

CBGA

CBGA is an acidic cannabinoid that serves as the precursor to CBG. CBGA is known as the “mother of all cannabinoids” as it is the foundational acidic cannabinoid crucial to the formation of other cannabinoids, including CBDA and THCA. CBGA can provide a wide range of therapeutic benefits, including antibacterial and antioxidant effects. Similar to CBDA, CBGA displays a low affinity for both the CB1 and CB2 receptors. However, CBGA has important off target effects, such as activating PPARs, to deliver its therapeutic effects.

CBGA has been found to be more effective at reducing the bacteria dental colony count in dental plaque than well-known oral care products. Additionally, CBGA exhibits greater antioxidant activity than Vitamin E and CBG.

Therapeutic Benefits of CBGA

Metabolic Disorders

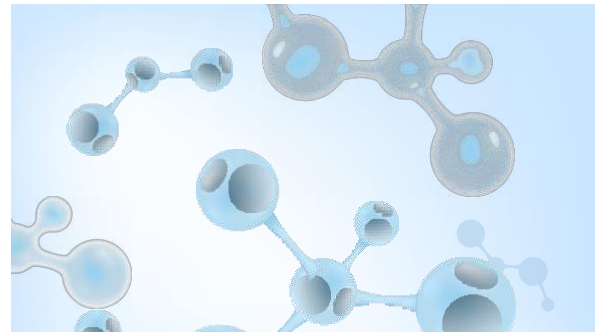
CBGA acts as a dual PPAR α / γ agonist and has the ability to modulate the lipid metabolism. Through activation of PPARs, CBGA can improve the lipid metabolism and reduce the accumulation of adipose tissue; thus, reducing insulin resistance in Type 2 Diabetes patients. Additionally, CBGA can inhibit the enzyme aldose reductase, a key enzyme involved in diabetic complications including cardiovascular, eye, and nerve damage, as well as the progression of neuropathy.

<https://pubmed.ncbi.nlm.nih.gov/30611848/>

<https://pubmed.ncbi.nlm.nih.gov/26616289/>

Journal of cardiovascular Disease Research (jcdronline.org)

<https://pubmed.ncbi.nlm.nih.gov/29427593/>



Conditions this action could benefit



A wide range of metabolic disorders including Type 2 Diabetes, Cushing's disease, Addison's disease, and Grave's disease.

Anti-cancer

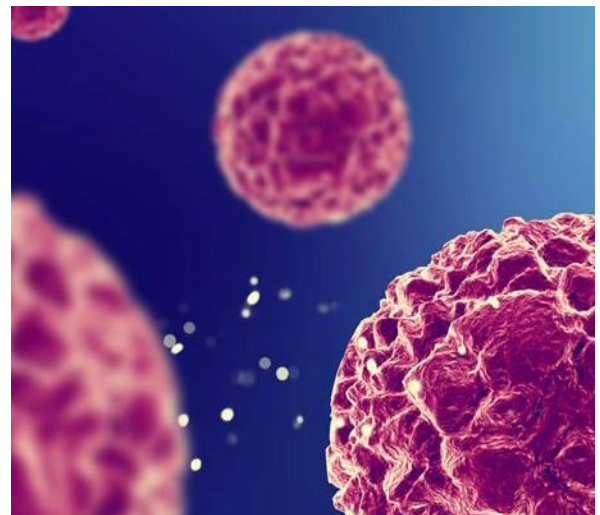
CBGA has demonstrated cytotoxic activity in over 10 cancer cell lines, both with animal and human cell lines in vitro.

Analysis of Anti-Cancer and Anti-Inflammatory Properties of 25 High-THC Cannabis Extracts - PubMed (nih.gov)

Anticancer effects of phytocannabinoids used with chemotherapy in leukaemia cells can be improved by altering the sequence of their administration (spandidos-publications.com)

Enhancing the activity of cannabidiol and other cannabinoids in vitro through modifications to drug combinations and treatment schedules - PubMed (nih.gov)

Identification of Synergistic Interaction Between Cannabis-Derived Compounds for Cytotoxic Activity in Colorectal Cancer Cell Lines and Colon Polyps That Induces Apoptosis-Related Cell Death and Distinct Gene Expression - PubMed (nih.gov)



Conditions this action could benefit



A range of cancers, including leukemia, breast cancer, and brain cancer

CBGA blocks cellular entry of SARS-COV-2

CBGA demonstrated the ability to prevent the virus that cause COVID-19 from entering human cells by binding to the spike protein in vitro, thus blocking the cellular entry of SARS-Cov-2. Research suggests CBGA could be used to prevent and treat COVID-19.

[Cannabinoids Block Cellular Entry of SARS-CoV-2 and the Emerging Variants - PubMed \(nih.gov\)](#)



Conditions this action could benefit



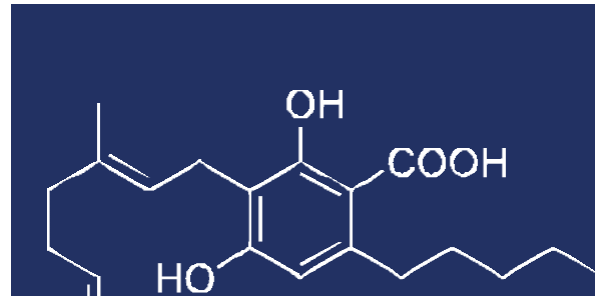
COVID-19, hepatitis, and HIV

Antioxidant

CBGA demonstrates greater antioxidant activity than Vitamin E and CBG. Research has found, acidic cannabinoids have a greater antioxidant effect than their neutral counterparts, because the introduction of the carboxyl group to the aromatic ring of the phenolic group causes charge delocalization and the reduction of electron density, thus facilitating the phenolic radical formation.

[Pharmaceuticals | Free Full-Text | Terpenes and Cannabinoids in Supercritical CO2 Extracts of Industrial Hemp Inflorescences: Optimization of Extraction, Antiradical and Antibacterial Activity \(mdpi.com\)](#)

[Natural vs. artificial cannabinoid oils: the comparison of their antioxidant activities - PubMed \(nih.gov\)](#)



Conditions this action could benefit



Central nervous system disease, cancer, skin damage and skin conditions, as well as chronic conditions caused by oxidative stress, such as cardiovascular conditions and diabetes

Anti-bacterial

CBGA acts as a potent antibacterial agent against a wide range of bacteria, including s. mutans, a gram-positive bacteria associated with tooth decay, and dental plaque. Research has found, CBGA acts as a more powerful anti-bacterial to support dental and mouth health than traditional oral care products.

[Comparison of Efficacy of Cannabinoids versus Commercial Oral Care Products in Reducing Bacterial Content from Dental Plaque: A Preliminary Observation - PubMed \(nih.gov\)](#)



Conditions this action could benefit



Tooth decay, gum disease, and chronic bad breath or halitosis

Water-Extracted Cannabinoids

Water-as-solvent technology produces a safer, more sustainable, consistent, and affordable output of high-purity pharmaceutical grade cannabinoids. The proprietary process uses water to leach cannabinoids from the plant without the use of heat, harsh chemicals, or hydrocarbons. The process also removes contaminants, such as pesticides, heavy metals, microbial, and mycotoxins. The resulting extracts can be easily infused into cannabinoid-based applications.

CBGA Water Soluble

17% +/-2%

CBGA Broad Spectrum

98% +/-2%

