CBG ATLAS · OPEN DATA

The Evidence Registry

Every verified study behind CBG Atlas

Each entry below was verified against PubMed and graded by study type — not by how promising it sounds. A study appearing here means it is a real, non-retracted primary source; it does not mean it establishes a benefit.

Studies 21
Snapshot generated 2026-08-09
Registry hash 154671f50c4acbb13f602b479f4fddeb6e455779db35c7e643b7a595e2173e3a

Source file cbg-atlas-evidence.json

This document is a rendering of a published, gated snapshot. It derives nothing and adds nothing: every study, grade, and figure below is reproduced from the export named above, which carries the registry hash shown on every page. The machine-readable JSON of the same snapshot is published alongside it — use that to diff or verify.

Educational, not medical advice. Nothing here diagnoses, treats, cures, or prevents any disease. CBG's evidence base is overwhelmingly preclinical; talk to a qualified clinician before making health decisions.
Cardiovascular note. CBG may influence blood pressure via alpha-2-adrenoceptor activity; the direction and magnitude of any human effect are uncharacterized. If you take blood-pressure medication or have a cardiovascular condition, consult a clinician first.
Funding & independence. Peregrine Biopharma funds the platform and holds no editorial authority. Grades and conclusions follow the evidence.

HOW TO READ THIS

Study type is not a verdict.

Entries are grouped by the strength of the study design, strongest first. That ordering describes how much weight a result can carry — never whether the result was positive. A human randomised trial with a null finding still sits above an in-vitro study with a striking one.

● Human RCT — 1 ● Animal · preclinical — 8 ● In vitro — 6 ● Biochemistry — 4 ● Review — 2

> A NOTE ON WHAT IS ABSENT
> Where the registry holds no study, the platform says **catalogue in progress** — it does not fill the gap, and it never restates an absence as a finding against a claim. Those are opposite statements, and the difference is load-bearing.

HUMAN RCT

Acute effects of cannabigerol on anxiety, stress, and mood: a double-blind, placebo-controlled, crossover, field trial

Cuttler et al. · 2024 · Scientific Reports

Model. human RCT (double-blind, placebo-controlled crossover; n=34; 20 mg oral, acute)

Single 20 mg oral CBG dose reduced self-reported anxiety and stress with no intoxication or impairment (n=34, acute). First human CBG trial; Low confidence.

anxiety · stress · human-evidence · dosing · brain
PubMed 39003387 · DOI 10.1038/s41598-024-66879-0
provenance 60e024812762d93762c39c86…

ANIMAL · PRECLINICAL

Pharmacokinetic and pharmacodynamic properties of cannabigerol in male mice

Mabou Tagne et al. · 2026 · The Journal of Pharmacology and Experimental Therapeutics

Model. animal model (male mouse; pharmacokinetics + elevated plus maze)

Preclinical (mouse): at its peak brain concentration, CBG produced anxiogenic-like (anxiety-increasing) effects on the elevated plus maze, independent of CB1. Contrasts with the human acute anxiolytic signal.

Contradicts: claim:cbg-anxiety-acute
anxiety · pharmacokinetics · brain · preclinical
PubMed 41833244 · DOI 10.1016/j.jpet.2026.104308
provenance 7fc27a19595a2b48814415ad…

Cannabigerol modulates α-adrenoceptor and 5-HT1A receptor-mediated electrophysiological effects on dorsal raphe nucleus and locus coeruleus neurons and anxiety behavior in rat

Mendiguren et al. · 2023 · Frontiers in Pharmacology

Model. animal (rat brain-slice electrophysiology + EPM/NSF); mechanistic (5-HT1A / α2)

Preclinical (rat): CBG produced anxiolytic-like effects that were prevented by the 5-HT1A antagonist WAY100635, and it modulated α2-adrenoceptor and 5-HT1A signalling in raphe/locus-coeruleus neurons. Mechanistic support for the 5-HT1A/α2 pathway; not human evidence and not a promoter of the human anxiety grade.

anxiety-mechanism · 5-HT1A · alpha2-adrenoceptor · brain · preclinical
PubMed 37305529 · DOI 10.3389/fphar.2023.1183019
provenance 69c3b62708dc81bc45696581…

The cannabis constituent cannabigerol does not disrupt fear memory processes or stress-induced anxiety in mice

Zhou et al. · 2022 · Cannabis and Cannabinoid Research

Model. animal model (mouse PTSD / fear conditioning)

CBG did NOT disrupt fear memory or stress-induced anxiety in mice (null). Balances the human acute anxiolytic signal.

Contradicts: claim:cbg-anxiety-acute
anxiety · fear-memory · null-result · brain
PubMed 34182770 · DOI 10.1089/can.2021.0027
provenance 66a0ca2f76604c43349a0ec7…

Uncovering the Hidden Antibiotic Potential of Cannabis

Farha et al. · 2020 · ACS Infectious Diseases

Model. preclinical (in vitro + murine systemic-infection model)

Preclinical: cannabigerol (CBG) showed antibacterial activity against methicillin-resistant Staphylococcus aureus (MRSA) in vitro and in a mouse model, acting on the Gram-positive cytoplasmic membrane and clearing biofilms. No human efficacy data.

antibacterial · MRSA · membrane activity · biofilm · preclinical
PubMed 32017534 · DOI 10.1021/acsinfecdis.9b00419
provenance f09b8b1c47e93b9d4cfd6dc8…

Cannabigerol is a novel, well-tolerated appetite stimulant in pre-satiated rats

Brierley et al. · 2016 · Psychopharmacology

Model. animal model (Lister hooded rats; feeding microstructure)

CBG (120-240 mg/kg p.o.) more than doubled food intake and increased meal frequency in pre-satiated rats, without neuromotor side effects. Preclinical only.

appetite · hyperphagia · tolerability · digestive
PubMed 27503475 · DOI 10.1007/s00213-016-4397-4
provenance 12d6c1514ba85dda05414104…

Neuroprotective properties of cannabigerol in Huntington's disease: studies in R6/2 mice and 3-nitropropionate-lesioned mice

Valdeolivas et al. · 2015 · Neurotherapeutics

Model. animal model (R6/2 + 3-NP mice)

CBG was neuroprotective in two mouse models of Huntington's disease; reduced neuroinflammation and improved antioxidant defenses. Preclinical only.

neuroprotection · Huntington · brain · antioxidant
PubMed 25252936 · DOI 10.1007/s13311-014-0304-z
provenance 4421fabc3540250013446066…

Colon carcinogenesis is inhibited by the TRPM8 antagonist cannabigerol, a Cannabis-derived non-psychotropic cannabinoid

Borrelli et al. · 2014 · Carcinogenesis

Model. in vitro + animal (CRC cells; mouse colon cancer models)

CBG inhibited colorectal-cancer cell growth and chemically-induced colon carcinogenesis in mice, an effect linked to TRPM8 blockade. Independently corroborates CBG TRPM8-antagonist and 5-HT1A-blocker profile. Preclinical only.

oncology-preclinical · colon · TRPM8 · digestive
PubMed 25269802 · DOI 10.1093/carcin/bgu205
provenance d5c609f09673d9849a9ad539…

Beneficial effect of the non-psychotropic plant cannabinoid cannabigerol on experimental inflammatory bowel disease

Borrelli et al. · 2013 · Biochemical Pharmacology

Model. animal model (DNBS murine colitis)

CBG attenuated DNBS-induced murine colitis; reduced iNOS/MPO and normalized cytokines. Preclinical only.

anti-inflammatory · IBD · digestive
PubMed 23415610 · DOI 10.1016/j.bcp.2013.01.017
provenance 2ccff650755a8872ddbf3bde…

IN VITRO

In Vitro Model of Neuroinflammation: Efficacy of Cannabigerol, a Non-Psychoactive Cannabinoid

Gugliandolo et al. · 2018 · International Journal of Molecular Sciences

Preclinical (in vitro): in a cell model of neuroinflammation, cannabigerol (CBG) pre-treatment reduced motor-neuron cell death, apoptosis markers, inflammatory cytokines, and oxidative-stress markers. No animal or human efficacy data.

neuroinflammation · oxidative stress · neuroprotection · in-vitro
PubMed 29986533 · DOI 10.3390/ijms19071992
provenance fc838ac67bdb4bd48cc51f32…

Cannabidiol is a negative allosteric modulator of the cannabinoid CB1 receptor

Laprairie et al. · 2015 · British Journal of Pharmacology

Model. in vitro (HEK293 / STHdh; signalling assays)

CBD is a non-competitive negative allosteric modulator of CB1.

receptor-pharmacology · CB1 · comparison · CBD
PubMed 26218440 · DOI 10.1111/bph.13250
provenance 0cdb2f256070a8de685d8342…

Effects of cannabinoids and cannabinoid-enriched Cannabis extracts on TRP channels and endocannabinoid metabolic enzymes

De Petrocellis et al. · 2011 · British Journal of Pharmacology

Model. in vitro (TRP channel assays)

CBG is a TRPV1/TRPV2 agonist-desensitizer and a TRPM8 antagonist.

receptor-pharmacology · TRP-channels · TRPM8 · TRPV1
PubMed 21175579 · DOI 10.1111/j.1476-5381.2010.01166.x
provenance 0e18ea3ab6e32d53e255d587…

Evidence that the plant cannabinoid cannabigerol is a highly potent alpha2-adrenoceptor agonist and moderately potent 5HT1A receptor antagonist

Cascio et al. · 2010 · British Journal of Pharmacology

Model. in vitro / ex vivo (GTPgammaS, vas deferens)

CBG is a highly potent alpha2-adrenoceptor agonist (EC50 ~0.2 nM) and a 5-HT1A antagonist (app. K_B ~51.9 nM); CB1 antagonist.

receptor-pharmacology · alpha2-adrenoceptor · 5-HT1A · CB1
PubMed 20002104 · DOI 10.1111/j.1476-5381.2009.00515.x
provenance 63014154b42cc836ea0c07b6…

Antibacterial cannabinoids from Cannabis sativa: a structure-activity study

Appendino et al. · 2008 · Journal of Natural Products

Model. in vitro (MIC vs MRSA strains)

All five major cannabinoids, including CBG, showed potent in-vitro activity against MRSA strains. In vitro only.

antibacterial · MRSA · structure-activity
PubMed 18681481 · DOI 10.1021/np8002673
provenance 4acd647d15c7984d863cb081…

Agonistic properties of cannabidiol at 5-HT1a receptors

Russo et al. · 2005 · Neurochemical Research

Model. in vitro (cloned 5-HT1A; GTPgammaS)

CBD is a modest-affinity 5-HT1A agonist; THC inactive at the same micromolar range. By contrast CBG is a 5-HT1A antagonist (opposite direction at the same receptor).

receptor-pharmacology · 5-HT1A · comparison · CBD
PubMed 16258853 · DOI 10.1007/s11064-005-6978-1
provenance b907709fbac0787933971812…

BIOCHEMISTRY

Elucidation of structure-function relationship of THCA and CBDA synthase from Cannabis sativa L.

Zirpel et al. · 2018 · Journal of Biotechnology

Model. recombinant enzyme structure-function

Recombinant THCA and CBDA synthases both also yield some CBCA from CBGA; synthases are not perfectly specific.

biosynthesis · enzyme · CBCA

PubMed 30053500 · DOI 10.1016/j.jbiotec.2018.07.031

provenance 76489edebc565a3e162424e9…

Decarboxylation study of acidic cannabinoids: a novel approach using ultra-high-performance supercritical fluid chromatography/photodiode array-mass spectrometry

Wang et al. · 2016 · Cannabis and Cannabinoid Research

Model. analytical chemistry (decarboxylation kinetics)

Decarboxylation of acidic cannabinoids is ~first-order over 80-145 C; THCA-A rate ~2x CBDA/CBGA.

decarboxylation · chemistry · manufacturing

PubMed 28861498 · DOI 10.1089/can.2016.0020

provenance 988249af2e787b5e43667d6c…

The gene controlling marijuana psychoactivity: molecular cloning and heterologous expression of Delta1-tetrahydrocannabinolic acid synthase from Cannabis sativa L.

Sirikantaramas et al. · 2004 · Journal of Biological Chemistry

Model. enzyme cloning / characterization (THCA synthase; FAD oxidase)

THCA synthase catalyzes the FAD-dependent oxidative cyclization of CBGA into THCA.

biosynthesis · THCA-synthase · enzyme

PubMed 15190053 · DOI 10.1074/jbc.m403693200

provenance f88adc90fd874e0a6e0afdc6…

Purification and characterization of cannabidiolic-acid synthase from Cannabis sativa L.

Taura et al. · 1996 · Journal of Biological Chemistry

Model. enzyme purification / characterization (CBDA synthase)

CBDA synthase catalyzes the oxidocyclization of CBGA into CBDA.

biosynthesis · CBDA-synthase · enzyme

PubMed 8663284 · DOI 10.1074/jbc.271.29.17411

provenance f3be09417f225fa6bcda36f5…

REVIEW

The Pharmacological Case for Cannabigerol

Nachnani et al. · 2021 · Journal of Pharmacology and Experimental Therapeutics

Model. narrative review (CBG pharmacology, therapeutic potential, toxicology)

Authoritative review of CBG: its activity at cannabinoid receptors sits between THC and CBD, but it is distinctive at α2-adrenoceptors and 5-HT. Surveys possible areas of investigation (neurologic, inflammatory bowel, antibacterial) and toxicological gaps, while stressing that research is limited and marketing claims outpace the evidence.

review · receptor-pharmacology · CBG · therapeutic-potential

PubMed 33168643 · DOI 10.1124/jpet.120.000340

provenance 4805f4fb35c10940beb6f169…

The diverse CB1 and CB2 receptor pharmacology of three plant cannabinoids: delta9-tetrahydrocannabinol, cannabidiol and delta9-tetrahydrocannabivarin

Pertwee et al. · 2008 · British Journal of Pharmacology

Model. review / receptor pharmacology

THC is a CB1/CB2 partial agonist (basis of intoxication); CBD is a high-potency antagonist of CB1/CB2 agonists.

receptor-pharmacology · comparison · THC · CBD · CB1 · CB2

PubMed 17828291 · DOI 10.1038/sj.bjp.0707442

provenance 8cec0d6cec8dc128a953b4dd…