It is analgesic and anti-inflammatory.

Beta-pinene can increase mental focus and energy, and enhances memory, as well as acting as a bronchodilator. It has the familiar pine tree odor. A related terpene, alpha-pinene, is found at high levels in Super Silver Haze and possibly in Great White Shark.

Terpineol smells floral, like lilac, apple and orange blossoms. Terpineol may be the cause of couch lock in humans after smoking some strains of cannabis, and it acts as a sedative. Helpful for insomnia.

Borneol smells like menthol or camphor, pine or woody. It is calming, sedative and relaxing, and is used for recovery from stress or illness. Borneol is likely abundant in the cannabis strain Silver Haze.

Delta-3-Carene has a sweet, pungent, woody scent. It may contribute to dry eyes and mouth from smoking certain strains of cannabis.

Linalool has a sweet, floral scent. Linalool is strongly sedative, especially when inhaled, and may lead a person into sleep. It may be anti-cancer.

1,8-Cineole is spicy, camphor, minty and refreshing. It is helpful for circulation and pain relief, and effects are also thought-provoking and stimulating.

Sabinene has a spicy scent, and may act as an anti-depressant. It is found in high amounts in Super Silver Haze and in Arjan's Ultra Haze #1.

SPECIES OF CANNABIS PLANTS

There are three primary species of cannabis, indica, sativa and ruderalis.

Cannabis indica tends to have wider leaves and denser flowering tops, a shorter, bushy appearance, as well as often having more sedative effects.

Cannabis sativa generally has more slender leaves, airy flowering tops, often a tall, gangly appearance, and a more active, cerebral, and energetic high. Most indicas take less time for their flowering tops, known as colas, to mature. Indicas and sativas have been hybridized to produce strains that blend characteristics of both species.

A third species, **Cannabis ruderalis**, is a small plant native to Russia, and is a short-season cannabis plant that begins flowering dependent on the age of the plant. Cannabis indica and Cannabis sativa are photoperiod species, in that the length of the day determines the onset of flowering. Cannabis ruderalis is very low in THC, and is only used in some hybrids designed for cultivation in northern areas with a short growing season.

