

MOTHER OF THE PLANT CBG (CANNABIGEROL)

By Dr. Nathalie Solomon: PharmD, CPH

Cannabigerol (CBG) is a cannabinoid, meaning it's one of the many chemicals found in cannabis plants. The most well-known cannabinoids are cannabidiol (CBD) and tetrahydrocannabinol (THC), but there's recently been more interest in the potential benefits of CBG.

What is the difference between CBD and CBG?

The main difference between the two is that CBD is a major cannabinoid while CBG is a minor cannabinoid. This means that cannabis usually contains higher levels of CBD than CBG.¹

CBD and CBG are both nonintoxicating cannabinoids, meaning they won't make you high. They also both interact with the same receptors in the body and appear to have anti-inflammatory effects.

While the research on CBG is limited, studies do suggest that it offers several benefits.

What is CBG?

According to Medical News Today, Cannabigerol (CBG) is a non-intoxicating Phyto cannabinoid. This unique hemp compound plays a central role in the development of CBD and other known cannabinoids.

CBG is regularly referred to as a "mother cannabinoid" because it is the first Phyto cannabinoid synthesized from hemp that converts into other plant-based cannabinoids.

The compound starts in its 2-carboxylic acid form called cannabigerol acid (CBGA). As hemp matures, this component begins to convert into three others: tetrahydrocannabinolic acid (THCA), cannabidiolic acid (CBDA), and cannabichromenic acid (CBCA).

After the conversion, there's only a small amount of CBGA left – less than one percent. And when hemp begins its decarboxylation process, all those compounds drop their carboxyl acid and become the cannabinoids we commonly recognize, including THC, CBD, CBC, and CBG.

Because a mature hemp plant contains low levels of CBG, its extraction requires much more effort compared to CBD. Cultivators would either need to harvest hemp before it fully matures, or grow enough hemp plants to yield a significant amount of CBG during the extraction process.

And since there is less CBG to go around, research about this particular cannabinoid is limited.

However, similar to CBD, CBG also works by attaching to the receptors that make up the endocannabinoid system. In comparison, CBG can bind to both CB1 and CB2 receptors rather than one over the other.²

While research is limited, studies suggest some good results from CBG use. CBG may be able to improve the following health conditions:

- **Inflammatory bowel disease.** CBG seems to reduce the inflammation associated with inflammatory bowel disease, according to a 2013 study conducted on mice.
- **Glaucoma.** Medical cannabis seems to effectively treat glaucoma, and CBG might be partly responsible for its efficacy. A study published in 2008 suggests that CBG might be effective in treating glaucoma because it reduces intraocular pressure.
- **Bladder dysfunctions.** Some cannabinoids seem to affect the contractions of the bladder. A 2015 study looked at how five different cannabinoids affect the bladder, and it concluded that CBG shows the most promise at treating bladder dysfunctions.
- **Huntington's disease.** CBG might have neuroprotective properties, according to a 2015 study that looked at mice with a neurodegenerative condition called Huntington's disease. The study concluded that CBG might show promise in treating other neurodegenerative conditions.
- **Bacterial infections.** A 2008 study suggests that CBG can kill bacteria, particularly methicillin-resistant *Staphylococcus aureus* (MRSA), which causes drug-resistant staph infections. These infections can be hard to treat and fairly dangerous.
- **Cancer.** A 2014 study looked at colon cancer in rats and concluded that CBG might reduce the growth of cancer cells and other tumors.
- **Appetite loss.** A 2016 study on rats suggested that CBG could stimulate the appetite. Appetite-stimulating chemicals could be used to help those with conditions such as HIV or cancer.³

References:

1. Ferguson, S. (2020) CBG Oil: Is it really the new CBD?, Healthline. Healthline Media. Available at: <https://www.healthline.com/health/cbg-oil>.
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3. CGB vs. CBD: Differences and therapeutic benefits (no date) Medical News Today. MediLexicon International. Available at: <https://www.medicalnewstoday.com/articles/cgb-vs-cbd>.

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Dr. Solomon is our licensed on staff pharmacist. She graduated from the University of Florida college of pharmacy and has 15 years of combined pharmacy experience. As a wife, mother, and provider to her family she discovered the medicinal value of cannabis. She decided to devote her career in creating valuable Hemp Extract products that are safely formulated and tested. She also wanted to guarantee that her Hemp Extract products came with the opportunity to be counseled by a pharmacist to ensure the consumer receive a product that can be trusted. There are not many companies that have a direct link to this kind of knowledge right at the customers fingertips and we are so lucky to have her!



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