

## **CBD**

A non-psychoactive compound known for its calming and anti-inflammatory properties. Commonly used for pain relief, anxiety reduction, and promoting relaxation.

## **CBDV**

A non-psychoactive cannabinoid similar to CBD, with potential benefits for managing epilepsy, neurological conditions, and reducing nausea.

## **CBG**

Often referred to as the “mother of all cannabinoids,” it’s a precursor to other cannabinoids and is studied for its anti-inflammatory, antibacterial, and neuroprotective properties.

## **CBGa**

The acidic precursor to CBG, CBD, THC, and CBC. It’s the foundational compound in cannabis plants, valued for its potential anti-inflammatory and antioxidant effects.

## **THC**

The primary psychoactive compound in cannabis responsible for the "high." It offers pain relief, appetite stimulation, and can be effective for conditions like nausea and insomnia.

## **THCa**

The non-psychoactive precursor to THC found in raw cannabis. It has potential anti-inflammatory, anti-emetic, and neuroprotective properties.

## **THCV**

A cannabinoid with some psychoactive effects often described as energizing and appetite-suppressing. It’s being studied for its potential in weight management and metabolic disorders.

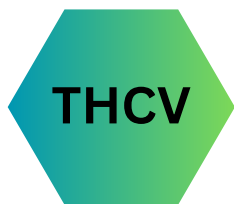
## **THCVa**

The precursor to THCV, non-psychoactive and present in raw cannabis. Research suggests it may have anti-inflammatory and appetite-suppressing effects.

## **CBN**

A mildly psychoactive compound resulting from the degradation of THC. It’s commonly associated with promoting sleep, pain relief, and anti-inflammatory benefits.





Tetrahydrocannabivarin (THCv) is a lesser-known cannabinoid found in cannabis that has been gaining attention for its potential therapeutic effects. Unlike THC, which is psychoactive, THCv has a unique profile that may offer medical benefits without producing significant intoxication at lower doses. Here are some scientifically studied benefits of THCv:

#### 1. Appetite Suppression & Weight Management

- Unlike THC (which stimulates appetite), THCv has been shown to suppress hunger.
- A 2013 study published in *Neuropsychopharmacology* found that THCv can reduce food intake and weight gain in mice by affecting CB1 receptors differently than THC.
- This makes THCv a potential treatment for obesity and metabolic disorders.

#### 2. Potential for Diabetes Management

- THCv may improve insulin sensitivity and regulate blood sugar levels.
- A 2016 study in *Diabetes Care* found that THCv reduced fasting blood glucose levels and improved pancreatic function in patients with Type 2 diabetes.

#### 3. Neuroprotective Effects & Potential for Parkinson's Disease

- THCv has antioxidant and neuroprotective properties, which may help with Parkinson's disease and other neurodegenerative disorders.
- A 2011 study in *The British Journal of Pharmacology* found that THCv protected dopamine-producing neurons in animal models of Parkinson's disease, suggesting it could slow disease progression.

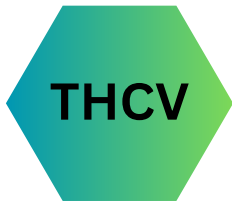
#### 4. Anti-Inflammatory & Pain Relief Properties

- THCv has shown anti-inflammatory effects, which may benefit conditions like arthritis and multiple sclerosis.
- A study published in *Pain* (2010) found that THCv reduced inflammation and pain perception in animal models.

#### 5. Anxiety & PTSD Reduction

- Unlike THC, which can sometimes increase anxiety, THCv may reduce anxiety and panic attacks, particularly in PTSD patients.
- A 2010 study in *The Journal of Psychopharmacology* found THCv has anxiolytic effects (anxiety-reducing) in low doses, without the paranoia associated with THC.





#### 6. Potential for Epilepsy Treatment

- THCV may help reduce seizures and convulsions, similar to CBD.
- A 2021 study in Epilepsy & Behavior suggested that THCV could be a promising anticonvulsant for drug-resistant epilepsy.

#### 7. Bone Growth & Fracture Healing

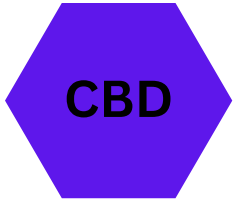
- THCV may promote bone regeneration and healing.
- A 2015 study in Proceedings of the National Academy of Sciences (PNAS) found that THCV and CBD stimulated bone growth, making them potential treatments for osteoporosis and fractures.

#### 8. Potential Benefits for Addiction Treatment

- Research suggests THCV may help with nicotine and opioid addiction.
- A 2013 study in The British Journal of Pharmacology found that THCV reduced the rewarding effects of nicotine, making it a possible aid for smoking cessation.

#### Key Takeaways

- Suppresses appetite, unlike THC (potential for weight loss).
- Regulates blood sugar and may help with diabetes.
- Neuroprotective, with potential for Parkinson's and epilepsy.
- Anti-inflammatory and may help with pain management.
- Reduces anxiety and may aid PTSD treatment.
- Supports bone health and fracture healing.



CBD (cannabidiol) has been widely studied for its potential health benefits. Here are some key benefits backed by scientific research:

#### 1. Pain Relief & Anti-Inflammatory Effects

- Chronic Pain: Studies suggest that CBD interacts with the endocannabinoid system (ECS) to reduce inflammation and pain.
- A 2018 review in *Frontiers in Pharmacology* found that CBD may help with arthritis, multiple sclerosis, and neuropathic pain.
- Post-Workout Recovery: CBD's anti-inflammatory properties may aid in muscle recovery.

#### 2. Anxiety & Stress Reduction

- CBD has been shown to reduce anxiety and stress by interacting with serotonin receptors.
- A 2019 study in *The Permanente Journal* found that CBD helped reduce anxiety and improve sleep in patients with anxiety disorders.

#### 3. Sleep Improvement

- CBD may promote better sleep by addressing anxiety and pain.
- A 2022 review in *Current Psychiatry Reports* found that CBD may help with insomnia and REM sleep behavior disorder.

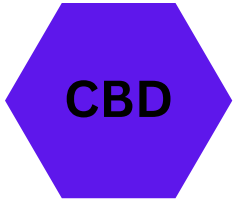
#### 4. Epilepsy & Seizure Control

- The FDA-approved drug Epidiolex (pure CBD) treats seizures in epilepsy (Dravet syndrome and Lennox-Gastaut syndrome).
- Clinical trials published in *The New England Journal of Medicine* showed a significant reduction in seizure frequency with CBD use.

#### 5. Neuroprotective Properties

- Research suggests CBD may help with neurodegenerative diseases like Alzheimer's, Parkinson's, and multiple sclerosis.
- A 2020 study in *Frontiers in Pharmacology* found that CBD might protect brain cells from damage and inflammation.





#### 6. Potential Benefits for Heart Health

- Some studies suggest CBD may help lower blood pressure and reduce heart-related stress.
- A 2017 study in JCI Insight found that CBD reduced blood pressure in healthy volunteers under stress.

#### 7. Anti-Nausea & Appetite Stimulation

- CBD, often in combination with THC, has been studied for reducing nausea and increasing appetite, particularly in cancer patients undergoing chemotherapy.
- A study in British Journal of Pharmacology supports CBD's role in reducing nausea by interacting with serotonin receptors.

#### 8. Addiction & Withdrawal Support

- CBD may help with opioid, nicotine, and alcohol addiction by reducing cravings and withdrawal symptoms.
- A 2019 study in The American Journal of Psychiatry found that CBD helped reduce heroin cravings in people with opioid use disorder.

#### 9. Skin Health (Acne & Psoriasis)

- CBD's anti-inflammatory and oil-regulating properties may help with acne.
- A study in The Journal of Clinical Investigation found CBD reduced excess oil production in sebaceous glands.

#### 10. Autoimmune Conditions

- CBD's immune-modulating effects may benefit conditions like rheumatoid arthritis, lupus, and inflammatory bowel disease (IBD).



CBDV (Cannabidivarin) is a non-psychoactive cannabinoid closely related to CBD. Research suggests it has potential therapeutic effects, especially in neurological disorders and gastrointestinal conditions. Here are the scientifically backed benefits of CBDV:

### 1. Epilepsy & Seizure Reduction

- CBDV has been shown to reduce seizures, similar to CBD.
- A 2013 study in *Neuropharmacology* found that CBDV significantly reduced seizure severity in rodent models of epilepsy. ([Study link](#))
- GW Pharmaceuticals has conducted clinical trials on CBDV for drug-resistant epilepsy.

### 2. Autism Spectrum Disorder (ASD)

- CBDV is being studied for autism-related behavioral symptoms.
- A 2019 study in *Translational Psychiatry* found that CBDV modulated brain activity in areas associated with autism, suggesting potential for improving social behavior and cognitive function. ([Study link](#))
- Ongoing clinical trials are testing CBDV for irritability and repetitive behaviors in children with autism.

### 3. Muscular Dystrophy & Neuromuscular Disorders

- CBDV may help treat Duchenne Muscular Dystrophy (DMD) by reducing inflammation and muscle degeneration.
- A 2019 study in *The British Journal of Pharmacology* found that CBDV improved muscle function and reduced inflammation in models of DMD. ([Study link](#))

### 4. Nausea & Gastrointestinal Disorders

- CBDV interacts with TRPV1 receptors, which regulate nausea and gut motility.
- A 2013 study in *The British Journal of Pharmacology* found that CBDV reduced nausea and vomiting in rodent models. ([Study link](#))
- It may also help with Irritable Bowel Syndrome (IBS) and inflammatory bowel diseases (IBD).





## 5. Neuroprotection & Cognitive Function

- CBDV has anti-inflammatory and neuroprotective properties, potentially benefiting neurodegenerative diseases.
- A 2012 study in *Neuropharmacology* found that CBDV reduced inflammation in the brain, suggesting potential for conditions like multiple sclerosis and Alzheimer's disease.

## 6. Rett Syndrome Treatment

- Rett Syndrome is a genetic neurological disorder that affects brain development.
- A 2021 study in *Frontiers in Pharmacology* found that CBDV improved motor coordination and brain function in animal models of Rett Syndrome. ([Study link](#))

## 7. Potential for ADHD & Focus Improvement

- Some studies suggest CBDV may regulate dopamine levels, which could improve focus, attention, and impulse control in ADHD patients.
- A 2020 review in *Frontiers in Neuroscience* highlighted CBDV's role in dopamine regulation, suggesting a potential use for ADHD and cognitive function. ([Study link](#))

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## Key Takeaways

- ✓ Seizure Reduction: Strong anti-epileptic effects, with ongoing human trials.
- ✓ Autism Treatment: May improve behavior and cognitive function in ASD.
- ✓ Muscle Disorders: Helps with muscle inflammation and dystrophy.
- ✓ Gut Health: May aid nausea, IBS, and IBD.
- ✓ Neuroprotection: Reduces brain inflammation, showing promise for MS and Alzheimer's.
- ✓ Rett Syndrome: Improves motor coordination and cognition.
- ✓ ADHD & Focus: May help with attention and dopamine regulation.



CBN (Cannabinol) is a mildly psychoactive cannabinoid found in aged cannabis, formed as THC degrades over time. Unlike THC, CBN has a weaker binding affinity for CB1 receptors, meaning it has minimal intoxicating effects. Here are the key benefits of CBN supported by scientific research:

#### 1. Sleep Aid & Sedative Effects

- CBN is often marketed as a sleep aid, but scientific evidence is limited.
- A 1975 study in the journal *Psychopharmacology* found that CBN increased drowsiness, especially when combined with THC.
- However, a 2021 review in *Cannabis and Cannabinoid Research* noted that CBN alone might not induce sleep, but its interaction with other cannabinoids like THC could contribute to sedative effects.

#### 2. Pain Relief & Anti-Inflammatory Properties

- A 2019 study in *Archives of Oral Biology* found that CBN reduced pain and inflammation in rodent models of temporomandibular disorders (TMD).
- CBN activates CB2 receptors, which are linked to anti-inflammatory and pain-relieving effects.

#### 3. Neuroprotective Potential (Alzheimer's & ALS)

- A 2005 study in *The Journal of Neurochemistry* found that CBN protected nerve cells from oxidative stress, which is linked to Alzheimer's and neurodegenerative diseases.
- A 2022 study in *Redox Biology* suggested that CBN may have potential in treating ALS (Amyotrophic Lateral Sclerosis) by reducing oxidative damage.

#### 4. Appetite Stimulation

- A 2012 study in *Psychopharmacology* found that CBN increased appetite in rats, similar to THC.
- Unlike THC, CBN does not cause strong psychoactive effects, making it a potential alternative for appetite stimulation in medical conditions like cancer and HIV/AIDS.

#### 5. Antibacterial Properties (MRSA & Drug-Resistant Bacteria)

- A 2008 study in *The Journal of Natural Products* found that CBN had antibacterial activity against MRSA (Methicillin-resistant *Staphylococcus aureus*), a drug-resistant bacteria.
- CBN's antibacterial properties suggest potential use in fighting infections.





#### 6. Glaucoma Treatment (Intraocular Pressure Reduction)

- A 1984 study in Experimental Eye Research found that CBN lowered intraocular pressure, which is crucial for glaucoma treatment.
- However, THC and CBD have been studied more extensively for glaucoma relief than CBN.

#### 7. Anti-Convulsant Properties (Seizure Management)

- A 1974 study in The Journal of Clinical Pharmacology suggested that CBN has mild anticonvulsant effects, though CBD and THC were more effective.
- Future research may explore its role in epilepsy treatment.

#### Key Takeaways

- ✓ Sleep Aid: Works best when combined with THC but needs more research.
- ✓ Pain & Inflammation: May help with chronic pain, arthritis, and TMD.
- ✓ Neuroprotection: Shows promise for Alzheimer's and ALS.
- ✓ Appetite Boosting: May help increase appetite without strong psychoactive effects.
- ✓ Antibacterial: Effective against MRSA and drug-resistant bacteria.
- ✓ Glaucoma: May reduce eye pressure, but more studies are needed.
- ✓ Seizure Control: Has some anticonvulsant effects, but CBD is more effective.

