

Consumer Information and Education

Provided by your
Health Care Professional
Based on
Natural Medicines



Cannabidiol

What is it?

Cannabidiol is a chemical in the Cannabis sativa plant, also known as marijuana. Over 80 chemicals, known as cannabinoids, have been identified in the Cannabis sativa plant. While delta-9-tetrahydrocannabinol (THC) is the major active ingredient, cannabidiol makes up about 40% of cannabis extracts and has been studied for many different uses. According to the U.S. Food and Drug Administration (FDA), because cannabidiol has been studied as a new drug, products containing cannabidiol are not defined as dietary supplements. But there are still products labeled as dietary supplements on the market that contain cannabidiol.

People take cannabidiol by mouth for anxiety, bipolar disorder, a muscle disorder called dystonia, seizures, multiple sclerosis, Parkinson's disease, and schizophrenia.

People inhale cannabidiol to help quit smoking.

Is it Effective?

Natural Medicines rates effectiveness based on scientific evidence according to the following scale: *Effective, Likely Effective, Possibly Effective, Possibly Ineffective, Likely Ineffective, Ineffective, and Insufficient Evidence to Rate.*

The Effectiveness ratings for **Cannabidiol** are as follows:

Insufficient Evidence to Rate Effectiveness for...

- **Bipolar disorder.** Early reports suggest that taking cannabidiol daily does not improve manic episodes in people with bipolar disorders.
- **A muscle disorder called dystonia.** Early research suggests that taking cannabidiol daily for 6 weeks might improve dystonia by 20% to 50% in some people. Higher quality research is needed to confirm this.
- **Epilepsy.** Some early research suggests that taking cannabidiol daily for up to 18 weeks might reduce seizures in some people. However, other research shows that taking cannabidiol daily for 6 months does not reduce seizures in people with epilepsy. Reasons for the conflicting data are unclear. Possibly the studies were too small.
- **Huntington's disease.** Early research shows that taking cannabidiol daily does not improve symptoms of Huntington's disease.
- **Insomnia.** Early research suggests that taking 160 mg of cannabidiol before bed improves sleep time in people with insomnia. However, lower doses do not have this effect. Cannabidiol also does not seem to help people fall asleep and might reduce the ability to recall dreams.
- **Multiple sclerosis (MS).** There is inconsistent evidence on the effectiveness of cannabidiol for symptoms of multiple sclerosis. Some early research suggests that using a cannabidiol spray under the tongue might improve pain and muscle tightness in people with MS. However, it does not appear to improve muscle spasms, tiredness, bladder control, the ability to move around, or well-being and quality of life.
- **Parkinson's disease.** Some early research shows that taking cannabidiol daily for 4 weeks improves psychotic symptoms in people with Parkinson's disease and psychosis.

- **Schizophrenia.** Research on the use of cannabidiol for psychotic symptoms in people with schizophrenia is conflicting. Some early research suggests that taking cannabidiol four times daily for 4 weeks improves psychotic symptoms and might be as effective as the antipsychotic medication amisulpride. However, other early research suggests that taking cannabidiol for 14 days is not beneficial. The conflicting results might be related to the cannabidiol dose used and duration of treatment.
- **Quitting smoking.** Early research suggests that inhaling cannabidiol with an inhaler for one week might reduce the number of cigarettes smoked by about 40% compared to baseline.
- **Social anxiety disorder.** Some early research shows that taking cannabidiol 300 mg daily does not improve anxiety in people with social anxiety disorder. However, other early research suggests that taking a higher dose (400-600 mg) may improve anxiety associated with public speaking or medical imaging test in people with SAD.
- **Other conditions.**

More evidence is needed to rate the effectiveness of cannabidiol for these uses.

How does it work?

Cannabidiol has antipsychotic effects. The exact cause for these effects is not clear. However, cannabidiol seems to prevent the breakdown of a chemical in the brain that affects pain, mood, and mental function. Preventing the breakdown of this chemical and increasing its levels in the blood seems to reduce psychotic symptoms associated with conditions such as schizophrenia. Cannabidiol might also block some of the psychoactive effects of delta-9-tetrahydrocannabinol (THC). Also, cannabidiol seems to reduce pain and anxiety.

Are there safety concerns?

Cannabidiol is **POSSIBLY SAFE** when taken by mouth or sprayed under the tongue appropriately in adults. Cannabidiol doses of up to 300 mg daily have been taken by mouth safely for up to 6 months. Higher doses of 1200-1500 mg daily have been taken by mouth safely for up to 4 weeks. Cannabidiol sprays that are applied under the tongue have been used in doses of 2.5 mg for up to 2 weeks.

Some reported side effects of cannabidiol include dry mouth, low blood pressure, light headedness, and drowsiness.

Special Precautions & Warnings:

Pregnancy and breast-feeding: There is not enough reliable information about the safety of taking cannabidiol if you are pregnant or breast feeding. Stay on the safe side and avoid use.

Parkinson's disease: Some early research suggests that taking high doses of cannabidiol might make muscle movement and tremors worse in people with Parkinson's disease.

Are there any interactions with medications?

Medications changed by the liver (Cytochrome P450 1A1 (CYP1A1) substrates)

Interaction Rating = **Moderate** Be cautious with this combination.
Talk to your health provider.

Some medications are changed and broken down by the liver. Cannabidiol might decrease

how quickly the liver breaks down some medications. In theory, using cannabidiol along with some medications that are broken down by the liver might increase the effects and side effects of some medications. Before using cannabidiol, talk to your healthcare provider if you take any medications that are changed by the liver.

Some medications changed by the liver include chlorzoxazone (Lorzone) and theophylline (Theo-Dur, others).

Medications changed by the liver (Cytochrome P450 1A2 (CYP1A2) substrates)

Interaction Rating = **Moderate** Be cautious with this combination.
Talk to your health provider.

Some medications are changed and broken down by the liver. Cannabidiol might decrease how quickly the liver breaks down some medications. In theory, using cannabidiol along with some medications that are broken down by the liver might increase the effects and side effects of some medications. Before using cannabidiol, talk to your healthcare provider if you take any medications that are changed by the liver.

Some medications changed by the liver include amitriptyline (Elavil), haloperidol (Haldol), ondansetron (Zofran), propranolol (Inderal), theophylline (Theo-Dur, others), verapamil (Calan, Isoptin, others), and others.

Medications changed by the liver (Cytochrome P450 1B1 (CYP1B1) substrates)

Interaction Rating = **Moderate** Be cautious with this combination.
Talk to your health provider.

Some medications are changed and broken down by the liver. Cannabidiol might decrease how quickly the liver breaks down some medications. In theory, using cannabidiol along with some medications that are broken down by the liver might increase the effects and side effects of some medications. Before using cannabidiol, talk to your healthcare provider if you take any medications that are changed by the liver.

Some medications changed by the liver include theophylline (Theo-Dur, others), omeprazole (Prilosec, Omeseq), clozapine (Clozaril, FazaClo), progesterone (Prometrium, others), lansoprazole (Prevacid), flutamide (Eulexin), oxaliplatin (Eloxatin), erlotinib (Tarceva), and caffeine.

Medications changed by the liver (Cytochrome P450 2A6 (CYP2A6) substrates)

Interaction Rating = **Moderate** Be cautious with this combination.
Talk to your health provider.

Some medications are changed and broken down by the liver. Cannabidiol might decrease how quickly the liver breaks down some medications. In theory, using cannabidiol along with some medications that are broken down by the liver might increase the effects and side effects of some medications. Before using cannabidiol, talk to your healthcare provider if you take any medications that are changed by the liver.

Some medications changed by the liver include nicotine, chlormethiazole (Heminevrin), coumarin, methoxyflurane (Penthrox), halothane (Fluothane), valproic acid (Depacon), disulfiram (Antabuse), and others.

Medications changed by the liver (Cytochrome P450 2B6 (CYP2B6) substrates)

Interaction Rating = **Moderate** Be cautious with this combination.
Talk to your health provider.

Some medications are changed and broken down by the liver. Cannabidiol might decrease how quickly the liver breaks down some medications. In theory, using cannabidiol along with some medications that are broken down by the liver might increase the effects and side effects of some medications. Before using cannabidiol, talk to your healthcare provider if you take any medications that are changed by the liver.

Some medications changed by the liver include ketamine (Ketalar), phenobarbital, orphenadrine (Norflex), secobarbital (Seconal), and dexamethasone (Decadron).

Medications changed by the liver (Cytochrome P450 2C19 (CYP2C19) substrates)

Interaction Rating = **Moderate** Be cautious with this combination.

Talk to your health provider.

Some medications are changed and broken down by the liver. Cannabidiol might decrease how quickly the liver breaks down some medications. In theory, using cannabidiol along with some medications that are broken down by the liver might increase the effects and side effects of some medications. Before using cannabidiol, talk to your healthcare provider if you take any medications that are changed by the liver.

Some medications changed by the liver include proton pump inhibitors including omeprazole (Prilosec), lansoprazole (Prevacid), and pantoprazole (Protonix); diazepam (Valium); carisoprodol (Soma); nelfinavir (Viracept); and others.

Medications changed by the liver (Cytochrome P450 2C9 (CYP2C9) substrates)

Interaction Rating = **Moderate** Be cautious with this combination.

Talk to your health provider.

Some medications are changed and broken down by the liver. Cannabidiol might decrease how quickly the liver breaks down some medications. In theory, using cannabidiol along with some medications that are broken down by the liver might increase the effects and side effects of some medications. Before using cannabidiol, talk to your healthcare provider if you take any medications that are changed by the liver.

Some medications changed by the liver include nonsteroidal anti-inflammatory drugs (NSAIDs) such as diclofenac (Cataflam, Voltaren), ibuprofen (Motrin), meloxicam (Mobic), and piroxicam (Feldene); celecoxib (Celebrex); amitriptyline (Elavil); warfarin (Coumadin); glipizide (Glucotrol); losartan (Cozaar); and others.

Medications changed by the liver (Cytochrome P450 2D6 (CYP2D6) substrates)

Interaction Rating = **Moderate** Be cautious with this combination.

Talk to your health provider.

Some medications are changed and broken down by the liver. Cannabidiol might decrease how quickly the liver breaks down some medications. In theory, using cannabidiol along with some medications that are broken down by the liver might increase the effects and side effects of some medications. Before using cannabidiol, talk to your healthcare provider if you take any medications that are changed by the liver.

Some medications changed by the liver include amitriptyline (Elavil), codeine, desipramine (Norpramin), flecainide (Tambocor), haloperidol (Haldol), imipramine (Tofranil), metoprolol (Lopressor, Toprol XL), ondansetron (Zofran), paroxetine (Paxil), risperidone (Risperdal), tramadol (Ultram), venlafaxine (Effexor), and others.

Medications changed by the liver (Cytochrome P450 3A4 (CYP3A4)

substrates)

Interaction Rating = **Moderate** Be cautious with this combination.

Talk to your health provider.

Some medications are changed and broken down by the liver. Cannabidiol might decrease how quickly the liver breaks down some medications. In theory, using cannabidiol along with some medications that are broken down by the liver might increase the effects and side effects of some medications. Before using cannabidiol, talk to your healthcare provider if you take any medications that are changed by the liver.

Some medications changed by the liver include alprazolam (Xanax), amlodipine (Norvasc), clarithromycin (Biaxin), cyclosporine (Sandimmune), erythromycin, lovastatin (Mevacor), ketoconazole (Nizoral), itraconazole (Sporanox), fexofenadine (Allegra), triazolam (Halcion), verapamil (Calan, Isoptin) and many others.

Medications changed by the liver (Cytochrome P450 3A5 (CYP3A5) substrates)

Interaction Rating = **Moderate** Be cautious with this combination.

Talk to your health provider.

Some medications are changed and broken down by the liver. Cannabidiol might decrease how quickly the liver breaks down some medications. In theory, using cannabidiol along with some medications that are broken down by the liver might increase the effects and side effects of some medications. Before using cannabidiol, talk to your healthcare provider if you take any medications that are changed by the liver.

Some medications changed by the liver include testosterone, progesterone (Endometrin, Prometrium), nifedipine (Adalat CC, Procardia XL), cyclosporine (Sandimmune), and others.

Sedative medications (CNS depressants)

Interaction Rating = **Moderate** Be cautious with this combination.

Talk to your health provider.

Cannabidiol might cause sleepiness and drowsiness. Medications that cause sleepiness are called sedatives. Taking cannabidiol along with sedative medications might cause too much sleepiness.

Some sedative medications include benzodiazepines, pentobarbital (Nembutal), phenobarbital (Luminal), secobarbital (Seconal), thiopental (Pentothal), fentanyl (Duragesic, Sublimaze), morphine, propofol (Diprivan), and others.

Are there any interactions with Herbs and Supplements?

Herbs and supplements with sedative properties

Cannabidiol can cause sleepiness or drowsiness. Using it along with other herbs and supplements that have the same effect might cause too much sleepiness. Some of these herbs and supplements include calamus, California poppy, catnip, hops, Jamaican dogwood, kava, L-tryptophan, melatonin, sage, SAMe, St. John's wort, sassafras, skullcap, and others.

Are there interactions with Foods?

There are no known interactions with foods.

What dose is used?

The appropriate dose of cannabidiol depends on several factors such as the user's age, health, and several other conditions. At this time there is not enough scientific information to determine an appropriate range of doses for cannabidiol. Keep in mind that natural products are not

always necessarily safe and dosages can be important. Be sure to follow relevant directions on product labels and consult your pharmacist or physician or other healthcare professional before using.

What other names is the product known by?

2-[(1R,6R)-3-Methyl-6-prop-1-en-2-ylcyclohex-2-en-1-yl]-5-pentylbenzene-1,3-diol, CBD.

This monograph was last reviewed on 7/30/2015 and last updated on 10/19/2016. Monographs are reviewed and/or updated multiple times per month and at least once per year. If you have comments or suggestions on something that should be reviewed or included, please [tell the editors](#).

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